

# ANTARCTIC SEISMOLOGICAL BULLETIN

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U. S. DEPARTMENT OF COMMERCE

Luther H. Hodges, Secretary

COAST AND GEODETIC SURVEY—WASHINGTON

H. Arnold Karo, Director

FOR OFFICIAL DISTRIBUTION

U. S COAST AND GEODETIC SURVEY  
ANTARCTIC SEISMOLOGICAL BULLETIN

The Scientific Committee on Antarctic Research of the International Council of Scientific Unions recommended that a bulletin of phase readings be issued from seismological stations in the Antarctic.

The United States Coast and Geodetic Survey has undertaken the publication of the Antarctic Seismological Bulletin to be issued quarterly, based on the readings received by radio from the Antarctic stations. The phase designation shown in this bulletin is the identification given by the station operator and only the P' phase has been so designated by the Coast and Geodetic Survey after the epicenter has been computed.

The epicenters shown in this Bulletin are computed by the United States Coast and Geodetic Survey using the phase readings from many stations in addition to the Antarctic readings shown.

STATION AND INSTRUMENTAL CONSTANTS

Country, Station and Station Abbreviation	Position		Foundation and Elevation (In meters)	Instruments and Components	To Seconds	Tg Seconds
	Latitude	Longitude				
ARGENTINA Deception (DEC)	62°59' S	60°43' W	Rock 7 m	Mainka Mainka N E	5.0 5.0	
AUSTRALIA Macquarie (MEQ) ✓	54°29'55" S	158°57'22" E	Sandy 6 m			
Mawson (MAW) ✓	67°35.7' S	62°54.0' E	Rock 6 m			
Willms (WIL) ✓	66°15.5' S	110°31.2' E	Rock 9 m	Lehner-Griffith Lehner-Griffith Lehner-Griffith Z N E	16.0 21.0 13.0	20.6 20.3 21.4
FRANCE Dumont d'Urville (DRV)	66°40' S	140°01' E	Rock 40 M	Labrouste Galitsin Galitsin Z N E	1.5 12.5 12.5	11.0 12.3
NEW ZEALAND Hallett (HLL) ✓	72°17.7' S	170°18.5' E	Rock 5 m	Press-Ewing Willmore Press-Ewing Press-Ewing Z Z N E	15.0 1.0 15.0 15.0	75.0 2.0 75.0 75.0
Scott Base (SBA) ✓	77°51' S	166°45' E	Rock 15 m	Benioff Benioff Benioff Z N E	0.2 25 25	0.2 - 25** 0.2 - 25** 0.2 - 10**
USSR Mirny (MIR) ✓	66°33' S	93°00' E	Rock 30 m	SVKM SVK SGK SGK Z Z N E	2.5 12.5 12.5 12.5	1.0 1.1 1.1 1.1
UNITED KINGDOM Argentine Island (AIA) ✓	65°15' S	64°16' W	Rock 11 m	Willmore Willmore Willmore Z N E	1.0 1.0 1.0	.25 .25 .25
UNITED STATES Byrd (BYR) ✓	80°01' S	119°31' W	Ice 1515 m	Benioff Wilson-Lamson Wilson-Lamson Sprengnether* Sprengnether* Sprengnether* Z N E Z N E	1.1 7.8 8.0 20 30 30	0.5 3.5 3.5 80 30 35
South Pole (SPA) ✓	90°S	0	Ice 2800 m	Benioff Benioff Wilson-Lamson Z Z (0-180°)	1.0 1.2 6.0	0.5 0.5 0.5

\*Began operation March 1, 1962.

\*\*Long period galvanometers recording on 35 mm film.

ANTARCTIC SEISMOGRAM DEPOSITORIES

ARGENTINA: Servicio Meteorologico Nacional  
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AUSTRALIA: Chief Geophysicist  
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NEW ZEALAND: Superintendent  
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NEW ZEALAND: Superintendent  
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USSR: Research Institute of Earth Physics  
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UNITED KINGDOM: Dept. of Geology  
The University  
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UNITED STATES: U. S. Coast and Geodetic Survey  
Geophysics Division  
Commerce Building  
Washington 25, D. C.

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Jan. 1 H-02 41 06.0 52.3 N. 177.9 E. h about 26 km.	h m s	Jan. 2 H-05 23 38.2 17.8 S. 69.8 W. h about 74 km.	h m s	Jan. 3 BYR eP 03 25 27	h m s	Jan. 3 H-23 50 28.8 21.5 S. 169.9 E. h about 75 km.	h m s
BYR eP' 03 00 19		BYR iP 05 34 21 pP 34 38		Jan. 3 BYR eP 05 52 59		BYR iP 24 01 07	
Jan. 1 BYR eP 03 59 19		MAW i 05 36 42		Jan. 3 H-06 49 50.9 21.7 S. 170.0 E. h about 120 km.		Jan. 4 H-01 12 40.5 0.1 S. 100.1 E. h about 141 km.	
Jan. 1 BYR eP 04 55 14		Jan. 2 BYR e 09 48 06		BYR iP 07 00 27		BYR eP 01 26 03	
Jan. 1 H-06 49 57.9 51.9 N. 177.8 E. h about 59 km.		Jan. 2 MIR eP 11 57 54		Jan. 3 H-06 53 16.2 18.7 S. 71.0 W. h about 77 km.		Jan. 4 H-04 16 01.7 35.1 N. 138.9 E. h about 178 km.	
BYR eP' 07 09 15		BYR eP 11 58 10		BYR iP 07 03 52		BYR eP' 04 34 48 e 35 27	
Jan. 1 H-10 17 05.6 51.9 N. 177.7 E. h about 58 km.		Jan. 2 H-12 22 58.7 80.0 N. 24.3 E. h about 48 km.		Jan. 3 BYR e 07 32 37		Jan. 4 H-04 35 42.6 33.9 N. 135.2 E. h about 56 km.	
BYR eP' 10 36 22		MAW iP' 12 42 43		Jan. 3 BYR iP 08 57 43		BYR eP' 04 54 38 e 54 53	
Jan. 1 MAW eP 10 49 18		Jan. 2 BYR eP 12 27 50		Jan. 3 BYR iP 11 40 46 pP 41 36		Jan. 4 BYR eP 06 55 26	
Jan. 1 H-12 15 51.2 27.1 S. 175.4 W. h about 48 km.		MAW eP 12 28 47		Jan. 3 BYR iP 11 50 31 e 12 00 12		Jan. 4 H-07 34 44.4 5.0 S. 130.4 E. h about 222 km.	
BYR iP 12 25 39 pP 25 49		Jan. 2 BYR eP 12 44 35 e 48 44		Jan. 3 BYR e 13 28 39		MAW iP 07 46 14	
Jan. 1 BYR eP 13 37 21		Jan. 2 BYR eP 13 28 06		Jan. 3 H-13 36 20.5 9.9 S. 159.7 E. h about 75 km.		BYR iP 07 47 15	
Jan. 1 BYR eP 14 30 34		Jan. 2 BYR eP 14 39 49 e 46 03		BYR iP 13 48 17		Jan. 4 BYR eP 08 35 08	
Jan. 1 H-15 31 10.5 22.3 S. 171.6 E. h about 83 km.		MAW iP 14 42 08		Jan. 3 BYR e 14 31 52		Jan. 4 BYR eP 09 00 28	
BYR iP 15 41 40		Jan. 2 BYR eP 15 02 57		Jan. 3 BYR eP 18 12 22 e 17 34		Jan. 4 BYR eP 10 20 50 pP 21 16	
Jan. 1 BYR eP 20 17 18		Jan. 2 BYR iP 19 15 08		MAW iP 18 12 39		Jan. 4 BYR eP 16 53 58	
Jan. 1 BYR eP 21 49 37		Jan. 2 BYR eP 21 19 43		Jan. 3 BYR iP 19 28 46		Jan. 4 H-20 00 54.4 1.6 S. 99.6 E. h about 59 km.	
Jan. 1 H-23 40 20.3 52.4 N. 177.7 E. h about 27 km.		Jan. 2 BYR iP 23 17 12 pP 18 28		Jan. 3 BYR eP 20 05 27		BYR eP 20 14 25	
BYR eP' 23 59 34		MAW iP 23 19 05		Jan. 3 BYR eP 21 08 00			
MAW iP' 24 00 00		Jan. 3 BYR iP 00 52 08 pP 52 23		Jan. 3 BYR eP 21 10 02			
Jan. 2 MAW iP 02 27 44		Jan. 3 BYR eP 01 00 27		Jan. 3 BYR eP 21 57 25			
BYR eP 02 28 05 e 28 34		Jan. 3 H-02 05 12.3 22.2 S. 168.7 E. h about 118 km.		Jan. 3 BYR iP 22 43 31 i 44 00			
		BYR e 02 15 37					

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Jan. 4 BYR	eP 21 35 14	Jan. 5 H-15 47 48.0 1.5 S. 100.1 E. h about 25 km.	h m s	Jan. 7 BYR	iP 02 43 02	Jan. 7 BYR	h m s c 06 20 02 e 22 04
Jan. 4 BYR	iP 22 44 57	BYR	eP 16 01 24	Jan. 7 BYR	eP 03 15 05	Jan. 8 BYR	eP 07 09 43
Jan. 5 H-00 23 32.1 15.5 S. 177.7 W. h about 24 km.		Jan. 5 BYR	e 22 03 16	Jan. 7 BYR	e 08 03 42	Jan. 8 BYR	e 10 12 28
HLL	eP 00 33 28 eS 41 33	Jan. 5 H-23 08 29.9 52.3 N. 177.6 E. h about 70 km.		Jan. 7 BYR	eP 09 41 39	Jan. 8 BYR	e 11 56 14
MAW	eP 00 36 16	BYR	e(P') 23 27 22	Jan. 7 BYR	eP 10 20 43	Jan. 8 H-17 03 18.9 6.4 S. 147.3 E. h about 104 km.	
Jan. 5 BYR	eP 04 25 00	Jan. 6 BYR	e 01 30 59	Jan. 7 H-13 08 41.1 8.6 S. 125.1 E. h about 96 km.		BYR	eP 17 15 44 i 16 05
Jan. 5 H-04 27 05.4 36.4 N. 71.2 E. h about 152 km.		Jan. 6 BYR	eP 05 48 36	BYR	eP 13 21 15	Jan. 8 BYR	eP 18 30 30
BYR	eP' 04 46 12	Jan. 6 BYR	iP 07 44 22 i 44 51	Jan. 7 BYR	eP 13 31 13	Jan. 8 BYR	eP 22 22 09
Jan. 5 HLL	iP 06 11 32 eS 13 16	Jan. 6 BYR	eP 08 39 19	Jan. 7 BYR	eP 14 37 06	Jan. 8 BYR	eP 22 45 09
BYR	eP 06 14 31	Jan. 6 BYR	eP 10 33 21	Jan. 7 BYR	iP 16 20 45	Jan. 9 BYR	eP 02 55 07
Jan. 5 MAW	iP 07 20 56	Jan. 6 BYR	e 12 43 24	Jan. 7 BYR	eP 16 54 14	Jan. 9 BYR	eP 09 50 05
Jan. 5 H-08 08 07.5 15.5 S. 172.5 W. h about 60 km.		Jan. 6 BYR	e 12 56 27	Jan. 7 BYR	eP 18 11 08	Jan. 9 BYR	e 10 14 01
HLL	eP 08 17 58 eS 26 07	Jan. 6 BYR	eP 15 01 48 e 02 48	Jan. 7 BYR	eP 19 30 11	Jan. 9 BYR	iP 11 00 16
BYR	eP 08 19 10 e 28 23	Jan. 6 BYR	eP 16 57 38 e 58 30	Jan. 7 MAW	eP 22 08 48	Jan. 9 H-12 40 49.3 42.9 N. 144.8 E. h about 78 km.	
Jan. 5 BYR	eP 12 02 47	Jan. 6 BYR	eP 17 03 41	Jan. 8 H-01 00 24.2 18.5 N. 70.5 W. h about 63 km.		MAW	iP' 12 59 46
MAW	iP 12 03 39	Jan. 6 BYR	e 18 26 44	BYR	iP 01 14 13 ePP 18 22	BYR	eP' 12 59 57
Jan. 5 BYR	eP 13 51 51	Jan. 7 BYR	eP 00 36 19	MAW	iP' 01 19 14	Jan. 9 H-19 49 29.7 20.2 S. 66.2 E. h about 25 km.	
Jan. 5 H-14 01 41.7 1.6 S. 100.0 E. h about 25 km.		Jan. 7 H-01 14 12.5 55.2 N. 154.1 W. h about 27 km		Jan. 8 BYR	iP 03 49 39 pP 49 53	MAW	iP 19 58 08
MAW	eP 14 12 54	BYR	eP' 01 33 31	Jan. 8 BYR	e 05 18 14	Jan. 9 H-22 13 51.5 48.3 N. 147.5 E. h about 480 km.	
BYR	eP 14 15 14 e 20 32	Jan. 7 H-01 30 34.5 52.0 N. 177.8 E. h about 55 km.		Jan. 8 H-05 43 02.2 24.2 S. 177.7 W. h about 133 km.		BYR	e(P') 22 32 24 i 35 14
Jan. 5 BYR	eP 14 45 38	BYR	eP' 01 49 45	BYR	iP 05 53 04		
		MAW	eP' 01 50 09	MAW	iP 05 54 51		

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Jan. 9 H-23 55 49.2 22.2 S. 179.5 W. h about 603 km.	h m s	Jan. 11 H-06 49 07.6 51.9 N. 179.3 W. h about 60 km.	h m s	Jan. 12 H-13 38 11.6 42.5 N. 143.0 E. h about 100 km.	h m s	Jan. 13 BYR iP 11 52 20	h m s
BYR eP 24 05 24		BYR eP' 07 08 14		BYR eP' 13 57 21 o 57 39		Jan. 13 BYR eP 16 35 44	
Jan. 10 H-02 19 57.1 52.9 N. 169.1 W. h about 43 km.		MAW iP' 07 08 43		Jan. 12 BYR eP 17 33 24		Jan. 14 BYR eP 00 28 40	
BYR eP' 02 39 11		Jan. 11 BYR e 11 28 03		Jan. 12 BYR eP 19 02 15		Jan. 14 BYR e 01 39 57	
MAW iP' 02 39 47		Jan. 11 BYR eP 12 45 36		Jan. 12 BYR e 21 45 15		Jan. 14 BYR iP 02 22 20 pP 22 53	
Jan. 10 BYR e 02 27 05		Jan. 11 BYR eP 15 02 06		Jan. 12 BYR e 22 20 12		Jan. 14 BYR e 08 32 22	
Jan. 10 BYR eP 03 05 33		Jan. 11 BYR e 16 45 27		Jan. 12 BYR eP 23 16 30		Jan. 14 BYR eP 08 35 54 e 38 33	
Jan. 10 BYR eP 04 33 59		Jan. 11 BYR eP 17 15 02 pP 16 21		Jan. 13 H-00 45 12.8 22.7 S. 68.6 W. h about 159 km.		Jan. 14 H-10 37 32.3 9.6 S. 160.0 E. h about 100 km.	
Jan. 10 BYR ep 09 21 33		Jan. 11 IEQ eP 22 26 45		BYR iP 00 55 14 i 55 36 e 55 49		BYR eP 10 49 26	
Jan. 10 BYR iP 09 28 03		BYR eP 22 32 12		Jan. 13 H-03 04 55.7 19.1 S. 177.5 W. h about 542 km.		Jan. 14 H-13 34 02.8 44.9 N. 140.8 E. h about 193 km.	
Jan. 10 BYR eP 12 56 05		Jan. 11 H-23 14 34.3 18.7 S. 174.8 W. h about 151 km.		BYR iP 03 14 49		BYR eP' 13 52 45 i 52 59	
Jan. 10 BYR eP 12 59 01		BYR eP 23 25 10		Jan. 13 H-04 48 37.3 52.3 N. 177.4 E. h about 49 km.		Jan. 15 BYR e 17 33 42	
Jan. 10 BYR eP 18 47 13		Jan. 12 BYR iP 04 08 36		BYR iP 03 08 10		Jan. 15 BYR iP 17 53 16	
Jan. 10 BYR iP 20 15 09		Jan. 12 BYR iP 04 26 23 e 36 24		Jan. 13 H-04 48 37.3 52.3 N. 177.4 E. h about 49 km.		Jan. 15 BYR eP 18 09 52	
Jan. 10 BYR eP 20 54 23		Jan. 12 BYR eP 08 33 25 e 39 43		BYR eP' 05 07 51 ePP 11 28		Jan. 15 H-18 21 12.8 6.0 S. 146.8 E. h about 140 km.	
Jan. 10 BYR iP 22 09 08 pP 10 39		Jan. 12 H-03 50 31.2 20.2 N. 145.9 E. h about 103 km.		Jan. 13 BYR eP 06 24 30		BYR iP 18 33 37 pP 34 06	
MAW eP 22 10 53		BYR eP' 09 08 55		Jan. 13 BYR eP 06 50 28		Jan. 15 BYR iP 18 56 26 pP 56 51	
Jan. 11 H-03 01 33.0 28.1 N. 84.8 E. h about 38 km.		Jan. 12 H-09 54 42.8 31.9 S. 70.2 W. h about 24 km.		Jan. 13 BYR iP 08 07 36		Jan. 15 BYR eP 20 33 07	
BYR e 03 16 59 eP' 20 29		BYR eP 10 03 54 e 17 25		Jan. 13 H-11 05 20.1 37.5 S. 178.7 E. h about 25 km.		Jan. 15 BYR eP 21 43 41	
Jan. 11 BYR eP 03 03 26		Jan. 12 H-10 55 00.8 52.4 N. 177.7 E. h about 49 km.		BYR eP 11 14 01			
Jan. 11 H-05 05 01.6 43.5 N. 17.7 E. h about 25 km.		BYR eP' 11 14 16 ePKIP 24 33		Jan. 13 BYR eP 11 31 22			
BYR eP' 05 24 24 ePKIP 34 41							

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Jan. 15 H-22 16 18.2 32.0 S, 178.4 W. h about 206 km.	h m s	Jan. 17 BYR oP	h m s 18 20 16	Jan. 19 BYR oP	h m s 02 59 47	BYR iP	h m s 22 15 16
BYR oP	22 25 12	Jan. 17 BYR iP	21 02 08	Jan. 19 BYR oP	05 40 11	Jan. 19 BYR iP	22 31 40
Jan. 15 BYR e	22 51 53	Jan. 17 BYR o	21 32 34	Jan. 19 H-06 01 09.5 51.5 N, 161.1 E. h about 29 km.		Jan. 19 BYR eP	23 18 39
Jan. 16 BYR iP	07 50 37	Jan. 17 BYR oP	23 47 23	BYR oP <sup>1</sup>	06 20 20	Jan. 20 BYR eP	01 34 03
Jan. 16 BYR iP	09 11 45	Jan. 18 BYR oP	00 41 24	i	20 33	Jan. 20 BYR eP	02 46 04
Jan. 16 HLL eP	11 43 37	Jan. 18 BYR oP	02 24 15	Jan. 19 BYR oP	08 07 02	e	47 59
eS	49 47	Jan. 18 BYR e	10 35 15	Jan. 19 BYR oP	09 36 14	Jan. 20 H-03 31 31.4 32.7 N, 49.5 E. h about 40 km.	
BYR oP	11 45 10	Jan. 18 BYR oP	13 57 27	Jan. 19 BYR iP	10 40 52	BYR eP <sup>1</sup>	03 50 34
WIL iP	11 45 10	Jan. 18 BYR oP	15 54 56	BYR eP	13 33 02	Jan. 20 BYR eP	07 51 17
iS	52 32	Jan. 18 H-15 42 25.5 5.3 S, 153.7 E. h about 83 km.		Jan. 19 BYR oP	16 43 12	Jan. 20 BYR eP	08 26 47
MAW oP	11 47 05	BYR oP	15 54 56	SPA iP	16 43 50	Jan. 20 BYR eP	19 14 14
Jan. 16 BYR oP	12 15 14	Jan. 18 H-15 45 40.9 4.2 S, 153.6 E. h about 127 km.		Jan. 19 BYR oP	17 59 24	e	14 30
e	22 30	BYR eP	15 58 14	Jan. 19 SPA iP	19 21 31	Jan. 20 BYR iP	20 26 59
Jan. 16 H-15 15 01.9 22.2 S, 114.5 W. h about 25 km.		MAW eP	15 58 15	Jan. 19 BYR oP	19 40 57	Jan. 20 BYR iP	21 53 02
BYR e	15 24 56	e	58 18	Jan. 19 BYR oP	19 50 16	pP	53 33
e	28 49	Jan. 18 BYR iP	16 06 16	e	59 30	e	53 44
Jan. 17 SPA iP	04 05 21	e	09 01	Jan. 19 SPA e	20 26 59	Jan. 21 BYR eP	07 45 46
Jan. 17 SPA e	11 40 41	e	32 49	Jan. 19 BYR eP	20 57 26	Jan. 21 BYR iP	13 01 58
Jan. 17 SPA iP	12 57 59	MAW eP	16 06 20	BYR eP	21 01 40	e	03 52
Jan. 17 SPA iP	13 46 45	e	09 06	Jan. 19 SPA iP	21 13 02	eS	08 37
Jan. 17 SPA oP	15 42 32	Jan. 18 BYR oP	18 26 18	Jan. 19 H-21 18 58.5 2.9 S, 139.0 E. h about 76 km.		MAW iP	13 03 27
BYR oP	15 42 51	Jan. 18 BYR oP	20 24 23	BYR iP	21 32 02	Jan. 21 BYR P	17 12 38
Jan. 17 SPA iP	15 54 50	Jan. 18 BYR oP	21 19 10	Jan. 19 H-22 07 47.7 49.8 S, 163.0 E. h about 53 km.		Jan. 21 BYR eP	20 48 39
BYR eP	15 56 47	Jan. 18 BYR iP	22 12 41	BYR iP	22 09 14	Jan. 21 BYR iP	22 45 43
Jan. 17 SPA iP	15 58 12	Jan. 18 BYR eP	22 51 30	MEQ iP		Jan. 22 BYR iP	01 36 55
Jan. 17 SPA eP	16 06 10					pP	37 58
Jan. 17 SPA iP	16 09 00						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	
Jan. 22 BYR	h m s oP 02 09 45	Jan. 23 BYR	h m s iP 12 46 20 e 47 16	SPA	h m s oP 02 03 14	Jan. 27 H-20 28	h m s 04.0	
Jan. 22 SPA	iP 02 37 22	Jan. 23 BYR	eP 13 24 44	Jan. 25 BYR	oP 07 00 14	5.1 S. 144.2 E. h about 145 km.	SPA	iP 20 40 23 e 48 45
Jan. 22 BYR	oP 02 41 18	Jan. 23 BYR	oP 16 18 29 e 19 24	Jan. 25 H-07 26	05.7 15.3 S. 69.5 W. h about 209 km.	Jan. 28 SPA	iP 05 31 47	
Jan. 22 BYR	eP 04 43 49	SPA	e 16 18 44	Jan. 23 BYR	iP 07 38 18	Jan. 28 H-05 40	08.2 17.2 S. 172.0 W. h about 25 km.	
Jan. 22 BYR	iP 06 46 28	Jan. 23 SPA	e 17 10 19	Jan. 23 BYR	iP 08 36 40 pP 37 28	HLL	eP 05 49 47 oS 57 37	
Jan. 22 BYR	eP 07 17 46	Jan. 23 BYR	eP 17 40 47	Jan. 25 H-10 03	07.0 4.4 S. 152.7 W. h about 50 km.	SPA	iP 05 51 36	
Jan. 22 BYR	eP 12 40 39	Jan. 23 BYR	e 23 05 27	BYR	iP 10 14 58	Jan. 28 SPA	e 12 01 52	
Jan. 22 BYR	eP 13 32 36	Jan. 24 BYR	eP 01 28 17	Jan. 25 BYR	iP 10 17 21	Jan. 28 SPA	iP 12 47 03	
Jan. 22 MAW	iP 16 25 46	Jan. 24 BYR	eP 01 59 23	Jan. 25 BYR	oP 12 37 45	Jan. 28 H-16 41	13.8 0.0 123.9 E. h about 101 km.	
Jan. 22 H-20 22	17.6 30.7 N. 80.6 E. h about 25 km.	Jan. 24 H-03 01	17.3 21.2 S. 65.7 W. h about 238 km.	Jan. 26 H-06 09	33.0 23.4 S. 176.1 W. h about 214 km.	SPA	iP 16 54 04	
BYR	eP' 20 40 34 e 48 26	SPA	iP 03 11 02	SPA	iP 06 21 07	Jan. 28 BYR	eP 20 46 25	
Jan. 22 H-21 30	20.2 4.3 S. 152.5 E. h about 104 km.	BYR	iP 03 11 25 e 12 17	Jan. 26 H-08 17	37.0 35.1 N. 22.7 E. h about 32 km.	SPA	eP 20 46 27	
SPA	e 21 42 50	Jan. 24 H-04 46	29.1 15.6 S. 167.6 E. h about 133 km.	SPA	iP' 08 37 35	Jan. 28 BYR	eP 21 01 27	
Jan. 22 BYR	eP 24 00 13	BYR	iP 04 57 37 e 58 11	Jan. 26 H-11 48	32.3 35.0 S. 179.3 E. h about 167 km.	Jan. 28 BYR	eP 23 25 52	
Jan. 23 MEQ	iP 03 51 44	SPA	eP 04 57 54	Jan. 26 SPA	e 11 58 35	Jan. 28 SPA	eP 04 44 07	
Jan. 23 BYR	eP 04 06 47	Jan. 24 BYR	eP 06 37 02	Jan. 26 SPA	e 14 07 06	Jan. 29 H-04 56	41.9 22.6 S. 174.5 W. h about 25 km.	
Jan. 23 BYR	eP 05 29 53	Jan. 24 BYR	eP 15 58 30	Jan. 26 H-14 34	45.7 36.9 S. 83.9 W. h about 60 km.	SPA	e 05 07 39	
Jan. 23 BYR	iP 05 50 59 e 51 08	Jan. 24 BYR	eP 17 57 14	SPA	e 14 44 01	Jan. 29 SPA	eP 04 52 55	
Jan. 23 BYR	eP 06 28 21	Jan. 24 BYR	iP 20 33 16	Jan. 27 SPA	iP 11 40 36	Jan. 29 H-06 07	22.0 9.3 S. 79.1 W. h about 100 km.	
Jan. 23 SPA	iP 06 58 48	Jan. 25 BYR	eP 01 41 23	Jan. 27 SPA	iP 12 11 36	BYR	eP 06 18 43	
Jan. 23 BYR	eP 09 23 51	Jan. 25 BYR	iP 02 02 03 pP 02 10			SPA	iP 06 19 26	
Jan. 23 SPA	iP 11 29 57							



Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Jan. 29 SPA	e 06 52 18	Jan. 30 BYR	eP 09 33 16 e 35 59	BYR	eP' 00 25 18 e 26 43	Feb. 2 SPA	1P 17 41 03
BYR	eP 06 52 24	Jan. 30 H-13 51 27.5 5.3 S. 146.8 E. h about 158 km.		Jan. 31 MAW	eP 00 51 14	Feb. 2 SPA	e 23 33 08
Jan. 29 BYR	eP 09 49 13	SPA	1P 14 03 43	Jan. 31 H-03 46 49.0 17.6 S. 168.0 E. h about 46 km.		Feb. 3 H-00 37 53.6 1.2 S. 137.8 E. h about 17 km.	
Jan. 29 H-11 43 12.6 9.1 S. 157.5 E. h about 114 km.		BYR	1P 14 03 48	BYR	eP 03 57 55	MCQ	eP 00 47 36
BYR	e 11 55 11	Jan. 30 SPA	e 14 35 30 e 36 42	SPA	1P 03 58 13	WIL	1P 00 48 53 1S 57 50
SPA	1P 11 55 12	Jan. 30 H-15 01 12.4 16.2 S. 176.0 W. h about 383 km.		Jan. 31 BYR	eP 05 47 12	HLL	1P 00 49 31 S 59 15
Jan. 29 H-13 25 03.8 12.5 S. 165.1 E. h about 100 km.		BYR	1P 15 11 35	Jan. 31 BYR	1P 08 43 25 e 45 58	SBA	1P 00 49 55
BYR	eP 13 36 35	SPA	1P 15 12 13	Jan. 31 SPA	1P 08 58 07	SPA	1P 00 50 48 e 51 10 e 51 25
Jan. 29 BYR	eP 14 01 58	Jan. 30 BYR	eP 15 06 45 e 07 46	Jan. 31 BYR	eP 11 40 30	Feb. 4 SPA	P 00 06 38
Jan. 29 BYR	e 19 11 49	Jan. 30 H-15 22 49.4 20.7 N. 144.5 E. h about 187 km.		Feb. 1 H-00 39 54.6 31.7 S. 177.3 W. h about 30 km.		SPA	eP 01 12 48
Jan. 29 BYR	eP 19 46 41	BYR	eP' 15 41 06	SBA	1P 00 48 26 1 49 58	Feb. 4 H-01 02 34.6 29.1 S. 177.2 W. h about 43 km.	
Jan. 29 H-21 07 57.4 15.4 S. 172.7 W. h about 25 km.		Jan. 30 BYR	eP 15 54 06	WIL	1P 00 49 21 1S 56 58	Feb. 4 H-02 54 42.1 4.6 S. 119.0 E. h about 89 km.	
BYR	eP 21 19 01	Jan. 30 MAW	eP 17 20 50	Feb. 1 SPA	e 06 33 25	MCQ	eP 03 04 40
SPA	eP 21 19 36	Jan. 30 H-18 30 52.3 18.8 S. 168.5 E. h about 79 km.		Feb. 1 SPA	1P 19 06 18	Feb. 4 MIR	eP 17 18 33
Jan. 30 SPA	eP 04 15 50	WIL	1P 18 41 06	Feb. 1 SPA	eP 20 29 56	Feb. 4 MAW	e 19 03 02
BYR	1P 04 16 06	BYR	eP 18 41 42	Feb. 2 H-07 59 58.5 49.9 N. 78.2 E. h about 0 km.		Feb. 4 H-21 29 33.2 0.5 S. 20.2 W. h about 17 km.	
Jan. 30 BYR	eP 05 56 13	SPA	eP 18 42 00	SPA	e 08 18 16	SPA	eP 21 41 35
Jan. 30 MAW	eP 07 59 02	Jan. 30 BYR	P 18 44 46	Feb. 2 SPA	e 09 17 31	Feb. 4 SPA	1P 23 49 59
Jan. 30 H-08 34 26.8 12.7 N. 87.7 W. h about 101 km.		Jan. 30 BYR	eP 19 25 41	Feb. 2 MAW	eP 11 00 59	Feb. 5 H-01 07 44.7 5.2 S. 150.9 E. h about 82 km.	
BYR	1P 08 47 35 e 47 44	Jan. 30 BYR	eP 20 24 43	Feb. 2 SPA	e 11 55 51	SPA	e 01 19 07
Jan. 30 BYR	eP 09 11 26	Jan. 31 H-00 05 57.0 38.5 N. 70.3 E. h about 60 km.		Feb. 2 SPA	e 12 26 38	Feb. 5 MAW	1P 02 28 51
Jan. 30 WIL	1P 09 17 31	SPA	e(P') 00 24 00	Feb. 2 MAW	eP 15 17 36	Feb. 5 MIR	e 03 51 00
Jan. 30 BYR	eP 09 26 16						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)						
Feb. 5 MIR	o 1	h m s 04 05 05 06 32	SPA	eP	h m s 12 02 52	Feb. 10 SPA	1P pP	h m s 13 11 09 11 29	Feb. 12 MAW	eP	h m s 04 15 40		
Feb. 5 MIR	e	05 35 26	Feb. 8 MIR	eP eS	12 18 07 21 42	Feb. 10 MIR	e	13 25 06	Feb. 12 MAW	1P	15 33 55		
Feb. 5 MAW	1P	05 55 31	Feb. 8 H-19 40 27.7 0.7 N. 98.6 E. h about 43 km.			Feb. 10 MIR	e	18 54 22	Feb. 13 SPA	e	00 36 23		
Feb. 5 SPA	e	09 00 12	SPA	e	19 53 29	Feb. 10 SPA	eP	19 43 00	Feb. 13 H-00 46 16.3 54.1 N. 35.1 W. h about 27 km.				
Feb. 5 SPA	e	21 03 34	Feb. 8 MIR	1	20 48 53	Feb. 10 H-19 46 11.0 33.1 S. 69.0 W. h about 171 km.			SPA	e	01 05 50		
Feb. 5 SPA	1P	21 21 43	Feb. 8 SPA	e	23 03 49	SPA	1P	19 55 41	Feb. 13 MIR	e	02 56 45		
Feb. 5 H-22 55 49.6 35.9 N. 138.8 E. h about 151 km.			Feb. 9 MIR	e	02 22 09	Feb. 10 SPA	e	22 40 17	Feb. 13 MIR	e	03 33 38		
SPA	1P	23 15 07	Feb. 9 H-12 02 33.5 24.2 S. 179.5 E. h about 541 km.			Feb. 10 MAW	eP	23 05 17	Feb. 13 MIR	1	08 36 43		
Feb. 6 MIR	1	03 27 10	SPA	1P	12 12 31	Feb. 11 H-02 42 36.1 29.6 N. 139.0 E. h about 400 km.			Feb. 13 MIR	e	09 06 09		
Feb. 6 SPA	1P	04 45 29	Feb. 9 SPA	e	13 03 32	SPA	e	03 00 39	Feb. 13 MIR	e	11 03 30		
Feb. 6 SPA	e	08 21 24	Feb. 9 SPA	e	15 16 03	Feb. 11 H-10 01 24.8 52.0 N. 168.0 W. h about 50 km.			Feb. 13 MAW	1P	11 29 32		
Feb. 6 MAW	e	13 51 38	Feb. 9 MIR	e	16 46 38	SPA	eP	10 20 40	Feb. 13 SPA	e	12 25 10		
Feb. 7 SPA	e	00 38 57	Feb. 9 SPA	e	21 15 55	Feb. 11 SPA	e	15 08 41	Feb. 13 SPA	e	12 48 11		
Feb. 7 MAW	1P	01 32 07	Feb. 9 H-21 51 13.2 0.6 N. 123.9 E. h about 50 km.			Feb. 11 SPA	e	17 44 21	Feb. 13 SPA	1P	13 10 01		
Feb. 7 H-07 36 05.1 20.4 S. 68.4 W. h about 222 km.			SPA	1P	22 04 10	Feb. 11 H-18 55 32.0 4.5 S. 153.5 E. h about 100 km.			Feb. 14 SPA	1P	00 14 28		
SPA	1	07 46 54	Feb. 9 MIR	e	22 59 09	MEQ	1P	19 04 19	Feb. 14 SPA	1P	01 33 36		
Feb. 7 SPA	e	09 48 50	Feb. 10 MAW	e	01 24 46	HLL	1P	19 06 23	Feb. 14 H-06 36 01.3 38.1 S. 73.1 W. h about 44 km.				
Feb. 7 MIR	1	23 38 30	Feb. 10 SPA	1P	04 15 08	1S	16 25	WIL	1P	19 06 24	SPA	1P	06 44 10
Feb. 8 MIR	1	04 30 15	Feb. 10 MIR	e	10 33 05	1S	15 19	SBA	eP	19 06 56	1S	52 38	
Feb. 8 H-11 49 13.9 3.2 S. 141.3 E. h about 87 km.			Feb. 10 SPA	1P	13 04 57	MIR	eP	19 06 59	1L	07 06 30	SBA	1P	06 46 03
HLL	eP eS	12 00 30 10 30	Feb. 10 SPA	P e	13 05 42 06 00	SPA	1P	19 07 59	HLL	1P	06 46 25	1S	54 44
MIR	e	12 00 31				MAW	1P	19 08 03	MAW	1P	06 47 11	1S	56 14
							1	08 33	e	48 44	eS	56 14	

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
MIR	eP 1S h m s 06 47 42 57 17	Feb. 15	H-09 56 01.0 49.4 S. 32.1 E. h about 25 km.	Feb. 16	SPA eP h m s 20 19 30	Feb. 18	SPA 1P h m s 22 19 11
WIL	1P 06 47 46	MAW	1P 10 01 23	Feb. 16	SPA e 23 03 49	Feb. 18	H-22 26 06.5 15.5 S. 166.8 E. h about 45 km.
Feb. 14	SBA 1 07 15 45	SPA	1P 10 03 42	Feb. 17	H-03 43 45.1 61.6 S. 162.9 E. h about 25 km.	SPA	eP 22 37 47
Feb. 14	H-07 08 21.1 38.2 S. 73.7 W. h about 40 km.	SBA	1P 10 05 03	MIR	e 10 10 48 e 13 41	Feb. 18	H-23 25 20.1 0.6 S. 91.7 W. h about 43 km.
SPA	1P pP 07 17 28 17 38	Feb. 15	MIR 1 13 25 46	MEQ	eP 03 45 32	SPA	1P 23 38 16
Feb. 14	SPA eP 08 13 13	Feb. 15	SPA eP 15 31 46	HLL	P S 03 46 27 48 45	Feb. 19	MEQ 1P 1 05 23 01 23 56
Feb. 14	H-08 11 59.3 38.1 S. 73.7 W. h about 40 km.	Feb. 15	H-15 25 29.5 4.4 S. 153.8 E. h about 109 km.	SBA	1P 03 47 38	SPA	e 05 28 02
SPA	1P 08 21 07	MEQ	e 15 34 16	MIR	1P 03 54 41 1 56 24	Feb. 19	MAW eP 08 51 44
Feb. 14	H 08 29 00.1 38.2 S. 73.1 W. h about 40 km.	MIR	eP 15 37 29	Feb. 17	MAW 1P 11 57 08	Feb. 19	MAW 1P 10 03 00
SPA	1P 08 38 07	SPA	eP 15 37 57	Feb. 17	MAW eP 12 01 21	Feb. 19	MAW eP 10 11 25 eS 18 25
Feb. 14	MAW eP 10 13 14	Feb. 15	SPA e 17 28 44	Feb. 17	WIL eP 1S 12 52 35 13 02 16	Feb. 19	H-11 04 46.6 20.2 S. 175.1 W. h about 95 km.
Feb. 14	MAW eP 11 21 36	Feb. 15	MEQ 1P 18 39 18	Feb. 17	H-18 16 06.2 38.0 S. 73.5 W. h about 40 km.	SPA	1P 11 15 48 pP 16 10
Feb. 14	SPA e 15 10 49	Feb. 15	SPA eP 20 37 55	SPA	1P 18 25 15	Feb. 19	MAW 1P 16 41 26
Feb. 14	SPA 1P 17 17 28	Feb. 15	H-20 28 47.2 38.1 S. 73.2 W. h about 40 km.	Feb. 17	SPA 1P 19 45 32	Feb. 19	SPA e 19 15 15
Feb. 14	MIR eP 23 13 15	Feb. 15	H-20 55 59.7 23.9 S. 176.5 W. h about 25 km.	Feb. 17	H-22 28 22.8 52.7 N. 169.7 W. h about 29 km.	Feb. 20	SPA 1P 03 12 36
Feb. 15	MIR e 06 45 42	SPA	1P 21 06 46	MAW	1P 22 48 57	Feb. 20	BYR eP 05 44 03
Feb. 15	MAW eP 08 06 33	Feb. 16	H-02 55 07.0 38.1 S. 73.1 W. h about 40 km.	Feb. 18	MAW 1P 00 26 18	Feb. 20	SPA 1P 05 51 51
Feb. 15	MAW eP 08 24 58	SPA	1P 03 04 15	Feb. 18	MIR e 06 03 05 e 15 22	Feb. 20	H-05 51 06.5 16.1 S. 178.1 E. h about 35 km.
Feb. 15	H-09 03 38.6 37.9 S. 74.1 W. h about 40 km.	Feb. 16	H-15 54 32.3 49.4 N. 156.0 E. h about 24 km.	Feb. 18	SPA e 10 35 26	SPA	1P 06 02 40
SPA	e 09 12 48	SPA	e 16 13 53	Feb. 18	MIR e 16 39 49	Feb. 20	H-06 40 20.3 11.4 S. 166.4 E. h about 81 km.
Feb. 15	MAW eP 09 51 28	Feb. 16	SPA 1P 16 59 47	Feb. 18	H-17 25 17.3 8.1 N. 74.6 W. h about 70 km.	SPA	1P 06 52 15
		Feb. 16	MIR e 17 37 10	SPA	1P 17 38 48 1 43 04		

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Feb. 20 H-09 22 37.6 12.0 S. 165.9 E. h about 102 km.	h m s	MIR	e 09 16 02	Feb. 23 H-20 21 28.6 3.8 S. 152.0 E. h about 25 km.	h m s	Feb. 26 SPA	1P 12 34 06
SPA	e 09 34 25 e 34 26	Feb. 21 H-09 50 05.4 56.8 S. 146.7 E. h about 25 km.		SBA	eP 20 33 15	Feb. 26 SPA	e 16 28 06
Feb. 20 H-10 07 26.6 25.9 S. 178.4 E. h about 655 km.		MEQ	e 09 51 51	Feb. 24 SPA	e 06 50 10	Feb. 27 SPA	e 01 17 12
SBA	1P 10 15 42	Feb. 21 MAW	eP 14 10 32	Feb. 24 SPA	1P 11 53 17	Feb. 27 SPA	e 05 11 56
SPA	1P 10 17 01	Feb. 22 SPA	eP 05 51 54	Feb. 24 SPA	1P 13 02 29	Feb. 27 H-05 52 28.5 63.0 N. 150.0 W. h about 100 km.	
MAW	e 10 32 45	Feb. 22 H-09 50 25.3 32.7 S. 179.7 W. h about 246 km.		Feb. 24 WIL	1P 13 10 03 eS 18 32	SPA	eP' 06 12 16
Feb. 20 MAW	eP 12 51 29	SPA	1P 09 59 51	Feb. 24 H-13 48 44.8 9.5 N. 120.9 E. h about 25 km.		Feb. 27 H-12 40 48.9 37.4 S. 73.2 W. h about 40 km.	
Feb. 20 H-14 11 49.6 29.3 S. 68.9 W. h about 140 km.		Feb. 21 WIL	1P 15 23 56 1S 32 48	SPA	e 14 06 07 e 12 04	SPA	1P 12 49 57 oS 57 36
SPA	1P 14 21 50	Feb. 22 H-21 55 12.7 27.8 S. 73.4 E. h about 25 km.		Feb. 24 SPA	eP 16 55 06	Feb. 27 MIR	e 13 10 43 e 15 41
Feb. 20 SBA	1P 15 54 45	SPA	1P 22 05 35	Feb. 24 SPA	1P 18 18 12	Feb. 27 H-14 03 27.3 19.2 S. 69.4 W. h about 140 km.	
Feb. 20 SPA	eP 16 34 42	Feb. 22 MAW	eP 23 51 48	Feb. 24 SPA	1P 19 19 19	SPA	1P 14 14 31
Feb. 20 H-20 11 13.7 50.6 S. 110.8 E. h about 31 km.		Feb. 23 SPA	e 03 12 38	Feb. 24 SPA	1P 20 34 08 1 34 19	Feb. 27 H-14 21 24.5 2.7 S. 130.1 E. h about 40 km.	
MIR	e 20 19 45	Feb. 23 MAW	eP 07 42 26	Feb. 25 MIR	e 10 20 14	SPA	1P 14 34 08
Feb. 20 BYR	e 21 26 42	Feb. 23 MAW	eP 09 37 09	Feb. 25 H-14 00 43.9 17.1 S. 168.4 E. h about 24 km.		Feb. 27 H-21 34 11.8 46.1 N. 26.3 E. h about 115 km.	
Feb. 20 H-22 02 38.2 26.1 N. 96.8 E. h about 25 km.		Feb. 23 MAW	e 10 08 56	MAW	e 14 11 11	MIR	e 21 53 34
SPA	eP' 22 21 19	SPA	1P 10 10 02	Feb. 25 MAW	1P 19 08 33	Feb. 27 SPA	e 22 45 26
Feb. 20 MIR	e 22 51 32 e 52 52 e 56 09	Feb. 23 MAW	e 13 25 46	Feb. 26 H-02 17 38.6 9.3 S. 152.9 E. h about 47 km.		Feb. 28 SPA	e 05 25 58
Feb. 21 SPA	1P 00 37 59	Feb. 23 SPA	1P 14 39 02	SPA	1P 02 29 51	Feb. 28 H-05 19 54.1 2.5 S. 140.5 E. h about 25 km.	
Feb. 21 MIR	e 03 25 35	Feb. 23 H-19 29 15.1 11.1 N. 125.8 E. h about 100 km.		Feb. 26 SPA	eP 03 40 24	MAW	eP 05 29 43
Feb. 21 MIR	e 06 41 17	SPA	1P' 19 47 03	Feb. 26 MAW	1P 06 04 17	SPA	eP 05 32 42
Feb. 21 SPA	e 08 56 52			Feb. 26 SPA	1P 09 57 47	Feb. 28 SPA	e 09 45 27
Feb. 21 SPA	eP 09 13 15						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	
Feb. 28 MIR	e h m s 10 48 35	Feb. 28 SPA	eP 1S 23 51 45	Mar. 3 MCQ	eP h m s 12 25 44	BYR	1P' e 12 00 12 00 26	
Feb. 28 SPA	e 11 45 15	Feb. 28 MIR	e 23 51 59 e 00 02 12 e 00 08 17	Mar. 3 WIL	eP 1S 23 51 48 35 56	Mar. 4 H-16 20 53.5 36.3 S. 72.9 W. h about 60 km.	BYR	eP 16 28 56
Feb. 28 MIR	e 12 02 40	Mar. 2 SPA	e 00 21 14	Mar. 3 SBA	eP 12 27 38	Mar. 4 AIA	1P eS 16 56 44 58 57	
Feb. 28 H-18 32 14.4 19.3 S. 69.6 W. h about 110 km.		Mar. 2 SPA	e 00 40 36	Mar. 3 SPA	1P 16 12 00	Mar. 4 BYR	1P eS 18 35 07 41 00	
Feb. 28 H-20 44 22.4 2.9 S. 140.7 E. h about 25 km.		Mar. 2 WIL	e 00 47 48	Mar. 3 H-16 13 56.9 16.1 S. 174.2 W. h about 129 km.		Mar. 4 BYR	eP 19 20 28	
Feb. 28 SPA	1P 18 43 21	Mar. 2 H-02 15 05.9 51.7 N. 173.5 W. h about 25 km.		Mar. 3 SPA	1 16 25 28	Mar. 4 BYR	eP 22 00 11	
Feb. 28 SPA	e 22 21 17	Mar. 2 MAW	e 02 37 32	Mar. 3 SPA	1P 16 29 40	Mar. 4 MAW	e 23 53 04	
Mar. 1 H-02 12 37.2 15.7 S. 74.4 W. h about 62 km.		Mar. 2 H-04 18 09.0 0.8 N. 123.9 E. h about 194 km.		Mar. 3 SPA	1 17 23 33	Mar. 5 SPA	1P pP 00 57 15 57 23	
Mar. 1 MIR	e 03 04 52	Mar. 2 SPA	e 04 30 52	Mar. 3 SPA	e 18 35 32	Mar. 5 SPA	eP 03 09 41	
Mar. 1 SPA	e 07 17 47	Mar. 2 MAW	eP 08 11 38	Mar. 3 MIR	1 19 07 53	Mar. 5 H-03 42 33.3 4.0 S. 103.3 E. h about 78 km.	SPA	e 03 55 10
Mar. 1 H-07 20 11.4 51.1 N. 179.1 W. h about 25 km.		Mar. 2 SPA	1P 13 00 32	Mar. 3 SPA	1 12 38 57	Mar. 5 SPA	e 04 24 03	
Mar. 1 MIR	e 07 42 06 e 45 08	Mar. 2 SPA	1P 13 16 22	Mar. 4 BYR	eP 00 53 07	BYR	eP 04 24 05	
Mar. 1 MAW	e 11 12 16	Mar. 2 MAW	eP 14 27 05	Mar. 4 MAW	e 04 24 30	Mar. 5 SPA	e 06 52 37	
Mar. 1 MAW	e 15 23 42	Mar. 2 MAW	eP 15 27 38 e 27 47 e 29 28	BYR	eP 04 26 48	BYR	eP 06 52 51	
Mar. 1 SPA	e 16 43 40	Mar. 2 MAW	eP 20 57 05	Mar. 4 BYR	eP 07 13 22	Mar. 5 SPA	e 07 35 01	
Mar. 1 H-20 38 31.1 38.0 S. 74.0 W. h about 25 km.		Mar. 3 MIR	e 00 44 20	Mar. 4 BYR	eP 08 39 19	Mar. 5 MAW	e 07 48 12	
Mar. 1 SPA	1P 20 47 42	Mar. 3 H-10 01 17.4 0.1 N. 126.5 E. h about 25 km.		Mar. 4 BYR	eP 11 42 01	BYR	eP 07 51 51	
Mar. 1 MAW	e 21 07 25	SPA	1P 10 14 15	Mar. 4 H-11 40 24.5 67.6 N. 171.4 W. h about 15 km.		Mar. 5 SPA	eP 08 52 42	
Mar. 1 H-23 41 14.5 14.0 S. 172.5 E. h about 73 km.		Mar. 3 SPA	1P 10 59 48					
		Mar. 3 MAW	eP 11 09 40					
		Mar. 3 MIR	1 12 08 12					

Date and Station	Phase (GCT)		Date and Station	Phase (GCT)		Date and Station	Phase (GCT)		Date and Station	Phase (GCT)	
BYR	1P pP	h m s 08 52 55 54 34	Mar. 6 SPA	1P	h m s 01 18 24	Mar. 6 BYR	eP	h m s 20 48 00	Mar. 7 H-13	h m s 58 32.4	17.2 N. 147.1 E. h about 41 km.
Mar. 5 BYR	eP	08 59 25	Mar. 6 BYR	1P eS e	01 30 28 37 15 50 06	Mar. 6 SPA	e	21 13 52	BYR	eP	14 12 32
MIR	e	09 04 54	Mar. 6 MIR	e	02 19 05	Mar. 6 MAW	e	22 33 44	SPA	e	14 14 53
WIL	eP	09 07 15	Mar. 6 MIR	e	27 58	Mar. 7 BYR	eP	02 01 39	Mar. 7 BYR	e	14 31 22
Mar. 5 BYR	e	09 17 58	Mar. 6 BYR	eP	02 32 13	SPA	e	02 02 41	Mar. 7 MAW	e	16 58 07
Mar. 5 BYR	e	09 41 09	MIR	e	02 34 04	Mar. 7 H-02	07 11.8	62.2 N. 26.6 W. h about 43 km.	Mar. 7 AIA	eP iS	18 41 05 47 24
Mar. 5 BYR	e	10 18 13	Mar. 6 SPA	e	03 40 27	SPA	1P'	02 27 02	Mar. 7 H-19	08 46.9	52.4 N. 174.5 W. h about 25 km.
Mar. 5 H-10	15 22.1	55.9 S. 27.9 W. h about 25 km.	Mar. 6 BYR	eP	04 25 36	BYR	eP	08 43 36	SPA	e	19 28 11
SPA	1P	10 22 09	Mar. 6 H-05	55 42.3	13.7 N. 93.7 E. h about 18 km.	Mar. 7 BYR	eP	10 48 20	Mar. 7 AIA	1P iS	19 38 42 40 51
BYR	1P	10 22 22	BYR	eP'	06 14 13	Mar. 7 H-10	36 47.7	5.3 S. 153.9 E. h about 25 km.	Mar. 7 H-21	57 08.8	0.0 123.9 E. h about 25 km.
WIL	1P eS	10 24 56 32 28	Mar. 6 BYR	1P	08 24 24	SPA	1P	10 49 22	SPA	e	22 10 08
MIR	e	10 31 27	Mar. 6 BYR	1P	08 47 36	MIR	e	11 04 07	Mar. 7 AIA	1P	23 45 40
Mar. 5 BYR	1P	10 57 22	Mar. 6 BYR	1P	08 47 50	Mar. 7 H-11	01 00.4	19.3 N. 145.3 E. h about 680 km.	Mar. 8 H-01	54 40.5	22.3 S. 39.1 E. h about 25 km.
Mar. 5 BYR	eP e	11 00 51 11 28	Mar. 6 BYR	1P	10 58 46	MCQ	eP	11 11 41	SPA	1P	02 05 39
Mar. 5 SPA	e	11 18 57	Mar. 6 BYR	eP e e	12 11 03 12 02 13 24	MIR	eP eS	11 13 12 24 11	BYR	1P i	02 06 33 06 52
BYR	e	11 19 09	Mar. 6 BYR	1P	13 23 25	BYR	eP e e	11 14 24 16 50 25 48	Mar. 8 BYR	1P	10 27 45
Mar. 5 BYR	eP	14 14 11	Mar. 6 BYR	pP	24 13	SBA	eP	11 13 34	Mar. 8 H-10	33 41.9	35.1 S. 179.7 W. h about 25 km.
Mar. 5 BYR	eP	15 04 25	Mar. 6 MAW	e	15 58 39	SPA	eP i i i	11 14 24 18 21 27 44 33 36	BYR	eP	10 41 20
Mar. 5 MIR	1 1	16 29 21 29 58	Mar. 6 SPA	e	16 13 25	MAW	e	11 18 31	SPA	1P	10 43 19
Mar. 5 SPA	1P	17 23 31	Mar. 6 SPA	1P	17 59 43	AIA	e i e	11 18 45 21 22 30 51	Mar. 8 SPA	e	11 54 13
BYR	1P e	17 23 45 33 29	Mar. 6 H-18	49 22.0	12.1 S. 167.8 E. h about 60 km.	Mar. 7 BYR	eP	11 37 58	Mar. 8 AIA	1P iS	14 16 38 14 37
Mar. 5 MAW	eP	18 56 34	BYR	eP	19 00 58	Mar. 7 BYR	eP	14 07 39			
Mar. 6 BYR	1P	00 58 29	Mar. 6 BYR	eP	20 31 04						
Mar. 6 BYR	1P	01 13 28									

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Mar. 8 MAW	eP 15 33 40 h m s	Mar. 9 H-08 31 27.6 6.4 S. 154.7 E. h about 117 km.	h m s	Mar. 9 BYR	eP 23 22 09 h m s	Mar. 10 SBA	eP 18 32 35 h m s
Mar. 8 MAW	e 16 48 09	SPA	e 08 43 48	Mar. 10 SPA	iP 01 08 36	Mar. 10 SBA	iP 22 48 15
Mar. 8 H-18 00 05.5 6.6 S. 154.5 E. h about 67 km.		Mar. 9 BYR	eP 09 09 27	BYR	eP 01 09 55	BYR	eP 22 50 12
SPA	e 18 12 24	Mar. 9 MAW	eP 11 51 01	Mar. 10 SBA	iP 01 16 10	SPA	iP 22 50 28
Mar. 8 BYR	eP 18 29 01	Mar. 9 BYR	eP 12 27 11	BYR	eP 01 17 21	MIR	e 23 01 17
Mar. 8 H-20 48 38.1 44.9 S. 79.4 W. h about 25 km.		Mar. 9 BYR	eP 14 29 12	SPA	iP 01 18 09	Mar. 11 BYR	eP 01 10 01
BYR	iP 20 55 56 e 57 26 e 21 08 10	Mar. 9 MIR	eP 16 31 17 e 33 40	Mar. 10 H-03 01 17.5 3.8 N. 97.7 E. h about 25 km.		Mar. 11 BYR	eP 02 37 51
SPA	iP 20 56 56	Mar. 9 MAW	eP 16 36 30	SPA	e 03 14 43	Mar. 11 MAW	e 04 54 29
MIR	e 21 26 09	Mar. 9 BYR	e 16 51 46	Mar. 10 H-04 59 27.5 31.2 S. 178.3 W. h about 69 km.		Mar. 11 BYR	eP 05 04 31
Mar. 8 H-21 38 35.4 3.4 S. 29.2 E. h about 25 km.		Mar. 9 MIR	i 17 20 46	BYR	eP 05 08 48 i 09 56	Mar. 11 BYR	eP 07 04 57 e 06 14 eS 09 23 e 37 09
SPA	iP 21 51 17	Mar. 9 H-17 30 02.0 24.5 S. 179.6 W. h about 586 km.		SPA	iP 05 09 21	Mar. 11 H-07 18 56.7 13.9 S. 172.1 E. h about 133 km.	
BYR	iP 21 52 58 i 57 06 e 58 52	SBA	iP 17 38 33	Mar. 10 BYR	iP 07 14 43	BYR	eP 07 30 15
MIR	e 22 16 41 e 19 49	BYR	iP 17 39 20 e 40 42	SPA	iP 07 15 20	SPA	e 07 30 37
Mar. 8 MAW	e 23 51 02	SPA	iP 17 39 50	BYR	eP 09 03 50	Mar. 11 MIR	e 07 45 06 e 51 22 e 53 29
Mar. 9 BYR	eP 00 53 07	Mar. 9 SPA	e 21 58 34	Mar. 10 BYR	eP 12 01 16	Mar. 11 BYR	eP 07 53 21 eS 56 45
Mar. 9 BYR	eP 02 42 34	Mar. 9 H-22 07 35.6 5.8 S. 146.4 E. h about 76 km.		Mar. 10 H-12 08 07.1 11.0 S. 165.6 E. h about 25 km.		Mar. 11 MIR	e 07 58 23 e 08 02 42
Mar. 9 BYR	eP 02 48 29	MGQ	eP 22 16 23	BYR	iP 12 19 59	Mar. 11 MIR	e 09 49 09
Mar. 9 BYR	eP 06 17 11	HLL	eP 22 18 31	SPA	iP 12 20 12	Mar. 11 MAW	eP 09 58 16 e 58 39 e 10 01 59 e 22 06
Mar. 9 H-06 57 08.7 18.4 S. 178.7 W. h about 472 km.		MIR	eP 22 18 47 e 20 43	Mar. 10 BYR	eP 13 07 05 e 10 23 e 14 19	Mar. 11 BYR	eP 12 10 17
SBA	iP 07 06 33	SBA	iP 22 19 02	Mar. 10 BYR	eP 13 34 17 i 35 40 e 37 58 e 56 14	Mar. 11 H-15 23 40.7 52.3 N. 178.0 E. h about 135 km.	
BYR	iP 07 07 16 e 09 11 e 35 35	SPA	iP 22 20 01	Mar. 10 BYR	eP 16 30 17		
SPA	iP 07 07 46	BYR	iP 22 20 06				
		Mar. 9 BYR	eP 22 45 24 e 47 49				

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
BYR	eP <sup>1</sup> FP e	h m s 15 42 40 46 12 54 40	Mar. 12 H-02 11 09.6 34.1 N. 70.9 E. h about 44 km.	h m s BYR 1P 13 33 42	Mar. 13 MAW e 09 19 39	h m s	
SPA	eP <sup>1</sup> i	15 42 50 46 25	SPA e 02 30 03	SPA iP 13 34 21	Mar. 13 BYR e 09 53 30		
SBA	iFP	15 45 52	Mar. 12 BYR eP 04 24 40	Mar. 12 H-13 42 33.4 8.3 N. 83.1 W. h about 24 km.	Mar. 13 BYR iP 10 07 25		
Mar. 11 MIR	e	17 12 56	Mar. 12 BYR eP 04 30 43	BYR eP 13 55 32	Mar. 13 H-11 29 48.6 2.9 N. 128.8 E. h about 152 km.		
Mar. 11 MIR	e	17 48 30	MAW e 04 34 07	Mar. 12 MAW e 15 40 12	SPA iP 11 42 47		
Mar. 11 MIR	e	19 21 39	Mar. 12 BYR eP 05 12 34	Mar. 12 H-17 20 07.8 16.1 S. 168.2 E. h about 172 km.	Mar. 13 BYR eP 11 58 04		
Mar. 11 H-19 19 05.6 9.0 N. 126.7 E. h about 25 km.			Mar. 12 BYR eP 06 02 52	BYR iP 17 31 10	Mar. 13 BYR iP 14 07 04		
MEQ	eP	19 30 09	Mar. 12 BYR eP 08 19 06	SPA iP 17 32 16	SPA eP 14 07 33		
WIL	iP iS	19 30 56 40 30	Mar. 12 H-09 41 45.7 9.0 N. 83.0 W. h about 113 km.	Mar. 12 SBA eP 18 30 10	Mar. 13 MIR i 20 13 59		
MIR	iP iS e	19 31 09 41 02 53 10	BYR iP 09 54 33 e 55 21	Mar. 12 MAW e 19 02 03	Mar. 13 BYR eP 21 59 04		
SBA	eP	19 31 58	SPA eP 09 55 09	Mar. 12 H-19 29 25.8 10.6 S. 161.4 E. h about 138 km.	Mar. 13 BYR eP 23 53 56		
MAW	e	19 32 13	Mar. 12 MIR e 10 45 40 e 58 01	BYR eP 19 41 12	SPA eP 23 54 13		
SPA	eP eS	19 32 49 43 26	Mar. 12 BYR eP 11 19 01	Mar. 12 MAW e 22 26 49	Mar. 14 BYR eP 02 54 18		
BYR	eP e e e	19 33 11 37 27 43 53 56 21	Mar. 12 BYR e 11 32 28	Mar. 13 BYR eP 00 56 08	Mar. 14 BYR eP 05 39 43		
Mar. 11 BYR	eP	23 17 51	MAW e 11 33 50	Mar. 13 BYR eP 02 31 39	SPA e 05 40 12		
Mar. 11 BYR	eP	23 49 50	Mar. 12 H-11 40 12.8 8.1 N. 83.0 W. h about 58 km.	Mar. 13 BYR eP 03 07 13	Mar. 14 BYR eP 07 00 47		
SPA	eP	23 50 17	BYR eP 11 53 11 e 53 17	Mar. 13 BYR eP 05 06 51	Mar. 14 BYR eP 07 07 37		
Mar. 12 H-01 07 38.7 4.6 N. 125.8 E. h about 44 km.			SPA iP 11 53 52	Mar. 13 SBA eP 05 44 47	Mar. 14 BYR eP 08 31 28		
BYR	eP	01 21 21	WIL iP <sup>1</sup> 12 00 40	BYR iP 05 45 48	SPA eP 08 32 06		
Mar. 12 BYR	eP	01 32 21	MIR iP <sup>1</sup> 12 00 48 eS 10 41 e 19 49	SPA iP 05 46 12	Mar. 14 MAW oP 09 02 32		
Mar. 12 BYR	eP pP	02 03 37 04 01	Mar. 12 H-13 23 40.8 22.7 S. 68.3 W. h about 158 km.	Mar. 13 BYR iP 06 51 13	Mar. 14 MAW i 10 16 49		
				Mar. 13 MIR i 07 03 16	Mar. 14 BYR eP 12 36 23		
				Mar. 13 SBA eP 07 18 27	SPA iP 12 36 24		
					Mar. 14 MAW eP 13 14 49 e 19 02		



Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Mar. 14 BYR	h m s 1P 15 22 20	SBA	h m s eP 21 24 52	Mar. 16 BYR	h m s e 21 37 14	BYR	h m s eP 01 36 33
SPA	1P 15 23 13	SPA	eP 21 25 25	Mar. 16 BYR	i 22 45 12	SPA	1P 01 37 08
Mar. 14 H-15 17 32.7 4.9 S. 152.4 E. h about 57 km.		BYR	1P 21 26 01 e 27 05	Mar. 17 BYR	eP 07 12 53	Mar. 18 MAW	eP 03 05 04
BYR	eP 15 30 03	Mar. 15 H-22 58 08.3 10.5 S. 162.6 E. h about 100 km.		Mar. 17 BYR	eP 08 56 07	Mar. 18 H-03 06 18.8 16.1 S. 168.2 E. h about 14 km.	
Mar. 14 MAW	e 15 45 00	BYR	1P 23 09 56	Mar. 17 SPA	1P 11 50 12	SBA	eP 03 16 35
Mar. 14 SPA	e 18 37 34	SPA	1P 23 10 06	Mar. 17 H-17 57 04.5 17.7 S. 177.4 W. h about 673 km.		MIR	1P 03 17 26 1S 26 33
Mar. 14 MAW	e 19 27 31	Mar. 15 BYR	1P 23 30 41	SPA	e 18 08 01	BYR	eP 03 17 36 e 18 44
Mar. 14 SPA	e 20 30 31	Mar. 16 MIR	e 02 07 30	Mar. 17 MAW	eP 20 04 33	SPA	1P 03 17 52
Mar. 15 SPA	e 00 54 34	Mar. 16 SPA	e 05 34 46	Mar. 17 H-20 47 31.7 10.6 N. 43.7 W. h about 25 km.		Mar. 18 BYR	eP 03 41 54
Mar. 15 SPA	e 02 44 32	Mar. 16 BYR	1P 08 34 29	BYR	eP 21 01 10 e 01 34 e 26 24	Mar. 18 SBA	eP 04 04 52
Mar. 15 SPA	1P 04 14 28	Mar. 16 BYR	eP 14 56 05	SPA	eP 21 01 23	Mar. 18 MAW	e 08 05 12
Mar. 15 BYR	1P 04 28 49	Mar. 16 H-15 26 00.6 21.7 S. 173.0 E. h about 216 km.		SBA	e 21 07 06	Mar. 18 SPA	1P 12 56 30
Mar. 15 SPA	e 04 49 23	SBA	eP 15 35 20	MIR	e 21 07 19	BYR	eP 12 56 42
Mar. 15 SPA	e 08 42 01	BYR	eP 15 36 21	WIL	e 21 08 02	Mar. 18 H-13 38 40.8 22.3 S. 173.7 E. h about 100 km.	
BYR	eP 08 42 12	SPA	1P 15 36 41	MAW	e 21 23 00 e 31 02	BYR	e 13 49 06
Mar. 15 MAW	e 10 23 43	MIR	e 15 59 30	Mar. 17 H-21 29 14.2 22.3 S. 169.7 E. h about 100 km.		SPA	e 13 49 31
Mar. 15 H-13 07 06.9 20.6 S. 178.8 W. h about 623 km.		Mar. 16 MIR	e 19 42 29	SPA	1P 21 39 54	Mar. 18 H-15 30 31.6 40.6 N. 19.6 E. h about 25 km.	
BYR	1P 13 16 49	BYR	1P 19 45 26 e 46 11	Mar. 17 MAW	e 22 01 42 e 03 14	SPA	1P <sup>1</sup> 15 49 41
SPA	1P 13 17 19	Mar. 16 H-19 42 39.2 10.8 S. 165.7 E. h about 25 km.		Mar. 18 H-00 40 09.8 36.0 S. 176.9 W. h about 25 km.		BYR	eP <sup>1</sup> 15 49 53
Mar. 15 BYR	e 13 45 22	SBA	1P 19 53 33	SPA	1P 00 49 35	SBA	eP <sup>1</sup> 15 50 03
Mar. 15 MIR	e 15 06 10	BYR	1P 19 54 30	BYR	1P 00 50 01	Mar. 18 SPA	1P 16 18 33
Mar. 15 BYR	e 15 18 26	SPA	1P 19 54 44	Mar. 18 H-01 26 51.0 27.7 S. 177.3 W. h about 89 km.		Mar. 18 MIR	e 16 36 00
Mar. 15 H-21 13 04.1 7.1 S. 106.1 E. h about 83 km.		MIR	e 20 03 53	Mar. 18 MAW	1P 21 01 04		
		Mar. 16 MIR	e 20 50 05				

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Mar. 19 MAW	h m s oP 01 45 52 pP 46 21	BYR	h m s eP 14 12 12 e 12 19	Mar. 20 BYR	h m s 1P 21 05 46	WIL	h m s 1P 23 07 03 1S 14 30
MIR	1 01 45 58	SPA	eP 14 12 57	SPA	1P 21 06 29	MCQ	e 23 07 09
Mar. 19 BYR	1P 02 44 38	Mar. 19 H-15 34 44.5 31.8 S. 179.9 E. h about 469 km.		Mar. 21 SPA	e 01 16 44	MIR	1P 23 07 16 1 11 24 1S 14 54
SPA	1P 02 45 12	SPA	e 15 44 00	Mar. 21 H-01 53 13.3 62.1 N. 152.7 W. h about 122 km.		MAW	1P 23 08 06 e 35 58
Mar. 19 H-04 49 31.7 57.3 S. 147.2 E. h about 25 km.		Mar. 19 SPA	o 18 16 07	SPA	1P' 02 12 54	SBA	eP 23 08 44 e 10 56
SBA	eP 04 54 21	Mar. 19 BYR	eP 19 05 55	Mar. 21 H-02 30 18.5 22.2 S. 170.4 E. h about 25 km.		SPA	1P 23 09 21 e 09 48
SPA	1P 04 56 05	Mar. 19 H-20 57 24.2 4.3 S. 103.1 E. h about 100 km.		SPA	e 02 41 11	BYR	1P 23 09 51 1pP 12 03 e 19 25
BYR	eP 04 56 23 eS 05 06 59	SPA	eP 21 10 07 e 15 46	Mar. 21 MIR	e 03 09 10 e 10 35 e 14 41	Mar. 21 BYR	1P 23 37 20 e 40 28
HLL	eP 04 57 01 eS 05 07 47	Mar. 19 SPA	e 22 01 30	MAW	eP 03 09 13	Mar. 22 BYR	1P 00 25 23
MIR	e 05 02 44	Mar. 19 MAW	eP 23 39 51	Mar. 21 BYR	eP 03 46 13	Mar. 22 H-00 19 43.1 5.9 S. 112.9 E. h about 611 km.	
Mar. 19 H-05 54 24.4 0.3 N. 123.5 E. h about 53 km.		Mar. 20 SPA	e 01 59 27	Mar. 21 H-06 11 26.2 4.4 S. 80.7 W. h about 78 km.		MIR	1P 00 28 54 e 29 09
MCQ	1P 06 04 41 e 05 16	Mar. 20 BYR	eP 02 32 16	SPA	1P 06 23 57	WIL	1P 00 28 57 eS 36 21
MIR	1P 06 05 34 1S 14 32	Mar. 20 SPA	1P 05 35 42 e 53 50	Mar. 21 MAW	e 07 31 16	MCQ	e 00 29 03
MAW	1P 06 06 27	BYR	eP 05 35 58 e 37 09	Mar. 21 BYR	eP 08 05 40	MAW	1P 00 29 59
SBA	eP 06 06 33	Mar. 20 MIR	e 06 58 53	Mar. 21 MAW	e 12 44 02	SBA	1P 00 30 38
SPA	1P 06 07 22 e 09 05	Mar. 20 MAW	e 07 58 36	Mar. 21 BYR	eP 16 08 45	SPA	1P 00 31 14 e 31 36
BYR	1P 06 07 44 e 08 19 1 24 40 e 51 49	Mar. 20 BYR	1P 11 06 32	Mar. 21 SPA	e 17 34 57	Mar. 22 H-00 37 36.8 6.0 S. 113.0 E. h about 595 km.	
Mar. 19 SPA	1P 08 17 05	SPA	1P 11 07 45	Mar. 21 SBA	eP 22 24 08	SBA	1 00 48 30
Mar. 19 SPA	e 08 38 00	Mar. 20 SPA	1P 14 12 28	Mar. 21 SPA	1 21 28 49	SPA	1P 00 49 06 1 51 12
Mar. 19 SBA	1P 08 51 02 1 52 19	BYR	eP 14 12 42	Mar. 21 H-22 57 51.2 5.9 S. 113.0 E. h about 631 km.		Mar. 22 SPA	1P 00 55 15 pP 55 51
Mar. 19 SPA	1P 12 39 24	Mar. 20 SBA	eP 16 27 29			Mar. 22 SPA	1P 01 37 30
BYR	1P 12 40 30	Mar. 20 SPA	1P 20 31 59			BYR	eP 01 38 00
Mar. 19 H-14 00 08.9 2.3 S. 77.1 W. h about 119 km.							

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Mar. 22 H-01 50 52.4 18.9 S. 173.1 W. h about 60 km.	h m s	Mar. 22 SPA 1P 15 54 22 1 16 06 32 1 08 00 1 10 36 1 16 00 1 18 48	h m s	Mar. 23 BYR eP 04 45 30	h m s	Mar. 24 BYR e 06 56 52 e 57 42	h m s
BYR eP 02 01 29		Mar. 22 H-16 16 26.4 2.1 S. 139.3 E. h about 44 km.		Mar. 23 H-05 34 40.5 38.0 S. 72.8 W. h about 67 km.		Mar. 24 H-12 59 30.9 5.7 S. 145.0 E. h about 111 km.	
SPA 1P 02 02 06		MAW eP 16 28 48		BYR eP 05 42 56		MCQ eP 13 08 17	
Mar. 22 BYR e 03 54 16		Mar. 22 SPA 1P 16 29 15		SPA 1P 05 43 47		WIL 1P 13 10 03 pP 10 25 eS 18 32	
Mar. 22 BYR e 05 28 26		Mar. 22 H-17 46 09.0 2.0 S. 139.4 E. h about 32 km.		SBA eP 05 44 35		SBA 1P 13 10 53	
Mar. 22 H-06 21 08.1 15.8 S. 167.6 E. h about 15 km.		SPA 1P 17 58 56		Mar. 23 MIR e 06 18 48 1S 19 42		MAW 1P 13 11 40 e 19 35 e 21 43	
BYR 1 06 32 31		Mar. 22 MAW e 18 54 06		Mar. 23 SBA eP 09 28 15		SPA 1P 13 11 53 pP 12 11 1S 21 02 e 51 12	
SPA 1P 06 32 46		SPA e 18 57 00		BYR eP 11 23 38		BYR 1P 13 12 00 pP 12 37 e 26 48 e 29 58	
Mar. 22 MAW eP 07 56 41 e 58 57		Mar. 22 H-18 59 00.8 28.1 S. 67.5 W. h about 217 km.		SPA e 11 24 34			
Mar. 22 MAW e 09 23 34		SPA 1P 19 09 00 e 09 27		Mar. 23 SPA eP 14 45 55		Mar. 24 H-15 25 16.1 2.1 S. 138.8 E. h about 84 km.	
Mar. 22 H-12 05 03.2 16.3 S. 167.5 E. h about 45 km.		SBA eP 19 09 47		Mar. 23 H-14 45 27.6 28.5 S. 167.6 E. h about 23 km.		BYR e 15 38 07	
SBA eP 12 15 18		MAW 1P 19 14 36		SBA eP 14 54 16		Mar. 24 SPA e 15 52 57	
Mar. 22 H-12 07 05.5 32.2 S. 66.9 W. h about 249 km.		Mar. 22 H-20 50 24.9 15.7 S. 68.7 W. h about 100 km.		BYR eP 14 55 29		Mar. 24 BYR eP 16 48 54	
SPA eP 12 16 35		SPA 1P 21 01 53		Mar. 23 H-15 08 45.5 22.9 S. 179.4 E. h about 608 km.		Mar. 24 MAW e 19 28 30 e 28 58	
Mar. 22 H-15 13 03.9 3.2 S. 142.3 E. h about 25 km.		Mar. 22 SPA 1P 22 04 14		SPA eP 15 18 47		Mar. 24 MAW e 19 56 55	
WIL eP 15 23 56 1S 32 48		MAW eP 22 07 40		Mar. 23 MAW eP 19 25 37		SPA eP 19 57 28	
MIR 1P 15 24 28 1S 33 44		Mar. 22 SPA 1P 22 36 39		Mar. 23 MAW e 23 21 09 e 34 58		Mar. 24 H-20 42 47.3 6.7 S. 155.3 E. h about 53 km.	
HLL eP 15 24 30 eS 33 44		Mar. 22 SPA e 23 17 17		Mar. 24 H-01 34 07.9 17.8 S. 173.0 W. h about 25 km.		SPA e 20 55 08	
SBA eP 15 24 50		Mar. 23 MAW eP 00 45 20		SBA eP 01 44 22		Mar. 24 BYR 1P 19 56 55	
MAW 1 15 25 18		Mar. 23 BYR eP 01 45 30		BYR 1P 01 45 00 e 47 10		SPA eP 19 57 28	
SPA 1P 15 25 49 e 26 14		Mar. 23 BYR eP 02 04 31		SPA eP 01 45 35		Mar. 24 BYR eP 21 55 05	
		Mar. 23 MAW 1P 02 08 46		Mar. 24 MAW e 02 54 29		Mar. 25 MAW eP 00 13 55	
				Mar. 24 BYR eP 04 31 17		Mar. 25 SBA eP 04 16 36	

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Mar. 25 BYR	h m s eP 04 41 13	Mar. 25 BYR	h m s eP 18 38 21	Mar. 26 H-15 20 41.8 5.5 S. 148.1 E. h about 122 km.	h m s	Mar. 27 BYR	h m s eP 09 41 48
Mar. 25 H-05 28 30.7 5.8 S. 130.7 E. h about 38 km.		Mar. 25 H-21 44 40.8 1.6 N. 127.2 E. h about 60 km.		SPA	iP 15 33 05	Mar. 27 MAW	eP 10 52 39
BYR	eP 05 41 17	SBA	eP 21 57 00	BYR	eP 15 33 10	Mar. 27 MAW	eP 11 26 31
Mar. 25 BYR	eP 07 20 37	SPA	eP 21 57 45	Mar. 26 MAW	eP 15 40 25	Mar. 27 BYR	eP 12 35 28
Mar. 25 SPA	e 08 37 12	BYR	eP 21 58 06 e 22 01 55	Mar. 26 MAW	eP 16 23 28	Mar. 27 BYR	iP 13 45 55
Mar. 25 BYR	eP 10 06 41	Mar. 25 BYR	e 22 34 12	Mar. 26 H-16 32 43.6 40.6 S. 73.3 W. h about 32 km.		Mar. 27 BYR	eP 14 21 42 pP 23 14
Mar. 25 MAW	eP 10 12 41	Mar. 26 MIR	e 01 07 53 e 08 35	BYR	iP 16 40 43	Mar. 27 MAW	eP 15 40 25
Mar. 25 H-11 00 19.0 11.3 S. 165.7 E. h about 85 km.		Mar. 26 H-03 10 53.5 0.5 S. 127.6 E. h about 55 km.		SPA	iP 16 41 34 i 41 45	Mar. 27 MAW	eP 16 23 28
SBA	eP 11 11 04	BYR	eP 03 24 07	SBA	eP 16 42 24	Mar. 27 BYR	eP 17 30 20
BYR	eP 11 12 03	Mar. 26 SBA	eP 05 31 03	HLL	eP 16 42 42 eS 50 51	Mar. 27 BYR	e 18 45 05
Mar. 25 SPA	eP 11 27 16	BYR	eP 05 35 22	MAW	iP 16 43 37	Mar. 27 BYR	eP 19 07 08
Mar. 25 H-11 44 27.7 49.5 S. 8.7 W. h about 25 km.		Mar. 26 MIR	e 05 53 07	MIR	eP 16 44 09 e 44 28 e 17 00 23	Mar. 27 BYR	eP 19 39 28
SPA	iP 11 52 08	Mar. 26 BYR	e 06 48 58	WIL	iP 16 44 14 eS 53 47	Mar. 27 MIR	e 21 58 57
BYR	eP 11 52 44 e 54 46	Mar. 26 BYR	e 10 29 51	Mar. 26 BYR	e 18 07 11	Mar. 27 BYR	eP 23 27 14
SBA	eP 11 53 33	Mar. 26 MAW	eP 10 52 39	Mar. 26 BYR	eP 18 46 42	Mar. 27 MAW	eP 23 35 12
Mar. 25 BYR	eP 12 33 59	Mar. 26 H-12 04 54.6 0.5 S. 19.2 W. h about 25 km.		Mar. 27 BYR	e 00 11 04	Mar. 28 H-00 51 54.7 36.6 N. 71.6 E. h about 108 km.	
Mar. 25 BYR	eP 13 09 32	SPA	eP 12 17 52	Mar. 27 H-05 22 32.0 3.9 S. 129.1 E. h about 96 km.		SPA	iP' 01 10 43
Mar. 25 SBA	eP 14 22 33	Mar. 26 SBA	eP 13 24 08	SBA	eP 05 34 13	Mar. 28 MAW	eP 01 57 33
SPA	iP 14 23 43 pP 24 04	Mar. 26 MAW	iP 14 23 48	SPA	iP 05 35 02 e 45 15	SPA	e 02 03 13
MAW	iP 14 23 48	Mar. 26 BYR	eP 14 35 21	Mar. 27 BYR	e 06 26 19 e 31 26	Mar. 28 H-04 05 24.6 1.4 N. 97.5 E. h about 74 km.	
Mar. 25 MAW	iP 16 43 37	Mar. 26 BYR	e 15 00 08	Mar. 27 BYR	e 07 23 23	SBA	eP 04 18 04
Mar. 25 BYR	eP 17 01 08	Mar. 26 BYR	eP 15 12 58	Mar. 27 BYR	eP 08 59 16	SPA	e 04 18 25
Mar. 25 MCQ	e 17 33 32						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
Mar. 28 H-06 17 10.2 28.7 S. 179.9 W. h about 375 km.	h m s	Mar. 29 H-20 09 01.9 0.5 S. 127.4 E. h about 25 km.	h m s	Mar. 30 SPA e 13 14 07	h m s		
SBA 1P 06 25 27		HLL eP 20 20 52		Mar. 30 H-14 23 33.6 28.7 S. 179.0 W. h about 292 km.			
SPA 1P 06 26 49		eS 31 20		SBA 1P 14 31 58			
Mar. 28 MAW eP 11 28 31		MAW e 20 21 10		BYR eP 14 32 49			
Mar. 28 SBA eP 12 34 10		SBA eP 20 21 10		SPA 1P 14 33 20			
SPA eP 12 35 42		SPA 1P 20 21 57		Mar. 30 SBA eP 17 56 41			
Mar. 28 H-14 12 45.8 32.7 S. 178.0 W. h about 104 km.		e 40 08		Mar. 31 H-01 16 42.9 15.9 S. 173.9 W. h about 107 km.			
SBA eP 14 21 03		e 55 01		BYR eP 01 27 35			
SPA eP 14 22 27		BYR eP 20 22 17		Mar. 31 SPA e 03 54 42			
Mar. 28 SPA eP 18 44 19		MIR eP 20 22 57		Mar. 31 H-07 44 36.0 9.8 N. 121.6 E. h about 156 km.			
Mar. 28 MAW eP 23 35 12		e 29 56		SPA eP 07 58 05			
Mar. 29 BYR e 00 42 23		eL 46 00		e 58 11			
MAW eP 01 57 33		Mar. 29 BYR eP 21 01 06		Mar. 31 SPA e 11 11 34			
Mar. 29 H-01 52 25.4 51.8 N. 157.2 E. h about 155 km.		e 03 49		Mar. 31 SPA 1P 12 08 34			
BYR eP' 02 11 25		Mar. 29 H-22 38 27.8 20.1 S. 169.0 E. h about 51 km.		pP 09 15			
SPA e 02 11 33		SBA eP 22 48 17		e 15 05			
Mar. 29 H-03 07 02.5 58.6 N. 137.4 W. h about 25 km.		SPA eP 22 49 36		BYR 1P 12 09 01			
SPA eP' 03 26 44		e 23 02 52		e 10 23			
Mar. 29 BYR eP 07 25 23		Mar. 30 BYR e 00 29 16		e 18 57			
Mar. 29 MAW 1 09 09 37		Mar. 30 BYR eP 01 31 12		SBA eP 12 10 24			
Mar. 29 SPA eP 09 26 36		pP 31 39		e 15 51			
Mar. 29 MAW eP 12 12 39		SPA 1P 01 31 20		e 18 55			
Mar. 29 BYR e 12 55 21		Mar. 30 BYR e 06 00 28					
		e 01 03					
		Mar. 30 BYR e 06 51 58					
		Mar. 30 SBA eP 08 08 36					
		BYR eP 08 09 37					
		SPA eP 08 09 59					
		Mar. 30 BYR eP 11 26 57					
		Mar. 30 BYR e 12 07 18					
		SPA e 12 08 01					
		SBA eP 12 10 24					
		e 15 51					
		e 18 55					

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Luther H. Hodges, Secretary

COAST AND GEODETIC SURVEY—WASHINGTON

H. Arnold Karo, Director

FOR OFFICIAL DISTRIBUTION

STATION AND INSTRUMENTAL CONSTANTS

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Country, Station and Station Abbreviation	Position		Foundation and Elevation (In Meters)	Instruments and Components	To Seconds	T <sub>g</sub> Seconds
	Latitude	Longitude				
ARGENTINA Deception (DEC)	62°59' S	60°43' W	Rock 7 m	Mainka Mainka	N 5.0 E 5.0	
AUSTRALIA Macquarie (MCQ)	54°29'55" S	158°57'22" E	Weathered Basaltic Lava 14 m	Benioff Benioff Benioff	Z 1.0 N 1.0 E 1.0	0.2 0.2 0.2
Mawson (MAW)	67°36'21" S	62°52'48" E	Pre-combian granite	Benioff Benioff Benioff	Z 1.0 N 1.0 E 1.0	0.2 70 70
Wilkes (WIL)	66°15.5' S	110°31.2' E	Rock 9 m	Lehner-Griffith Lehner-Griffith Lehner-Griffith	Z 16.0 N 21.0 E 13.0	20.6 20.3 21.4
FRANCE Dumont d'Urville (DRV)	66°40' S	140°01' E	Rock 40 m	Labrouste Galitzin Galitzin	Z 1.5 N 12.5 E 12.5	11.0 12.3
Kerguelen (KII)	49°21'39.3" S	70°04'00.9" E	Basalt 22 m	Grenet-Coulomb Grenet-Coulomb Paris Type IPG Paris Type IPG	Z 9.71 Z 1.03 N 15 E 15	4.25 0.3 4.25 4.25
NEW ZEALAND Hallett (HLL)	72°17.7' S	170°18.5' E	Rock 5 m	Press-Ewing Willmore Press-Ewing Press-Ewing	Z 15.0 Z 1.0 N 15.0 E 15.0	75.0 2.0 75.0 75.0
Scott Base (SBA)	77°51' S	166°45' E	Rock 15 m	Benioff Benioff Benioff	Z 0.2 N 25 E 25	0.2 - 25** 0.2 - 25** 0.2 - 10**
USSR Mirny (MIR)	66°33' S	93°00' E	Rock 30 m	SVKM SVK SGK SGK	Z 2.5 Z 12.5 N 12.5 E 12.5	1.0 1.1 1.1 1.1
UNITED KINGDOM Argentine Island (AIA)	65°15' S	64°16' W	Rock 11 m	Willmore Willmore Willmore	Z 1.0 N 1.0 E 1.0	.25 .25 .25
UNITED STATES Byrd (BYR)	80°01' S	119°31' W	Ice 1515 m	Benioff Wilson-Lamison Wilson-Lamison Sprengnether* Sprengnether* Sprengnether*	Z 1.2 N 7.8 E 8.0 Z 30 N 30 E 30	0.5 0.2 3.5 90 14 90
South Pole (SPA)	90° S	0	Ice 2800 m	Benioff Benioff Wilson-Lamison (0-180°)	Z 1.0 Z 1.2 6.0	0.5 0.5 0.5

\*Began operation March 1, 1962

\*\*Long period galvanometers recording on 35 mm film.

ANTARCTIC SEISMOGRAM DEPOSITORIES

ARGENTINA:	Servicio Meteorologico Nacional Paseo Colon 317, 2° Piso Buenos Aires, Argentina	NEW ZEALAND:	Superintendent Magnetic Survey, DSIR Botanic Gardens Christchurch, New Zealand
AUSTRALIA:	Chief Geophysicist Bureau of Mineral Resources Geology and Geophysics 203 Collins Street Melbourne, Australia	USSR:	Research Institute of Earth Physics Academy of Sciences of the USSR Moscow, USSR
FRANCE:	Institut de Physique de Globe 191 rue St. Jacques Paris 5e, France	UNITED KINGDOM:	Falkland Island Dependency Survey 4 Millbank London, SW1, England
NEW ZEALAND:	Superintendent Seismological Observatory DSIR, P. O. Box 8005 Wellington, New Zealand	UNITED STATES:	U. S. Coast and Geodetic Survey Geophysics Division Commerce Building Washington 25, D. C.

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
April 1 H-00 45 14.6 33.6 N. 059.0 E. h about 33 km.	h m s	April 1 MAW eP	h m s 18 12 32	April 3 H-16 24 55.6 10.6 S. 164.9 E. h about 36 km.	h m s	BYR eP	h m s 15 29 05
SPA e	01 04 05	April 1 AIA e	21 43 49	SBA 1P	16 35 49	April 4 BYR eP	16 24 07
April 1 SBA eP	04 57 15	April 2 MAW eP	00 32 53	MIR eP	16 36 26	April 4 SBA eP	19 54 51
April 1 BYR eP	05 07 43	April 2 MIR e	06 08 46	e	16 41 13	April 4 H-19 55 12.8 35.0 N. 025.6 E. h about 27 km.	
April 1 MIR 1P	06 22 41	April 2 MAW eP	06 40 09	BYR eP	16 36 48	SPA e	20 14 05
eS	06 31 39	April 2 MAW eP	11 10 18	SPA 1P	16 37 02	BYR e	20 17 45
e	06 41 22	April 2 MAW eP	12 11 34	pP	16 37 11	April 4 H-20 51 05.2 34.7 N. 025.5 E. h about 21 km.	
April 1 H-09 26 35.6 81.5 N. 119.5 E. h about 25 km.		April 2 MIR e	12 11 58	MAW eP	16 37 28	SPA 1P'	21 10 02
MAW e	09 46 34	April 2 MAW eP	12 21 56	April 3 H-18 37 47.5 20.8 S. 169.4 E. h about 40 km.		BYR eP'	21 10 18
April 1 MCQ 1P	12 20 12	April 2 AIA i	16 18 07	SBA eP	18 47 31	i	21 13 41
WIL eP	12 22 03	1P	16 19 20	BYR eP	18 48 33	SBA e	21 13 44
iS	12 30 31	April 2 SBA eP	17 28 48	e	18 48 43	April 4 H-20 59 36.1 34.6 N. 25.5 E. h about 25 km.	
HLL eP	12 22 17	April 2 SBA eP	18 45 24	April 3 SPA 1P	19 48 52	SPA 1P'	21 18 32
eS	12 31 44	April 2 SPA eP	18 46 19	BYR eP	22 56 52	BYR e	21 18 49
MAW 1P	12 23 24	April 2 H-18 33 52.4 06.1 S. 146.7 E. h about 60 km.		April 4 SBA eP	03 41 49	i	21 22 12
SPA 1P	12 23 41	April 2 SBA eP	18 45 24	SPA eP	03 42 11	April 5 BYR e	02 30 04
pP	12 24 00	April 2 SPA eP	18 46 19	BYR eP	03 42 50	April 5 H-03 40 08.9 53.7 N. 163.6 W. h about 65 km.	
BYR eR	12 23 49	April 3 BYR eP	05 30 07	April 4 H-05 41 07.4 34.1 N. 025.2 E. h about 25 km.		SPA eP'	03 59 38
pP	12 24 09	April 3 MIR e	08 45 44	SPA e	06 00 06	April 5 MAW 1P	07 21 32
April 1 BYR e	13 04 07	April 3 BYR e	10 56 11	BYR eP'	06 00 24	April 5 MAW eP	08 49 53
April 1 SPA e	14 10 02	April 3 MIR e	11 12 05	April 4 BYR eP	08 05 49	April 5 MIR e	11 53 54
MIR e	14 17 27	April 3 MIR e	11 26 59	April 4 BYR eP	09 54 26	e	12 16 58
April 1 AIA e	14 47 57	April 3 MAW eP	13 12 08	April 4 BYR e	11 59 44	April 5 H-12 24 34.5 44.9 S. 075.3 W. h about 25 km.	
April 1 H-15 37 02.5 17.9 S. 167.2 E. h about 53 km.		April 3 BYR eP	15 34 46	April 4 H-14 02 32.2 08.0 N. 083.0 W. h about 23 km.		BYR eP	12 31 57
SBA 1P	15 47 07	April 3 BYR eP	15 52 49	BYR 1P	14 15 32	e	12 33 23
MIR eP	15 47 55	April 3 H-15 40 12.1 04.5 S. 143.2 E. h about 80 km.		April 4 BYR e	14 40 23	SPA 1P	12 32 52
BYR i	15 48 10	April 3 SPA e	15 52 41	April 4 H-15 16 07.9 07.7 N. 082.9 W. h about 25 km.			
i	15 48 14	BYR eP	15 52 49				
SPA 1P	15 48 25	pP	15 53 10				
pP	15 48 33						
MAW i	15 49 04						
AIA e	15 52 34						



ANTARCTIC SEISMOLOGICAL BULLETIN

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
SBA	eP 12 33 42	April 6 H-16 50 14.2 26.7 S. 113.2 W. h about 33 km.	h m s	SPA	e 13 09 49	April 8 MAW	1P 13 23 49
April 5 MAW	eP 13 39 20	BYR	eP 16 59 35	April 7 BYR	eP 17 23 05	April 8 SPA	e 20 46 12
April 5 BYR	eP 14 45 00	SPA	1P 17 00 45	April 7 H-19 44 44.9 10.3 S. 161.4 E. h about 75 km.		BYR	e 20 47 21
April 5 H-19 45 58.4 16.2 S. 167.5 E. h about 35 km.		SBA	eP 17 01 35	BYR	eP 19 56 36	April 8 H-20 58 51.6 37.9 S. 073.2 W. h about 43 km.	
SBA	1P 19 56 13	April 6 H-20 24 40.6 23.4 S. 179.7 W. h about 566 km.		April 7 H-20 56 48.4 07.3 S. 130.4 E. h about 25 km.		BYR	eP 21 07 14
BYR	eP 19 57 18	BYR	e 20 34 11	SPA	e 21 09 11	April 8 BYR	e 23 03 51
SPA	1P 19 57 34	April 6 BYR	e 20 34 17	April 8 H-00 53 16.6 16.1 S. 167.3 E. h about 67 km.		April 9 MAW	eP 00 31 07 i 00 36 00
April 5 H-20 04 15.8 15.3 S. 167.7 E. h about 126 km.		April 6 BYR	e 21 03 55	BYR	e 01 04 33	April 9 BYR	eP 08 16 26
BYR	1P 20 15 28 pP 20 16 16 e 20 26 18	April 7 H-02 10 02.2 06.3 S. 079.9 W. h about 25 km.		SPA	e 01 04 48	April 9 H-08 54 22.7 08.6 S. 124.1 E. h about 46 km.	
SPA	1P 20 15 44	SPA	i 02 22 30	MIR	e 01 24 09	MAW	1P 09 05 39
April 5 H-21 27 53.7 38.4 N. 119.3 W. h about 25 km.		April 7 H-06 21 38.4 10.0 N. 144.4 E. h about 50 km.		April 8 H-01 43 49.3 37.6 S. 073.9 W. h about 54 km.		SPA	1P 09 06 38 1S 09 16 40
SBA	eP' 21 46 53	MIR	eP 06 34 09	SPA	e 01 53 00	BYR	1P 09 07 01 pP 09 07 24
April 5 MIR	e 22 40 37	SBA	eP 06 34 28	MIR	e 01 53 31 e 01 58 47	April 9 BYR	e 12 17 08
April 5 BYR	e 22 56 48	SPA	e 06 35 19	April 8 H-04 28 40.5 04.1 S. 141.5 E. h about 115 km.		April 10 H-04 36 27.5 28.6 S. 068.8 W. h about 130 km.	
April 6 AIA	1P 03 40 06	BYR	eP 06 35 25	BYR	eP 04 41 20	BYR	1P 04 45 50 pP 04 46 22
April 6 H-04 26 08.6 17.7 S. 178.8 W. h about 593 km.		April 7 BYR	1P 07 15 26	April 8 SPA	e 05 12 44	SPA	1P 04 46 34 pP 04 47 05
BYR	1P 04 36 12	April 7 H-08 04 20.6 18.7 S. 168.7 E. h about 23 km.		April 8 H-05 15 03.0 20.3 S. 175.7 W. h about 70 km.		SBA	eP 04 47 20
SPA	1P 04 36 40	SBA	1P 08 14 25	BYR	eP 05 25 34	HLL	eP 04 47 37
April 6 H-06 50 52.6 04.2 S. 143.3 E. h about 63 km.		SPA	1P 08 15 43	April 8 SPA	e 10 45 45	MAW	1P 04 48 12 eS 04 53 52
MCQ	1P 06 59 56	April 7 SPA	i 09 56 45	BYR	eP 10 46 54	MIR	e 04 48 46 e 04 49 19
SPA	e 07 03 26	April 7 H-13 00 26.3 35.1 S. 070.8 W. h about 108 km.		April 8 BYR	eP 11 06 01	April 10 BYR	e 05 15 26 e 05 16 24
BYR	eP 07 03 34 pP 07 03 55	BYR	1P 13 09 03 pP 13 09 27 i 13 09 33	April 8 MIR	e 13 14 23	SBA	eP 05 15 26
						SPA	e 05 15 46

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
April 10 SBA	eP 07 03 24	April 10 SBA	eP 18 25 47	April 12 H-00 52 47.0 38.2 N. 142.3 E. h about 68 km.	h m s	April 12 BYR	e 18 17 23
April 10 BYR	e 08 56 16	April 10 H-21 37 12.6 37.9 N. 020.1 E. h about 35 km.		HLL	eP' 01 11 16	April 13 BYR	e 12 20 56
April 10 H-10 31 58.5 51.1 N. 157.7 E. h about 33 km.		SPA	eP' 21 56 16 i 21 58 23	SBA	eP' 01 11 24	April 13 H-18 35 58.3 49.1 N. 087.2 E. h about 28 km.	
BYR	eP' 10 51 14	April 10 SBA	eP 22 18 18	MAW	iP' 01 11 31	BYR	eP' 18 55 39
SPA	eP' 10 51 20	April 11 BYR	e 01 29 52	SPA	iP' 01 11 44	April 14 MAW	eP 00 52 06
April 10 BYR	eP 12 18 27	April 11 MIR	e 03 16 32	MIR	e 01 12 12 i 01 16 06 i 01 17 50 i 01 19 29 i 01 25 24 i 01 27 17 i 01 29 35	April 14 H-07 53 17.1 40.3 N. 125.1 W. h about 25 km.	
April 10 SBA	eP 12 28 54	April 11 SPA	e 05 24 00	BYR	e 01 13 57 e 01 31 13	MAW	e 08 13 16
April 10 H-12 34 50.8 37.3 S. 072.6 W. h about 67 km.		April 11 BYR	e 06 12 25 e 06 17 50	April 12 SPA	i 02 04 36	April 14 MAW	iP 10 07 46
BYR	eP 12 43 13 e 12 44 36 e 13 03 28	April 11 H-10 47 34.0 38.2 N. 020.0 E. h about 43 km.		April 12 SPA	i 04 11 55	BYR	e 10 11 13
SPA	iP 12 44 04	SPA	e 11 06 34	April 12 H-05 16 05.0 38.2 N. 142.5 E. h about 26 km.		April 14 BYR	eP 20 50 24
SBA	eP 12 44 52	April 11 SPA	i 12 06 55	SPA	eP' 05 35 06	SPA	iP 20 51 14
HLL	eP 12 45 10	April 11 MAW	iP 13 41 09	April 12 H-05 53 29.6 14.3 S. 166.8 E. h about 104 km.		April 15 MAW	i 05 14 01
April 10 H-13 10 34.6 30.1 S. 177.7 W. h about 46 km.		April 11 SBA	eP 14 08 20	SBA	i 06 03 55	April 15 MIR	i 08 23 42
SPA	eP 13 20 41	April 11 SBA	eP 19 07 17	BYR	eP 06 04 53	April 15 MAW	eP 15 08 40
April 10 H-14 09 18.8 37.5 S. 073.8 W. h about 25 km.		April 11 MAW	eP 21 00 19	SPA	iP 06 05 09	April 15 MAW	eP 15 22 13
BYR	eP 14 17 42	April 11 H-23 21 26.3 00.2 S. 091.5 W. h about 25 km.		April 12 MAW	e 10 25 28	April 15 H-18 08 27.3 02.7 S. 011.6 W. h about 25 km.	
SPA	iP 14 18 33	SPA	e 23 34 23	April 12 H-11 20 02.3 10.4 S. 105.0 E. h about 84 km.		MAW	e 18 20 43
SBA	eP 14 19 21	April 12 BYR	eP 00 14 01	BYR	eP 11 32 41 e 11 36 47	SPA	iP 18 21 27
April 10 BYR	eP 17 07 31	April 12 MIR	e 00 38 11 e 00 50 54	April 12 H-16 36 08.4 28.7 S. 071.9 W. h about 34 km.		BYR	eP 18 21 29
April 10 H-17 07 11.9 16.4 S. 175.3 W. h about 330 km.		BYR	eP 00 40 09	BYR	eP 16 45 37	April 15 BYR	e 18 54 41
SBA	iP 17 17 02	April 12 BYR	eP 00 56 47	SPA	iP 16 46 25	April 15 H-18 45 17.4 02.9 S. 011.9 W. h about 25 km.	
BYR	iP 17 17 39 e 17 18 53	MIR	e 00 56 58 e 01 03 14 e 01 06 01	SBA	eP 16 47 07	BYR	eP 18 58 17
SPA	iP 17 18 12	April 12 MAW	iP 16 48 04	MAW	iP 16 48 04	April 15 BYR	e 19 28 07

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April 15 BYR	e 20 27 39	April 16 MCQ	i 13 32 38	DRV	eP 23 12 33 e 23 12 41	April 17 BYR	iP 23 49 12 e 23 51 16
SPA	iP 20 28 17	SPA	iP 13 38 47	April 16 BYR	eP 23 38 43	April 18 DRV	eP 02 10 03
April 15 H-20 28 48.9 06.8 S. 149.5 E. h about 36 km.		BYR	eP 13 38 51 eS 13 48 54 e 13 52 32	April 17 SPA	e 02 00 57	April 18 MAW	e 02 38 34
SPA	iP 20 41 12	April 16 H-17 54 49.2 44.8 S. 037.2 E. h about 25 km.		April 17 MAW	iP 03 18 01	April 18 H-04 04 18.0 18.8 S. 175.4 W. h about 166 km.	
BYR	eP 20 41 14	MIR	e 18 00 30 e 18 02 50	April 17 BYR	e 11 00 51	SPA	e 04 15 21
April 15 H-22 31 06.2 56.6 S. 026.2 W. h about 25 km.		MAW	i 18 00 56	April 17 SPA	iP 11 47 54	April 18 DRV	eP 11 15 53
AIA	e 22 35 41	SPA	e 18 03 07	MAW	eP 11 48 32	April 18 DRV	eP 19 07 23
SPA	eP 22 37 47	BYR	eP 18 04 20	April 17 SBA	eP 12 52 33	April 18 H-19 14 37.2 10.0 S. 079.0 W. h about 39 km.	
BYR	eP 22 38 01	April 16 MAW	i 18 07 05	SPA	eP 12 53 53	SPA	iP 19 26 45 eS 19 37 20 i 19 53 35
MAW	eP 22 38 36	SPA	e 18 09 38	April 17 SPA	eP 14 57 01	SBA	iP 19 27 12
SBA	eP 22 39 26	SBA	eP 18 10 46	April 17 H-17 43 03.4 42.6 S. 174.0 E. h about 25 km.		HLL	eP 19 27 20
April 15 BYR	eP 22 50 21	BYR	eP 18 10 51	MCQ	i 17 46 43	MAW	eP 19 28 13
April 15 MIR	P 23 45 42	April 16 MIR	e 18 13 41 e 18 19 30 e 18 21 03	SBA	eP 17 50 02	BYR	e 19 48 38
April 16 SBA	eP 01 49 12	MAW	e 18 14 15	SPA	iP 17 51 39	MIR	e 20 01 30
April 16 SBA	iP 03 55 01	SPA	e 18 16 59	April 17 BYR	iP 19 26 12 pP 19 26 21 eS 19 36 23	April 18 SPA	iP 20 30 30 pP 20 30 43
April 16 MAW	e 06 34 54	SBA	e 18 18 04	April 17 AIA	e 21 08 04	April 18 DRV	eP 21 13 11
April 16 BYR	e 07 41 31	BYR	eP 18 18 12 e 18 19 13	MAW	i 21 08 53	April 18 SPA	iP 22 26 36 pP 22 26 52 eS 22 35 55
April 16 DRV	eP 07 57 48	April 16 BYR	eP 18 50 55	SPA	e 21 13 09	April 18 SPA	e 23 36 02
April 16 AIA	i 10 17 15	MIR	e 18 52 08	April 17 BYR	eP 21 19 55	April 18 SPA	iP 23 36 48
April 16 DRV	iP 11 11 00	April 16 SBA	eP 19 00 09	April 17 BYR	eP 22 10 32	April 18 SPA	iP 23 49 47
April 16 SPA	e 11 41 12	April 16 SPA	eP 20 00 49	April 17 H-22 34 56.7 01.5 S. 014.9 W. h about 25 km.		April 19 H-02 18 55.9 09.8 S. 078.9 W. h about 23 km.	
April 16 H-11 35 08.8 10.5 S. 161.6 E. h about 53 km.		BYR	iP 20 01 25	MAW	iP 22 47 28	BYR	iP 02 30 25
BYR	eP 11 47 03	April 16 BYR	eP 22 22 25	SPA	eP 22 47 50		
April 16 SPA	e 13 32 14	April 16 BYR	eP 22 47 32	April 17 BYR	e 23 17 52		
		April 16 MIR	e 23 11 41				

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
April 19 BYR	1P 02 45 25	BYR	1P 22 26 20 eS 22 35 27	April 21 H-07 46 18.5 23.7 S. 180.0 h about 559 km.	h m s	April 22 SPA	eP 05 37 52
April 19 BYR	eP 02 52 55	MAW	1P 22 27 12	BYR	eP 07 55 48	April 22 DRV	eP 09 01 25
April 19 BYR	eP 04 17 17	April 19 H-23 16 04.1 69.8 N. 138.6 E. h about 0 km.		SPA	eP 07 56 17 e 07 58 12	April 22 MAW	e 09 23 27
April 19 BYR	eP 05 39 57	MAW	1P' 23 35 46	April 21 MIR	e 09 55 08	April 22 AIA	e 09 59 29
April 19 BYR	1P 06 02 00 e 06 05 27	SBA	1P' 23 35 52	April 21 H-14 21 44.9 04.4 S. 151.2 E. h about 334 km.		April 22 MAW	e 10 28 57
April 19 MAW	e 07 23 44	BYR	eP' 23 36 02 e 23 36 42 e 23 40 24	SPA	e 14 33 50	April 22 MAW	e 14 33 22
April 19 MIR	e 07 32 08	April 20 WIL	e 05 55 09	April 21 BYR	e 15 46 16	April 22 BYR	1P 15 58 49
DRV	eP 07 35 06	April 20 H-05 47 55.3 20.6 N. 072.2 W. h about 25 km.		April 21 MIR	e 17 13 10	April 22 H-16 03 09.5 21.1 S. 178.7 W. h about 578 km.	
April 19 DRV	eP 10 02 35	AIA	1 06 00 33	April 21 SBA	eP 18 00 53	BYR	eP 16 12 52
April 19 BYR	eP 12 16 38	SPA	eP 06 02 27 1 06 07 28	April 21 H-21 18 01.7 06.5 S. 144.6 E. h about 42 km.		April 22 H-16 38 17.8 05.1 S. 153.7 E. h about 28 km.	
April 19 MAW	e 13 12 15 e 13 17 00	HLL	eP' 06 06 32	MAW	1 21 30 11	BYR	1P 16 50 52
April 19 BYR	e 14 36 37	SBA	1P' 06 06 38	SPA	1P 21 30 27	April 22 SPA	1P 17 50 53
April 19 MAW	e 15 11 34	MAW	1P' 06 06 52	April 21 BYR	eP 22 58 42	April 22 MAW	e 19 01 26
April 19 BYR	e 19 00 00 e 19 08 52	DRV	1P' 06 07 01	April 22 BYR	eP 01 20 45	April 22 H-19 15 11.8 32.1 N. 130.7 E. h about 25 km.	
April 19 H-20 18 20.5 09.4 S. 079.0 W. h about 25 km.		MIR	1P' 06 07 09	April 22 BYR	eP 01 20 45	BYR	e 19 34 06
BYR	eP 20 29 47 pP 20 29 55	WIL	1 06 07 13	April 22 H-02 10 12.1 18.9 S. 169.5 E. h about 288 km.		April 23 H-03 54 38.4 36.0 N. 139.2 E. h about 115 km.	
April 19 H-22 15 20.9 15.8 S. 168.0 E. h about 213 km.		April 20 MAW	1P 06 28 23 eS 06 34 29	SBA	1P 02 19 47	SPA	e 04 13 34
DRV	1P 22 24 23	April 20 MAW	1 17 02 06	MAW	1P 02 21 47	April 23 DRV	eP 04 51 36
HLL	eP 22 24 43 eS 22 32 20	April 20 AIA	e 18 53 21	April 22 SPA	1P 03 21 03	April 23 H-05 58 04.9 42.9 N. 143.4 E. h about 25 km.	
SBA	eP 22 25 21	April 20 MAW	e 19 34 24	April 22 MAW	1P 03 39 55	WIL	eP 06 12 48
WIL	eP 22 25 21 1S 22 33 38	April 20 DRV	eP 23 55 55	April 22 AIA	e 03 45 59 1P 03 46 26	MIR	eP 06 12 54
MIR	1P 22 26 08 1S 22 35 01	April 21 DRV	eP 02 32 04	April 22 H-04 29 39.0 44.2 S. 072.6 W. h about 87 km.		HLL	eP' 06 16 54
		April 21 H-03 33 53.8 06.1 S. 146.1 E. h about 86 km.		SBA	1P 04 38 47		
		SPA	e 03 46 17	DRV	eP 04 40 17		
		BYR	e 03 46 21				

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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
SBA	eP' 06 16 59 e 06 43 24	SPA	1P 05 22 37	April 25 SBA	eP 15 43 06	BYR	1P 07 36 30 pP 07 37 34 e 08 04 33
BYR	e 06 17 01	April 24 BYR	e 07 30 57	April 25 H-15 47 29.4 38.4 N. 142.5 E. h about 56 km.		MIR	1P 07 37 01
SPA	1P' 06 17 05 e 06 17 25	April 24 BYR	e 11 48 59	BYR	eP' 16 06 31	MAW	1P 07 37 57
April 23 BYR	e 07 02 35	April 24 H-14 19 53.8 37.4 N. 071.1 E. h about 32 km.		April 25 DRV	eP 16 13 02	April 26 BYR	eP 08 07 33
April 23 BYR	eP 07 12 40	SPA	1P' 14 38 48	April 25 BYR	e 16 51 04	April 26 BYR	eP 08 37 14
April 23 MIR	eP 08 57 09	April 24 BYR	eP 15 12 53	April 25 SBA	eP 17 06 05	April 26 BYR	eP 08 51 43
April 23 BYR	eP 10 38 14	April 24 BYR	eP 15 34 59	April 25 BYR	e 18 51 26	April 26 AIA	e 09 04 20
April 23 SPA	1P 11 47 57	April 24 H-16 06 23.7 02.2 S. 076.1 W. h about 175 km.		April 25 SPA	e 19 33 51	April 26 MAW	eP 09 20 24
BYR	1P 11 48 14	BYR	eP 16 18 17	April 25 BYR	eP 21 44 51	April 26 BYR	eP 11 51 00
April 23 SBA	eP 12 18 57	SBA	eP 16 19 19 i 17 03 31	April 26 BYR	eP 00 27 49	April 26 MAW	e 12 01 23
April 23 H-14 51 26.0 06.9 S. 128.4 E. h about 83 km.		April 24 BYR	eP 18 01 58	April 26 BYR	e 01 48 34	April 26 MIR	e 15 36 33
BYR	e 15 04 02	April 24 BYR	eP 18 21 49	April 26 SPA	e 01 54 51	April 26 SPA	eP 16 06 41
April 23 H-16 04 31.8 51.6 N. 159.6 E. h about 31 km.		April 24 SPA	eP 18 21 52	April 26 H-02 44 10.8 05.8 S. 147.3 E. h about 68 km.		April 26 BYR	eP 18 33 11
SPA	e 16 23 56	BYR	eP 18 21 49	BYR	e 02 56 40	MAW	eP 18 35 17
April 23 BYR	e 18 05 31	April 24 DRV	eP 19 10 59	April 26 H-03 11 33.8 44.4 N. 078.4 E. h about 25 km.		April 26 SPA	e 20 08 55
April 23 H-21 06 04.2 05.9 S. 148.4 E. h about 51 km.		April 24 MIR	e 20 44 23	BYR	eP' 03 31 07	April 26 AIA	i 21 33 47
MIR	e 21 17 20	April 24 SPA	e 23 03 15	April 26 SPA	1P 03 48 26	April 26 SPA	1P 21 45 21
SPA	eP 21 18 31	April 25 SPA	e 01 27 31	April 26 SPA	e 06 06 11	April 26 AIA	e 23 05 09
BYR	eP 21 18 32 e 21 20 03	April 25 BYR	eP 01 53 30	April 26 H-07 26 31.3 17.8 S. 179.1 W. h about 689 km.		April 26 BYR	e 23 22 22
April 24 DRV	eP 02 44 27	April 25 MIR	eP 03 22 26	MOQ	1P 07 33 18	April 26 MAW	e 23 56 36
April 24 BYR	1P 04 34 38 e 04 35 07	April 25 SPA	1P 08 36 57	DRV	1P 07 35 10	April 27 AIA	e 00 28 05
SPA	1P 04 35 18	April 25 AIA	eP 15 34 03 S 15 34 23	SBA	1P 07 35 45 i 07 37 36	April 27 SPA	1P 01 44 47
April 24 BYR	eP 05 22 08					DRV	1P 01 48 14

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
April 27 AIA	h m s 1 04 03 57 1 04 14 57	April 27 AIA	h m s e 12 05 29	April 28 AIA	h m s 1P 16 02 33 1 16 03 30	April 29 MAW	h m s eP 15 51 23
April 27 BYR	eP 04 55 51	April 27 SPA	eP 13 02 46	April 28 BYR	eP 16 35 25	April 29 SPA	e 17 38 39
April 27 AIA	1 05 41 16	April 27 AIA	e 13 18 38	April 28 AIA	e 20 29 21	April 29 MAW	1P 18 42 45
April 27 H-06 30 24.9 23.1 S. 179.2 E. h about 576 km.		April 27 BYR	e 13 49 54	April 28 DRV	1P 21 22 50	April 29 MAW	eP 18 49 11
SBA	1P 06 39 10	April 27 AIA	e 15 55 33	April 28 BYR	eP 21 44 07	April 29 AIA	e 19 04 12 e 19 05 59
SPA	1P 06 40 26	April 27 H-16 28 18.7 33.2 S. 179.3 W. h about 25 km.		April 28 BYR	eP 22 15 30	April 29 SPA	e 20 48 02
MAW	1P 06 41 30	SPA	e 16 38 04	April 29 SBA	eP 02 07 36	April 29 BYR	e 22 24 33
April 27 H-06 47 27.0 44.4 S. 074.8 W. h about 31 km.		BYR	eP 16 38 47	April 29 DRV	1P 02 14 32	April 30 MAW	eP 00 49 22
BYR	1P 06 54 57	April 27 MIR	e 17 02 13	April 29 DRV	eP 04 49 07	April 30 BYR	e 01 11 12
MAW	1P 06 55 02	April 27 AIA	1 19 07 50	April 29 H-07 05 36.2 18.1 S. 173.9 W. h about 79 km.		April 30 H-02 26 30.0 38.8 N. 140.9 E. h about 104 km.	
SPA	1P 06 55 50	April 28 BYR	eP 02 58 22	SBA	eP 07 15 43	DRV	eP' 02 44 51
SBA	eP 06 56 40	April 28 MIR	1P 05 21 27 1 05 23 12	BYR	1P 07 16 22	MAW	1P' 02 45 14
MIR	eP 06 59 32	April 28 AIA	e 06 04 22	April 29 SPA	e 11 12 23	SPA	1P' 02 45 29
April 27 MIR	e 07 07 39	April 28 AIA	e 06 48 22	April 29 BYR	eP 12 09 59	BYR	eP' 02 45 32 e 02 47 40 e 02 56 57 e 02 59 23
BYR	eP 07 08 55	April 28 AIA	e 07 14 51	April 29 BYR	eP 13 21 21	MIR	e 02 45 36
AIA	1 07 09 15	April 28 AIA	1P 07 45 51 S 07 46 09	April 29 SPA	e 13 21 56	AIA	e 02 46 11
April 27 AIA	1 07 48 00	April 28 AIA	1P 09 14 10	April 29 SBA	eP 13 33 46 e 13 39 50	April 30 BYR	eP 03 44 14
April 27 AIA	e 08 24 25	April 28 DRV	e 11 41 33	April 29 BYR	eP 14 35 27	April 30 SPA	1P 04 10 24 1 04 10 47
April 27 MIR	e 09 00 28 e 09 01 25	April 28 H-12 43 49.1 36.3 N. 026.7 E. h about 48 km.		April 29 H-15 10 24.9 12.4 S. 166.5 E. h about 72 km.		April 30 BYR	eP 07 15 58
April 27 BYR	e 09 21 12	BYR	eP' 13 03 02 e 13 03 40 e 13 16 22	SBA	eP 15 21 00	April 30 H-07 48 46.2 06.9 N. 073.0 W. h about 130 km.	
April 27 AIA	e 10 06 39	SBA	eP' 13 03 04	BYR	eP 15 21 59	BYR	eP 08 01 30
April 27 SPA	1P 10 18 06	April 28 MIR	e 15 03 52	SPA	1P 15 22 13	April 30 MAW	e 08 59 51
April 27 AIA	1 10 56 37	April 29 MAW	1P 15 22 46	MAW	1P 15 22 46		
April 27 MIR	e 11 22 20	April 29 MAW	eP 15 49 43				
April 27 SPA	eP 11 37 55						

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April 30 H-10 40 16.4 20.1 S. 169.0 E. h about 49 km.	h m s	April 30 BYR eP	h m s 19 01 57	SPA eP	h m s 10 05 53 e 10 15 15	SPA 1P	h m s 09 07 02
SBA eP	10 50 05	April 30 SPA eP	19 49 59	BYR eP	10 06 15	SBA 1P	09 07 50
SPA 1P	10 51 24	BYR eP	19 51 06	May 1 BYR eP	10 18 52	MAW 1P	09 08 30
April 30 DRV eP	12 49 43	April 30 BYR 1P	20 05 13	MAW 1P	10 19 20	MIR 1P	09 09 06
April 30 DRV eP	14 19 44	MAW 1P	20 05 49	May 1 AIA 1P	11 50 04	WIL 1P	09 09 14
April 30 H-16 16 47.8 17.9 S. 176.1 W. h about 26 km.		April 30 H-20 39 45.1 06.4 N. 124.0 E. h about 28 km.		May 1 BYR 1P	12 43 02	DRV 1P	09 10 00
HLL eP	16 26 22	MAW 1P	20 52 22	May 1 BYR eP	13 11 19	May 1 MAW 1P	09 27 01
DRV eP	16 26 27	SBA eP	20 52 33	May 1 BYR 1P	14 23 04 e 14 27 34	SBA e	09 32 06
SPA 1P	16 26 35	SPA e	20 53 15	May 1 AIA e	14 47 57	May 2 SPA eP	09 35 19
BYR 1P	16 27 00	April 30 MIR e	22 12 08 e 22 12 30	May 1 MAW i	16 57 12	May 2 AIA e	10 06 05 e 10 07 12
SBA 1P	16 27 02	April 30 MAW i	23 54 31	May 1 BYR e	18 44 06	May 2 H-10 21 05.9 52.5 N. 142.0 E. h about 72 km.	
WIL eP	16 27 53 1S 16 36 32	May 1 MAW 1P	00 10 01	May 1 WIL 1P	19 29 26	WIL eP'	10 40 19
MIR e	16 28 02	May 1 AIA i	03 07 47 i 03 08 17 e 03 09 16	May 1 BYR eP	20 50 27	MIR e	10 47 10
MAW 1P	16 29 21	May 1 MIR 1P	04 27 40	May 1 BYR 1P	20 53 36 pP 20 54 18	May 2 MAW i	11 04 01
April 30 DRV eP	16 34 37	May 1 BYR e	06 34 44	May 1 H-21 08 16.1 20.0 S. 065.7 E. h about 39 km.		May 2 H-12 33 08.1 23.8 S. 066.4 W. h about 179 km.	
pP	16 34 44	May 1 MIR 1P	07 38 53	MAW e	21 16 48	AIA e	12 40 40
BYR eP	16 36 42	May 1 AIA eP	08 42 36	SPA eP	21 19 25	SPA 1P	12 43 39
MIR e	16 38 01	May 1 BYR 1P	09 06 26 pP 09 07 08	May 2 H-02 43 25.9 50.9 N. 156.1 W. h about 25 km.		SBA eP	12 44 25
April 30 H-18 31 06.6 18.0 S. 176.4 W. h about 135 km.		May 1 MIR e	09 28 32	SPA e	03 03 01	MAW 1P	12 45 07
DRV eP	18 40 37	May 1 BYR eP	09 35 29	May 2 MAW eP	07 27 06	May 2 SPA 1P	14 23 42
SBA eP	18 41 09	May 1 AIA i	09 43 57	May 2 MIR e	09 03 16	May 2 MIR e	15 57 50
BYR 1P	18 41 50	May 1 H-09 54 20.6 05.8 S. 125.5 E. h about 621 km.		May 2 H-08 56 29.0 23.6 S. 065.9 W. h about 163 km.		May 2 MAW eP	17 18 18
SPA 1P	18 42 22	MAW 1P	10 05 01	May 2 MIR e	09 03 16	May 2 SPA e	18 45 19
MIR e	18 42 32			May 2 MIR e	09 03 16	May 2 BYR e	18 57 24
MAW 1P	18 43 29			May 2 H-20 43 53.8 26.3 S. 177.7 W. h about 183 km.		May 2 MAW eP	19 48 38
April 30 BYR eP	18 50 48						
SPA e	18 52 27						
April 30 WIL 1P	18 56 59						
1S	19 00 40						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
SBA	eP 20 52 48	May 3 SBA	eP 11 43 05	May 4 MAW	1P 00 13 23	May 5 BYR	eP 04 36 36
SPA	1P 20 54 09	MAW	1 11 43 17	May 4 MAW	eP 03 06 25	May 5 SBA	eP 05 03 37
MIR	eP 20 54 21 e 21 03 23	May 3 AIA	1 13 37 18 e 13 38 25	May 4 DRV	eP 04 32 49	May 5 BYR	eP 05 39 55
May 3 MAW	e 00 35 40	May 3 AIA	1 14 31 10	May 4 BYR	1P 07 12 36	May 5 MIR	e 06 59 19
May 3 H-02 37 56.5 42.6 N. 144.6 E. h about 49 km.		BYR	eP 14 33 48 e 14 36 44	SPA	eP 07 13 13	May 5 AIA	e 07 09 53
BYR	1P' 02 57 12	MAW	1 14 34 56	AIA	e 07 27 30	May 5 MAW	eP 07 38 04
May 3 H-03 34 49.0 60.0 S. 032.9 W. h about 20 km.		May 3 MAW	eP 15 57 01	May 4 SPA	1P 08 59 24	May 5 MAW	eP 09 02 45
AIA	eP 03 38 21 e 03 38 49 e 03 39 34	May 3 MAW	e 16 41 30	May 4 AIA	e 09 24 16	May 5 BYR	eP 10 54 20
BYR	eP 03 41 08 pP 03 41 54 e 03 46 14 eS 03 46 25 e 03 49 44	May 3 H-17 00 32.9 60.5 S. 033.2 W. h about 33 km.		May 4 MIR	eP 10 40 24	May 5 H-11 11 51.4 034.2 N. 139.2 E. h about 73 km.	
SPA	1P 03 42 01	AIA	e 17 04 04	May 4 MAW	eP 11 26 41	SPA	1P' 11 30 45
MAW	1P 03 42 17 pP 03 42 44 eS 03 48 18	SPA	eP 17 06 38	SPA	e 11 28 37	BYR	e 11 30 57
SBA	eP 03 42 40	BYR	eP 17 06 45 e 17 14 19	BYR	eP 11 28 57	May 5 BYR	e 12 44 25
HLL	eP 03 43 22 eS 03 50 10	MAW	1P 17 07 54	May 4 BYR	e 15 24 19	SBA	eP 12 44 37
MIR	1P 03 43 27 1S 03 50 22	SBA	eP 17 08 18	May 4 MAW	eP 15 33 06 e 15 34 03	May 5 MAW	eP 13 28 37
WIL	1P 03 43 56 1S 03 51 16	MIR	eP 17 09 40	May 4 MAW	eP 15 33 06 e 15 34 03	May 5 AIA	e 13 43 46
DRV	1P 03 44 11 pP 03 44 19 eS 03 51 41	May 3 BYR	eP 17 18 31 e 17 20 26 e 17 25 41	May 4 BYR	eP 16 35 22	May 5 MAW	1 14 05 31
May 3 BYR	e 07 57 54	May 3 MAW	1 19 39 46	May 4 MIR	1P 18 06 43	May 5 BYR	e 16 07 57
May 3 AIA	e 08 35 29	May 3 MAW	1 22 17 32	May 4 SPA	e 20 20 12	SPA	eP 16 08 31
May 3 SPA	1P 09 35 36	May 3 BYR	e 22 50 05 e 22 58 51	BYR	eP 20 20 17 e 20 25 36	May 5 BYR	eP 16 56 07
BYR	1P 09 36 15 pP 09 37 22	SPA	1P 22 50 07	May 4 SPA	e 20 29 21	May 5 MAW	eP 17 16 48
MAW	1 09 36 18	MAW	1 22 51 13	BYR	eP 20 29 27	May 5 AIA	e 19 16 48
SBA	eP 09 37 29	SBA	eP 22 51 49	May 4 MIR	e 20 45 32	May 5 AIA	e 19 36 28
		May 3 BYR	eP 23 06 41 e 23 08 43	May 4 H-23 08 05.3 00.9 S. 080.8 W. h about 74 km.		May 5 H-23 05 56.9 31.6 S. 176.7 W. h about 41 km.	
		MIR	e 23 07 13	BYR	e 23 20 16	DRV	eP 23 14 00
				SPA	e 23 20 54	SBA	1P 23 14 26
						BYR	eP 23 15 15



Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
WIL	eP 23 15 22	May 6 H-05 20 59.6 37.8 S. 073.4 W. h about 25 km.	h m s	May 6 H-19 00 10.2 60.0 S. 032.8 W. h about 25 km.	h m s	May 6 H-22 34 47.9 60.4 S. 033.6 W. h about 34 km.	h m s
SPA	iP 23 15 52	BYR	eP 05 29 22	AIA	iP 19 03 41 iS 19 06 42	BYR	eP 22 41 01 e 22 41 47
MIR	eP 23 16 15	SPA	iP 05 30 11	SPA	iP 19 06 20	MAW	iP 22 42 10
MAW	iP 23 17 15	MAW	iP 05 32 12	BYR	iP 19 06 27 e 19 07 05	SBA	eP 22 42 33
May 5 BYR	eP 23 20 14 e 23 31 08	May 6 H-07 10 14.1 05.7 S. 151.6 E. h about 98 km.	h m s	MAW	iP 19 07 35 iS 19 13 32	MIR	eP 22 43 22 eS 22 50 20
May 6 H-00 35 27.8 06.0 S. 151.6 E. h about 25 km.	h m s	MAW	iP 07 22 14	SBA	iP 19 08 01	May 6 SPA	iP 23 28 27
MIR	eP 00 45 53	BYR	e 07 22 38	HLL	iP 19 08 42 iS 19 15 35	BYR	eP 23 29 34
SPA	e 00 47 57	May 6 SBA	eP 07 26 41	MIR	iP 19 08 47 iS 19 15 43	MAW	eP 23 29 43
BYR	eP 00 47 58	May 6 MIR	e 10 57 59	WIL	iP 19 09 18 iS 19 16 37	SBA	eP 23 30 06
May 6 MIR	eP 03 01 08	SPA	e 10 59 00	DRV	iP 19 09 30 pP 19 09 42 iS 19 17 04	May 7 BYR	eP 00 56 09
May 6 H-03 13 49.3 54.3 S. 136.6 W. h about 23 km.	h m s	BYR	eP 10 59 12	May 6 SBA	e 19 23 00	May 7 H-04 56 38.4 04.1 S. 143.7 E. h about 113 km.	h m s
BYR	eP 03 19 28 e 03 22 53 e 03 26 14	May 6 H-12 08 45.6 20.8 S. 178.7 W. h about 587 km.	h m s	May 6 SPA	i 19 26 06	SBA	eP 05 08 06
SBA	eP 03 19 48	BYR	eP 12 18 30	SBA	e 19 27 45	SPA	iP 05 09 10
SPA	iP 03 20 51	May 6 H-12 55 31.1 23.4 S. 171.2 E. h about 75 km.	h m s	May 6 MIR	e 20 41 09	BYR	iP 05 09 15 e 05 09 55
WIL	eP 03 22 42	SPA	e 13 06 19	May 6 BYR	eP 21 05 40	May 7 MAW	i 07 07 14
May 6 H-03 33 47.0 54.2 S. 136.5 W. h about 25 km.	h m s	DRV	eP 13 06 56	May 6 MIR	e 21 40 00	May 7 MAW	eP 09 36 28
BYR	eP 03 39 24 eS 03 44 16	May 6 BYR	eP 13 41 21 e 13 48 13	May 6 H-21 53 48.5 60.2 S. 033.1 W. h about 37 km.	h m s	May 7 MIR	e 10 32 50
SBA	iP 03 40 03	May 6 SBA	eP 14 55 23	SPA	iP 21 59 58	May 7 SBA	eP 12 36 03
MIR	e 03 40 25 e 03 42 08	May 6 DRV	eP 15 29 28	BYR	eP 22 00 03	BYR	eP 12 36 08
SPA	eP 03 40 47	May 6 MIR	e 16 00 23	MAW	iP 22 01 14 eS 22 07 17	May 7 H-13 06 54.2 32.0 S. 176.5 W. h about 25 km.	h m s
WIL	iP 03 42 42 iS 03 49 54	May 6 MAW	iP 17 01 39	SBA	eP 22 01 37	BYR	eP 13 16 14
MAW	iP 03 43 35	May 6 DRV	iP 17 09 42 e 17 09 57	MIR	iP 22 02 25 eS 22 09 23	SPA	iP 13 16 52
DRV	eP 03 46 30 e 03 50 30 e 03 52 55	May 6 DRV	eP 17 09 42 e 17 09 57	DRV	iP 22 03 07	MIR	e 13 17 31
May 6 MIR	e 04 29 46	May 6 DRV	eP 17 09 42 e 17 09 57	May 6 DRV	eP 22 24 04	MAW	eP 13 18 14
						May 7 MIR	e 15 41 20

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
May 7. BYR	h m s iP 16 26 07	SPA	h m s e 08 08 13	May 10 H-00 27 17.5 41.8 S. 171.6 E. h about 54 km.	h m s	May 10 AIA	h m s e 14 33 48 i 14 34 46 e 14 35 13
DRV	iP 16 27 30	May 8 MAW	eP 12 29 14	DRV	eP 00 33 27 ✓ eS 00 44 30	May 10 SPA	e 16 30 06
May 7 DRV	eP 16 44 57	May 8 BYR	eP 16 47 35	HLL	eP 00 33 30 ✓ eS 00 38 45 ✓	May 10 AIA	e 19 17 16 i 19 18 17 i 19 23 01
7 MIR	e 17 28 16	May 8 SPA	iP 19 49 15	SBA	iP 00 34 19 ✓	May 10 MAW	iP 22 36 36
May 7 H-17 39 50.3 45.3 N. 146.7 E. h about 25 km.		May 8 BYR	e 20 04 29	WIL	iP 00 34 58 ✓ eS 00 40 46	May 10 AIA	i 22 43 47
MIR	e 17 58 37 e 18 09 49	May 8 AIA	e 23 50 10 e 23 51 02 eS 23 52 03	BYR	iP 00 35 36 ✓ i 00 37 13 e 00 42 28	May 10 AIA	e 02 48 55 e 02 49 46 e 02 51 01
SBA	iP' 17 58 47	May 9 BYR	eP 02 45 06	MIR	iP 00 35 56 ✓ eS 00 42 51	May 11 AIA	e 00 20 53
DRV	e 17 58 50 i 18 12 53	May 9 SBA	eP 06 15 36	SPA	iP 00 35 58	May 11 AIA	e 04 48 22 pP 04 48 35
SPA	eP' 17 59 00	May 9 BYR	eP 07 56 47	AIA	i 00 37 54	May 11 BYR	eP 04 48 22 pP 04 48 35
BYR	iP' 17 59 08 e 18 01 47 e 18 02 44 e 18 11 32	May 9 BYR	eP 11 40 33	May 10 AIA	e 01 27 32	May 11 BYR	eP 04 48 22 pP 04 48 35
WIL	iP' 17 59 28	May 9 H-12 12 33.5 36.6 N. 068.3 E. h about 96 km.		May 10 BYR	iP 04 30 23	May 11 SPA	iP 05 05 09
HLL	eP' 18 00 00	BYR	eP' 12 31 50	May 10 MIR	e 04 39 45	BYR	eP 05 05 16
May 7 H-19 03 32.1 59.5 S. 025.6 W. h about 25 km.		May 9 SPA	e 12 46 30	AIA	e 04 43 48	May 11 BYR	e 05 40 47
AIA	i 19 07 49	May 9 MIR	e 13 41 48	May 10 MIR	e 05 16 39	May 11 BYR	eP 06 28 26
SPA	iP 19 09 49	May 9 AIA	e 16 33 22	May 10 H-05 12 15.9 52.4 N. 170.9 W. h about 43 km.		May 11 AIA	e 07 07 07
BYR	iP 19 10 04 e 19 11 07	May 9 SBA	eP 16 58 51	BYR	e 05 31 37 e 05 43 47	May 11 H-07 05 52.5 06.6 S. 147.7 E. h about 42 km.	
MAW	eP 19 10 41	May 9 AIA	iP 20 22 13	SPA	eP' 05 31 39	MIR	e 07 17 03
MIR	eP 19 11 58	May 10 H-00 03 40.2 62.0 N. 150.1 W. h about 72 km.		May 10 BYR	eP 07 06 26	MAW	i 07 18 08
WIL	iP 19 12 51	SBA	iP' 00 23 00	SPA	iP 07 06 47	SPA	iP 07 18 17
May 7 SPA	e 21 45 30	BYR	eP' 00 23 02	May 10 BYR	eP 09 12 16	BYR	eP 07 18 20
May 7 SPA	iP 22 27 32	WIL	iP' 00 23 14	May 10 BYR	eP 10 26 39	May 11 BYR	iP 10 35 32
May 8 SPA	iP 06 18 24	MIR	iP' 00 23 30	May 10 AIA	e 11 26 02	May 11 H-12 06 42.1 14.3 S. 170.4 E. h about 623 km.	
BYR	eP 06 19 32						
May 8 H-07 57 30.3 17.9 S. 177.7 W. h about 409 km.							
BYR	eP 08 07 43						

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SBA	eP 12 16 15	BYR	eP 18 05 23	SPA	iP 22 14 10	May 13 DRV	eP 21 34 53
MIR	e 12 17 04	MIR	e 18 05 32	May 12 SBA	eP 22 22 00	May 13 MIR	e 22 39 06
BYR	eP 12 17 08	May 11 H-20 01 06.9		May 12 DRV	e 22 30 37	May 14 H-01 25 15.0	
SPA	iP 12 17 26	27.5 S. 013.7 W.		May 12 BYR	eP 22 47 34	18.4 S. 168.3 E.	
May 11 H-13 35 31.3		h about 25 km.		May 13 BYR	eP 02 00 06	h about 58 km.	
28.5 S. 177.6 W.		MAW	i 20 11 13	May 13 DRV	eP 02 16 18	SBA	eP 01 35 48
h about 115 km.		SPA	iP 20 11 31	May 13 BYR	eP 02 38 36	BYR	eP 01 36 14
SBA	eP 13 44 18	BYR	eP 20 11 53	May 13 DRV	iP 02 58 30	SPA	iP 01 36 32
BYR	eP 13 45 06	MIR	eP 20 12 33	May 13 MIR	e 06 41 40	May 14 DRV	iP 02 06 10
SPA	iP 13 45 40	SBA	eP 20 12 49	May 13 H-09 12 34.3		May 14 MIR	e 03 01 46
MIR	eP 13 45 52	May 12 AIA	e 01 12 30	06.9 N. 073.0 W.		May 14 DRV	eP 03 23 37
MAW	iP 13 46 57	May 12 MIR	e 04 14 47	h about 183 km.		e 03 24 15	
May 11 H-14 11 51.9		May 12 BYR	e 11 25 53	BYR	iP 09 25 15	e 03 27 34	
17.0 N. 099.7 W.		May 12 MIR	e 15 52 53	May 13 BYR	eP 09 46 17	May 14 DRV	eP 04 17 11
h about 25 km.		May 12 DRV	eP 17 29 25	May 13 MAW	iP 10 58 23	May 14 MIR	e 07 09 46
HLL	eP 14 23 10	May 12 SBA	eP 18 56 17	May 13 SPA	e 10 59 08	May 14 DRV	iP 10 43 26
AIA	e 14 24 37	May 12 BYR	eP 18 55 21	May 13 DRV	e 12 35 09	MIR	eP 10 43 31
e 14 25 09		e 17 49 24		BYR	eP 12 36 03	MAW	iP 10 44 30
e 14 29 03		e 17 55 32		May 13 BYR	eP 13 35 06	SPA	iP 10 45 40
BYR	eP 14 25 27	May 12 H-18 44 30.3		May 13 MIR	eP 14 14 30	BYR	iP 10 46 08
e 14 29 29		26.5 S. 013.6 W.		May 13 MAW	e 14 35 08	May 14 MAW	iP 12 18 09
e 14 36 05		h about 25 km.		May 13 DRV	eP 14 51 42	May 14 DRV	eP 13 19 32
DRV	eP 14 25 35	MAW	iP 18 54 41	May 13 MAW	eP 15 14 06	May 14 H-13 57 49.4	
MAW	e 14 30 54	SPA	eP 18 55 02	May 13 DRV	eP 15 20 15	46.3 N. 149.8 E.	
WIL	eP' 14 30 58	e 19 01 02		May 13 BYR	e 18 16 22	h about 126 km.	
MIR	eP' 14 31 02	BYR	eP 18 55 21			BYR	eP' 14 16 49
eS 14 38 11		e 18 55 53				e 14 20 09	
May 11 AIA	e 16 04 16	SBA	eP 18 56 17				
May 11 DRV	eP 16 14 33	May 12 H-20 35 45.1					
May 11 H-16 11 33.2		17.7 S. 178.2 W.					
16.5 N. 098.6 W.		h about 600 km.					
h about 25 km.		BYR	e 20 45 30				
BYR	eP' 16 30 24	May 12 H-22 03 40.7					
May 11 BYR	e 17 48 44	18.0 S. 178.0 W.					
e 17 48 59		h about 603 km.					
e 17 49 20		SBA	eP 22 11 58				
MIR	e 17 49 24	DRV	eP 22 12 24				
May 11 SPA	e 18 05 04	BYR	iP 22 13 39				

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
May 14 DRV	h m s 1P 14 24 03	MIR	h m s 1P 05 34 17	BYR	h m s eP 10 08 00	BYR	h m s eP' 19 51 40 e 19 54 45
May 14 MIR	e 14 47 20	HLL	P 05 34 46	May 15 MAW	e 10 55 02	MAW	1P' 19 51 47
May 14 AIA	e 16 19 05 o 16 19 49	SBA	eP 05 35 16	May 15 AIA	e 11 11 31	SPA	1P' 19 51 49
May 14 MAW	e 16 45 52	MAW	1P 05 35 19 eS 05 44 53	May 15 MIR	e 11 37 26	May 15 H-21 31 00.4 07.2 S. 128.1 E. h about 38 km.	
May 14 AIA	e 22 26 12 i 22 31 48	SPA	1P 05 36 09	May 15 H-12 55 36.6 07.8 S. 127.9 E. h about 35 km.		DRV	eP 21 41 04
May 14 AIA	e 23 03 45 e 23 17 17 i 23 18 10	BYR	1P 05 36 27 eS 05 46 29	BYR	eP 13 08 20	MAW	1P 21 42 33
May 14 H-23 23 08.6 14.0 S. 178.2 W. h about 65 km.		May 15 H-06 42 58.9 07.2 S. 128.3 E. h about 52 km.		May 15 MIR	1P 13 15 59 1S 13 18 26 e 13 25 46	SPA	eP 21 43 22
SPA	e 23 34 52	DRV	1P 06 53 04	May 15 AIA	e 14 51 16	BYR	eP 21 43 42
MAW	1P 23 35 49	WIL	1P 06 53 07	May 15 AIA	eP 15 40 18 eS 15 48 30	May 16 BYR	eP 02 04 06
May 15 BYR	eP 00 47 31	SBA	eP 06 54 30	May 15 AIA	e 15 40 18 eS 15 48 30	May 16 AIA	eP 03 07 11
May 15 BYR	eP 00 57 41	MAW	1P 06 54 59	May 15 AIA	eP 15 40 18 eS 15 48 30	May 16 BYR	e 03 55 05
May 15 BYR	eP 01 03 14	BYR	eP 06 55 40	May 15 H-16 54 01.9 07.4 S. 128.0 E. h about 34 km.		May 16 H-05 16 46.0 13.6 S. 167.3 E. h about 52 km.	
May 15 WIL	1P 02 58 18	May 15 DEC	1P 07 25 33	DRV	1P 17 03 45 i 17 04 06	DRV	eP 05 26 21
May 15 AIA	e 03 12 27	May 15 H-07 31 13.5 08.2 S. 129.2 E. h about 57 km.		MIR	eP 17 04 23	SBA	eP 05 27 18
May 15 DRV	1P 03 25 21 pP 03 25 31	BYR	eP 07 43 47	SBA	eP 17 05 31	MIR	e 05 28 02
May 15 BYR	e 05 05 15	MAW	eP 07 43 54	MAW	1P 17 05 35	SPA	e 05 28 31
May 15 BYR	eP 05 29 42	May 15 H-08 40 21.2 35.1 S. 073.1 W. h about 25 km.		SPA	1P 17 06 22	MAW	i 05 29 07
May 15 MCQ	eP 05 33 04	BYR	eP 08 49 06	BYR	eP 17 06 43 e 17 07 08	May 16 DRV	1P 08 20 51
DRV	1P 05 33 50 pP 05 34 02 1S 05 42 07	SPA	e 08 49 54	May 15 MAW	eP 17 19 12	May 16 H-08 18 30.7 00.9 S. 127.0 E. h about 34 km.	
WIL	1P 05 33 52 1S 05 41 58	MAW	i 08 51 47	May 15 BYR	e 17 29 08	BYR	eP 08 31 43
		May 15 H-09 55 16.5 07.2 S. 128.2 E. h about 30 km.		May 15 DRV	eP 18 06 47	May 16 MIR	e 08 56 41
		DRV	1P 10 05 21	SBA	eP 18 08 45	May 16 MAW	i 09 14 03
		WIL	1P 10 05 23	SPA	e 18 09 40	May 16 DRV	eP 09 35 54 e 09 37 41
		MIR	e 10 05 48	BYR	eP 18 10 02	SBA	eP 09 38 53
		SBA	eP 10 06 46	May 15 H-19 32 22.5 53.4 N. 159.6 E. h about 30 km.		MAW	1P 09 40 13
		MAW	1P 10 06 50				
		SPA	1P 10 07 39				

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
MIR	e 09 41 00	May 16 H-23 05 21.1 15.1 S. 167.6 E. h about 136 km.	h m s	BYR	eP 09 32 50	May 18 H-07 12 55.0 29.3 S. 178.4 W. h about 192 km.	h m s
BYR	e 09 41 09 e 09 50 05	SBA	eP 23 15 34	May 17 BYR	eP 11 06 21	SBA	eP 07 21 28
May 16 BYR	e 10 37 11	MIR	e 23 16 03	May 17 BYR	eP 11 23 12	BYR	eP 07 22 17
May 16 MAW	eP 11 46 13	BYR	eP 23 16 33	May 17 H-12 00 29.6 06.2 S. 068.3 E. h about 25 km.		SPA	1P 07 22 52
May 16 H-14 35 29.6 07.3 S. 128.1 E. h about 34 km.		May 17 H-02 19 57.8 41.9 S. 171.5 E. h about 41 km.		SBA	eP 12 12 12	MAW	1P 07 24 07
DRV	1P 14 45 32 pP 14 45 42	DRV	1P 02 26 07	SPA	e 12 13 01	May 18 H-07 49 44.0 38.6 S. 074.7 W. h about 40 km.	
SBA	eP 14 47 00	SBA	eP 02 27 03	May 17 DRV	eP 15 03 06 i 15 03 32	BYR	eP 07 57 56
MAW	1P 14 47 03	WIL	1P 02 27 38	May 17 H-16 00 37.4 55.8 S. 027.0 W. h about 23 km.		May 18 BYR	eP 08 58 30
SPA	1P 14 47 50	BYR	eP 02 28 16 eS 02 38 39	BYR	eP 16 07 40 e 16 08 12 e 16 13 37	May 18 MAW	i 10 05 45
BYR	eP 14 48 11 e 14 49 54	MAW	1P 02 29 50	MAW	1P 16 08 18	May 18 MAW	e 10 30 16
May 16 BYR	e 17 09 11	May 17 H-04 08 18.0 55.1 S. 128.8 W. h about 25 km.		SBA	eP 16 09 06	May 18 BYR	eP 12 23 29
May 16 H-17 33 05.5 13.4 S. 167.3 E. h about 35 km.		BYR	eP 04 13 42 e 04 18 08 e 04 19 34 e 04 22 28	WIL	1P 16 10 04	May 18 DRV	eP 12 50 52 e 12 51 16
SBA	eP 17 43 40	SBA	eP 04 14 40	DRV	1P 16 10 28	May 18 BYR	e 12 57 27
MIR	e 17 44 23	WIL	eP 04 17 21	May 17 WIL	i 17 09 46	May 18 DRV	eP 13 32 54
BYR	eP 17 44 39	MIR	e 04 33 41	May 17 MIR	e 23 15 15 e 23 30 41	May 18 DRV	eP 14 32 33
SPA	e 17 44 56	May 17 DRV	eP 04 53 00 e 04 59 53	SBA	eP 23 24 27	May 18 H-14 46 33.7 38.4 S. 074.9 W. h about 25 km.	
May 16 H-19 09 04.2 09.3 S. 118.4 E. h about 47 km.		May 17 BYR	eP 06 01 27	May 18 DRV	eP 00 45 45	BYR	eP 14 54 51
BYR	eP 19 21 43	May 17 MIR	1P 06 21 51	May 18 H-02 49 50.4 21.2 S. 178.8 W. h about 549 km.		May 18 MAW	e 15 18 26
May 16 DRV	eP 21 00 38	May 17 MIR	e 06 41 30	BYR	eP 02 59 31	May 18 DRV	1P 15 44 04
May 16 BYR	eP 21 48 54	May 17 MIR	e 09 15 50 e 09 16 40 e 09 16 49 e 09 18 16	SPA	1P 03 00 02	May 18 DRV	eP 16 42 10
May 16 H-21 41 35.8 35.6 S. 137.7 E. h about 25 km.		May 17 MIR	e 09 20 25	May 18 SBA	eP 03 50 24	May 18 BYR	eP 17 09 04 pP 17 10 11
SPA	1P 21 51 05	May 17 H-09 20 04.2 07.2 S. 128.0 E. h about 35 km.		May 18 AIA	1P 06 29 10 i 06 29 24		
BYR	1P 21 51 26						
May 16 BYR	eP 22 52 53						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
May 18 BYR	eP 19 01 40	DRV	eP' 15 16 57 eS 15 23 46	SBA	e 08 18 07	MAW	eP' 12 21 38 eS 12 31 59
May 18 H-18 46 40.1 46.1 N. 148.5 E. h about 60 km.		SBA	e 15 17 00	May 20 MAW	iP 08 42 01	SBA	eP' 12 21 45
SPA	e 19 05 47	MAW	iP' 15 17 18	May 20 MAW	iP 10 28 10	DRV	eP' 12 21 47 eS 12 37 03
MAW	i 19 05 48	MIR	eP' 15 17 20 iS 15 24 20	May 20 AIA	e 11 03 08 e 11 04 12	BYR	eP' 12 21 57 e 12 22 14
BYR	eP' 19 05 52 e 19 11 40	HLL	eP 15 32 32	May 20 AIA	e 12 05 10 eS 12 06 09	MIR	e 12 24 37 e 12 25 14
May 18 BYR	eP 22 56 45 e 23 01 21 e 23 02 45	May 19 DRV	iP 16 48 56	May 20 AIA	e 12 05 10 eS 12 06 09	May 21 AIA	e 12 53 35
May 18 BYR	eP 23 21 16	May 19 DRV	eP 17 04 14	May 20 H-16 49 46.8 06.2 N. 125.8 E. h about 133 km.		May 21 H-12 36 19.7 37.0 N. 095.9 E. h about 25 km.	
May 18 H-23 18 46.9 16.0 S. 173.0 W. h about 25 km.		May 19 BYR	e 17 35 41	MAW	iP 17 02 12	BYR	eP' 12 55 25
SBA	eP 23 29 14	May 19 H-20 43 56.9 06.3 S. 155.0 E. h about 70 km.		May 20 BYR	eP 17 19 37	May 21 H-13 15 39.4 37.0 N. 095.7 E. h about 25 km.	
BYR	iP 23 29 50	BYR	e 20 56 18	May 20 H-18 30 38.9 30.0 S. 177.5 W. h about 25 km.		BYR	eP' 13 35 48
SPA	iP 23 30 25	May 19 DRV	eP 22 15 44	DRV	eP 18 38 28	May 21 SBA	eP 14 18 05
MAW	iP 23 31 34	May 19 BYR	eP 22 27 08	SBA	eP 18 39 22	BYR	eP 14 18 49
May 19 BYR	e 00 07 33	May 19 H-23 56 32.4 13.4 S. 076.7 W. h about 70 km.		BYR	eP 18 40 12	May 21 BYR	iP 14 50 57
May 19 MIR	e 04 53 46	BYR	eP 00 07 31 e 00 07 39 e 00 35 38	May 20 SBA	eP 18 43 12	May 21 H-15 41 46.8 37.1 N. 095.9 E. h about 36 km.	
May 19 DRV	eP 06 42 21 e 06 43 55	SBA	eP 00 08 51	May 20 DRV	eP 20 24 45	BYR	eP' 16 00 53
May 19 MIR	e 10 33 28 e 10 34 45 e 10 37 38	MAW	i 00 09 46	May 20 BYR	eP 22 36 18	May 21 BYR	eP 19 00 53
May 19 SBA	eP 10 54 57	May 20 AIA	e 01 50 18 e 01 50 27	May 21 DRV	eP 01 50 06	May 21 MCQ	eP 21 02 48 eS 21 03 36
May 19 SBA	eP 11 03 24	May 20 BYR	iP 06 31 37	May 21 DRV	eP 02 19 13	SBA	eP 21 06 11
May 19 DRV	eP 13 32 54	May 20 H-06 48 53.3 10.9 S. 164.3 E. h about 40 km.		BYR	eP 02 22 06	May 21 H-21 15 31.0 20.0 S. 177.5 W. h about 379 km.	
May 19 H-14 58 13.3 17.2 N. 099.5 W. h about 20 km.		BYR	eP 07 00 44	May 21 DRV	eP 05 59 13	MCQ	eP 21 22 28
BYR	e 15 11 46 e 15 11 49 i 15 11 50 eS 15 22 25	SPA	e 07 00 56	May 21 MIR	e 06 45 56	HLL	P 21 24 14
		May 20 MAW	eP 08 03 48	May 21 H-12 02 50.6 37.3 N. 096.0 E. h about 25 km.			
		May 20 H-08 09 14.4 21.3 S. 177.1 W. h about 608 km.		WIL	eP 12 16 57 iS 12 27 31		

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DRV	IP 21 24 21 I 21 26 02 e 21 29 39 IS 21 31 28 I 21 33 35 e 21 38 04	May 22 H-07 50 03.4 10.2 S. 161.5 E. h about 105 km.	h m s	May 22 BYR e 18 42 02 SPA e 18 42 55	h m s	May 23 H-06 43 28.0 04.9 S. 150.8 E. h about 44 km.	h m s
SBA	IP 21 24 54 IS 21 33 03 I 21 54 51 I 21 56 19	May 22 MAW IP 08 12 24	h m s	May 22 SPA e 18 57 46 DRV eP 18 58 01 BYR eP 18 58 23	h m s	May 23 SPA eP 06 56 01 BYR eP 06 56 05 MIR e 06 57 12	h m s
WIL	IP 21 25 33 I 21 27 09 IS 21 33 39 I 21 35 10	May 22 H-08 06 38.7 12.3 S. 166.6 E. h about 151 km.	h m s	May 22 DRV eP 20 43 47	h m s	May 23 H-07 10 51.7 07.3 S. 128.4 E. h about 25 km.	h m s
BYR	eP 21 25 36 e 21 27 11 e 21 28 55 e 21 33 46 e 21 33 54	MCQ eP 08 14 23 pP 08 14 48	h m s	May 22 H-22 03 36.0 05.5 S. 152.0 E. h about 100 km.	h m s	BYR eP 07 23 34	h m s
MIR	IP 21 26 15 I 21 27 58 IS 21 35 01 e 21 55 52	DRV IP 08 16 12 pP 08 16 40 IS 08 24 00	h m s	DRV eP 22 13 46 pP 22 13 58 eS 22 22 06	h m s	May 23 BYR eP 07 42 14	h m s
MAW	IP 21 27 13 IS 21 37 05	HLL IP 08 16 33	h m s	HLL eP 22 14 27	h m s	May 23 BYR eP 08 25 08 SPA e 08 25 55	h m s
AIA	eP 21 27 14	WIL IP 08 17 09 pP 08 17 37 IS 08 25 00	h m s	WIL eP 22 14 35 eS 22 23 11	h m s	May 23 H-08 19 00.7 25.4 S. 179.3 W. h about 363 km.	h m s
May 22 H-00 20 02.4 16.8 S. 174.3 W. h about 52 km.		SBA IP 08 17 10 eS 08 25 52	h m s	SBA eP 22 14 57	h m s	DRV IP 08 27 06 SBA IP 08 27 43 BYR IP 08 28 32 SPA IP 08 29 02	h m s
SBA	eP 00 30 20	MIR IP 08 17 50 IS 08 27 04	h m s	BYR e 22 15 46 pP 22 16 16 eS 22 26 23	h m s	May 23 BYR eP 12 12 15	h m s
May 22 H-04 40 14.4 55.5 S. 138.3 W. h about 42 km.		BYR IP 08 18 08 eS 08 27 41	h m s	SPA e 22 15 59	h m s	May 23 SBA eP 15 39 44	h m s
BYR	IP 04 45 41 e 04 55 06	SPA IP 08 18 22	h m s	MAW IP 22 16 02 eS 22 26 18	h m s	May 23 BYR eP 20 12 48	h m s
HLL	IP 04 45 53	MAW IP 08 18 55 pP 08 20 42 IS 08 29 07	h m s	May 23 H-01 42 12.2 37.1 N. 096.0 E. h about 50 km.	h m s	May 23 WIL eP 20 52 22	h m s
SBA	eP 04 46 15	DRV eP 08 19 02 eS 08 30 16	h m s	SPA IP' 02 01 13	h m s	DRV eP 20 52 45	h m s
MIR	eP 04 49 25 e 05 04 36	May 22 SBA eP 08 45 11 e 08 45 49	h m s	BYR e 02 01 16	h m s	MIR eP 20 53 08	h m s
MAW	I 04 49 51	MAY 22 DRV eP 09 29 56	h m s	AIA e 02 16 02	h m s	SBA eP 20 55 03	h m s
DRV	e 04 53 10	SPA eP 09 31 54	h m s	May 23 BYR eP 03 36 32	h m s	BYR eP 20 56 40	h m s
WIL	e 04 55 35 I 04 59 31	May 22 DRV eP 10 45 28	h m s	May 23 DRV eP 05 09 22	h m s	May 23 H-20 48 03.3 48.2 S. 119.4 E. h about 25 km.	h m s
May 22 BYR	IP 07 37 08	May 22 SPA e 14 14 30	h m s	May 23 DRV eP 06 27 40	h m s	WIL eP 20 52 22	h m s
May 22 BYR	eP 07 43 18	May 22 DRV eP 14 40 14	h m s	May 23 H-06 34 00.4 05.4 S. 152.0 E. h about 70 km.	h m s	DRV eP 20 52 45	h m s
		May 22 MAW I 16 30 06	h m s	MIR e 06 45 27	h m s	MIR eP 20 53 08	h m s
		May 22 MAW IP 17 15 56	h m s		h m s	SBA eP 20 55 03	h m s

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
WIL	iP 21 08 30	May 24 SBA	eP 17 03 53	May 25 DRV	iP 06 13 48	May 25 MAW	iP 15 14 24
DRV	eP 21 08 53	May 24 SBA	eP 17 30 34	May 25 H-07 05 32.3		May 25 MAW	iP 15 42 07
MIR	iP 21 09 21	May 24 MAW	i 18 02 05	18.4 S. 168.4 E.		May 25 MAW	iP 16 11 39
SBA	eP 21 11 05	May 24 SPA	e 18 13 08	h about 67 km.		May 25 BYR	eP 16 54 43
May 23 BYR	e 21 26 40	May 24 SBA	eP 18 18 16			May 25 SBA	eP 16 54 48
May 23 DRV	eP 22 10 31	May 24 MAW	i 20 31 43			May 25 SPA	e 16 55 03
May 23 BYR	eP 22 15 55	May 25 H-00 48 57.1		May 25 MAW	eP 09 30 13	May 25 H-17 21 57.6	
May 23 BYR	e 22 38 08	58.6 N. 031.5 W.		May 25 MIR	e 09 42 26	24.1 S. 179.1 E.	
May 24 BYR	e 01 58 52	h about 25 km.		May 25 SPA	e 09 52 55	h about 576 km.	
May 24 H-02 11 35.8		BYR	eP' 01 08 38	May 25 H-09 40 33.9		MIR	eP 17 30 22
05.4 S. 151.9 E.		May 25 BYR	eP 01 20 33	05.4 S. 151.7 E.		BYR	eP 17 31 24
h about 55 km.		May 25 SPA	e 01 22 30	h about 129 km.		May 25 MAW	iP 17 32 56
SBA	eP 02 23 07	May 25 H-01 09 58.1		May 25 SPA	e 11 15 36	May 25 MIR	e 18 30 02
SPA	iP 02 24 06	05.6 S. 152.2 E.		May 25 BYR	eP 09 53 04	May 25 H-21 28 28.1	
BYR	eP 02 24 06	h about 25 km.		May 25 MIR	e 11 20 26	24.3 S. 065.2 W.	
May 24 WIL	eP 03 00 10	May 25 H-01 07 09.6		May 25 MIR	e 11 23 56	h about 69 km.	
May 24 BYR	eP 03 16 38	59.0 N. 31.2 W.		May 25 MAW	eP 12 11 56	BYR	eP 21 38 33
May 24 MIR	eP 05 29 22	h about 25 km.		May 25 MIR	e 13 12 49	May 25 MAW	iP 21 40 48
May 24 SBA	eP 07 03 11	BYR	eP' 01 26 47	May 25 MIR	eP 14 16 03	MIR	e 21 50 03
May 24 H-07 11 59.5		May 25 DRV	iP 03 43 16	May 25 H-14 19 38.9		May 25 MIR	e 23 56 20
18.7 S. 173.2 W.		May 25 H-04 19 57.0		30.9 S. 177.2 W.		May 26 SPA	e 02 16 12
h about 25 km.		20.7 S. 174.3 W.		h about 25 km.		May 26 H-02 13 04.8	
BYR	e 07 22 41	h about 281 km.		SBA	eP 14 28 20	19.7 S. 178.0 W.	
May 24 MAW	iP 08 56 00	DRV	eP 04 28 23	BYR	eP 14 29 10	h about 600 km.	
May 24 MAW	eP 12 25 11		i 04 28 59	May 25 MAW	iP 14 31 02	DRV	iP 02 21 34
MIR	e 12 32 24	HLL	eP 04 28 45	May 25 H-14 49 11.2		SBA	eP 02 22 08
May 24 SBA	eP 13 00 13	SBA	eP 04 29 25	02.5 S. 079.1 W.		BYR	iP 02 22 50
May 24 MIR	i 13 26 04	WIL	eP 04 30 13	h about 79 km.		MIR	eP 02 23 29
May 24 AIA	e 14 17 56		eS 04 39 06	BYR	iP 15 01 12	May 26 MIR	e 04 40 18
		MIR	eP 04 30 57		e 15 01 36	May 26 MIR	e 06 52 53
			eS 04 40 26	SPA	eP 15 01 50		
		MAW	i 04 31 55	SBA	eP 15 02 15		



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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
MAW	iP 06 53 26	May 26 SPA	e 19 45 50	May 27 H-14 33	03.7	SBA	eP 23 59 43
SPA	iP 06 53 52	May 26 SBA	eP 19 57 27	41.4 S. 080.6 E.			e 24 00 11
May 26 MIR	e 07 39 48	May 26 MIR	e 20 25 15	h about 25 km.		May 29 BYR	eP 08 49 39
May 26 SBA	eP 09 42 06	May 26 MIR	e 20 39 01	MIR	eP 14 38 37	May 29 MIR	e 12 45 34
SPA	e 09 50 29	May 26 MIR	e 20 46 17	MAW	iP 14 38 53	May 29 DRV	eP 15 34 43
May 26 DRV	iP 10 01 23	May 26 MAW	iP 20 56 10	SPA	iP 14 41 48	May 29 MIR	e 16 56 26
MIR	eP 10 02 20	May 26 SBA	eP 22 17 45	SBA	e 14 41 54	May 29 DRV	e 17 02 53
SBA	eP 10 02 25	May 27 DRV	eP 02 16 48	BYR	eP 14 42 59	May 29 AIA	iP 20 35 45
MAW	iP 10 03 32	May 27 MIR	e 02 43 02	May 27 DRV	eP 21 01 02	May 29 SPA	e 20 40 30
SPA	eP 10 03 33	May 27 DRV	eP 03 02 47	May 28 H-03 08	07.4	May 29 BYR	e 21 19 31
BYR	i 10 03 43	May 27 H-05 30	44.4	03.3 S. 146.0 E.		May 29 SBA	P 21 22 41
May 26 MIR	e 10 15 08	h about 82 km.		h about 25 km.		AIA	e 21 25 00
May 26 MIR	e 10 37 19	DRV	eP 05 41 08	BYR	e 03 20 55	May 29 SBA	P 21 22 41
May 26 H-12 51	01.4	SPA	e 05 43 22	May 28 DRV	eP 06 05 54	AIA	e 21 25 00
43.2 S. 075.6 W.		BYR	eP 05 43 38	May 28 BYR	eP 13 02 17	May 29 H-21 00	16.4
h about 38 km.		May 27 MIR	e 07 10 02	May 28 DRV	eP 14 39 49	51.8 N. 177.1 W.	
BYR	i 12 58 40	May 27 MIR	e 08 04 20	May 28 MIR	e 15 46 42	h about 25 km.	
SPA	iP 12 59 34	May 27 BYR	e 08 48 19	May 28 H-16 07	59.8	SBA	eP 22 03 10
SBA	eP 13 00 24	e 08 56 17		10.8 S. 165.8 E.		SPA	iP 22 03 22
MAW	iP 13 01 22	May 27 MIR	eP 08 58 18	h about 25 km.		MIR	e 22 05 29
MIR	e 13 02 08	May 27 BYR	eP 09 01 13	SBA	eP 16 19 02	May 29 DRV	eP 23 30 01
May 26 MIR	e 14 29 09	May 27 MIR	eP 09 26 25	BYR	eP 16 19 51	May 30 DRV	iP 00 01 01
May 26 MIR	e 14 46 03	May 27 SBA	eP 10 54 21	May 28 MIR	e 17 36 46	pP 00 01 30	
May 26 MIR	e 15 18 58	May 27 MIR	e 11 57 08	May 28 AIA	e 21 38 33	MIR	e 00 01 09
May 26 MIR	e 16 31 36	May 27 SBA	eP 10 54 21	May 28 H-23 49	01.0	May 30 BYR	iP 01 02 27
May 26 MIR	eP 17 46 09	May 27 MIR	e 14 34 28	31.3 S. 068.3 W.		May 30 BYR	eP 02 21 51
May 26 MIR	e 18 01 22	May 27 BYR	eP 09 01 13	h about 94 km.		May 30 DRV	eP 02 32 49
May 26 DRV	eP 19 44 03	May 27 MIR	e 11 57 08	BYR	iP 23 57 11	May 30 MIR	e 03 16 36
	e 19 56 24	May 27 SBA	eP 10 54 21	pP 23 57 37			
	i 19 58 43	May 27 MIR	e 14 34 28	SPA	iP 23 58 53		

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
May 30 DRV	eP 05 04 04	BYR	e 02 16 01	BYR	eP 08 46 57 e 08 58 30	June 1 H-01 59 53.2 57.6 N. 150.8 W. h about 25 km.	h m s
BYR	eP 05 05 49 e 05 06 09	May 31 H-03 17 57.2 30.1 S. 177.1 W. h about 15 km.		SPA	iP 08 47 31	SPA	e 02 19 25
SPA	iP 05 06 18	DRV	eP 03 26 10	MIR	eP 08 47 45	June 1 SPA	e 04 43 46
MIR	eP 05 06 42	SBA	eP 03 26 42	MAW	iP 08 48 50	June 1 DRV	eP 06 15 12 e 06 16 21 e 06 32 51
May 30 DRV	e 05 16 32	BYR	e 03 27 42	May 31 DRV	eP 10 12 13	June 1 SPA	e 12 59 57
SBA	e 05 17 50	SPA	iP 03 28 06	AIA	e 10 16 12	June 1 DRV	eP 07 41 18
May 30 H-09 16 14.9 08.9 S. 106.1 W. h about 25 km.		May 31 MIR	e 05 43 26	May 31 BYR	eP 10 35 37	June 1 SPA	e 12 59 57
BYR	eP 09 27 33	May 31 DRV	eP 06 13 18	May 31 DRV	eP 15 05 34	June 1 H-13 07 20.1 21.6 S. 063.7 W. h about 128 km.	
SPA	eP 09 28 30	May 31 DRV	eP 06 28 21	SPA	e 15 07 11	DRV	eP 13 17 26
May 30 BYR	eP 12 07 41	May 31 H-06 28 26.2 22.1 N. 142.6 E. h about 257 km.		May 31 MAW	i 15 14 33	SPA	eP 13 17 53
May 30 SBA	eP 14 55 26	DRV	eP 06 40 50 pP 06 41 49 iS 06 51 13	May 31 MIR	e 16 16 12	June 1 DRV	eP 17 51 12 e 17 52 07
May 30 H-16 57 36.9 18.9 S. 177.9 W. h about 480 km.		WIL	iP 06 41 04 pP 06 42 08 eS 06 51 07	May 31 SPA	iP 16 47 28	June 1 BYR	eP 18 55 57
SBA	iP 17 06 59	MIR	eP 06 41 18 iS 06 51 34	May 31 BYR	e 19 07 19	June 1 DRV	eP 19 20 28 e 19 20 59
SPA	iP 17 08 11	SBA	eP 06 41 46	May 31 SBA	eP 19 27 04	June 1 DRV	eP 19 29 21
MIR	e 17 08 18 e 17 17 30	MAW	eP 06 42 18 i 06 56 26	May 31 BYR	eP 20 27 26	June 1 MIR	e 20 30 11
May 30 AIA	e 17 36 33	BYR	eP 06 42 49 eS 06 53 00 e 06 57 22 e 06 59 15	May 31 DRV	eP 21 12 40	June 1 DRV	eP 21 27 14 e 21 35 23
May 30 DRV	eP 18 34 06	SPA	i 06 46 31	May 31 H-21 19 04.0 38.2 S. 072.7 W. h about 25 km.		June 1 SPA	iP 21 50 12
May 30 MIR	eP 20 16 51	AIA	i 06 50 17	SPA	iP 21 28 16	June 1 DRV	eP 23 29 40
BYR	e 21 18 17	May 31 BYR	eP 07 46 29 pP 07 46 48	SBA	eP 21 29 05	June 2 MIR	eP 03 20 43
May 30 BYR	e 22 41 33	SPA	iP 07 47 09	MAW	iP 21 30 12	June 2 MIR	e 04 28 28 e 04 41 39
May 30 MIR	e 23 50 50	May 31 DRV	eP 08 39 48	June 1 H-01 22 27.4 03.9 S. 137.9 E. h about 166 km.		June 2 DRV	eP 05 27 20 e 05 29 23
May 31 MIR	e 00 36 16	May 31 DRV	eP 08 45 33	SPA	iP 01 34 55		
May 31 AIA	e 01 13 20	WIL	eP 08 46 55	BYR	eP 01 35 01		
May 31 H-01 57 02.2 24.5 N. 065.8 E. h about 25 km.							

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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
June 2 SBA	P h m s 05 42 15	June 2 SPA	eP h m s 22 31 25	June 3 MIR	e h m s 16 09 30	June 5 DRV	eP h m s 13 12 54
June 2 H-05 35 36.1 03.5 S. 145.3 E. h about 42 km.		June 2 BYR	i h m s 23 06 50	June 3 SPA	e h m s 19 08 36	June 5 MIR	e h m s 14 19 36
DRV	iP h m s 05 46 01	June 2 SBA	eP h m s 23 51 09	BYR	eP h m s 19 08 52 e h m s 19 09 50 e h m s 19 11 37	June 5 SPA	e h m s 16 06 36
MIR	eP h m s 05 47 00	June 3 DRV	eP h m s 01 23 11 e h m s 01 25 55	June 3 BYR	e h m s 22 45 06	June 5 H-16 43 44.8 07.1 S. 129.2 E. h about 124 km.	
SPA	iP h m s 05 48 15	June 3 DRV	eP h m s 01 57 02 e h m s 01 58 56	June 4 SBA	eP h m s 00 03 34	DRV	eP h m s 16 52 33
BYR	eP h m s 05 48 21	June 3 MIR	e h m s 02 51 29	June 4 DRV	eP h m s 04 45 08	WIL	iP h m s 16 53 43 pP h m s 16 54 59
June 2 MIR	e h m s 06 59 32	June 3 MIR	e h m s 02 51 29	June 4 MIR	e h m s 05 44 48	MAW	iP h m s 16 55 12
June 2 SPA	iP h m s 09 06 17	June 3 DRV	eP h m s 03 11 21	June 4 BYR	eP h m s 08 30 57	SPA	iP h m s 16 55 56 e h m s 17 05 56
BYR	eP h m s 09 06 33	June 3 MIR	e h m s 03 53 06 e h m s 04 00 26 e h m s 04 17 26	June 4 MIR	eP h m s 12 02 53	BYR	eP h m s 16 56 16 e h m s 17 05 51
June 2 DRV	eP h m s 11 29 11	June 3 WIL	iP h m s 04 29 43	June 4 SPA	e h m s 12 20 28	MIR	eP h m s 16 58 07
June 2 MIR	e h m s 13 10 18	June 3 DRV	eP h m s 05 06 37	June 4 MIR	eP h m s 12 30 50	June 5 MIR	e h m s 18 03 34
June 2 WIL	iP h m s 13 30 47 pP h m s 13 31 02	June 3 DRV	eP h m s 06 12 17	June 4 SPA	e h m s 12 41 51	June 5 MAW	iP h m s 18 10 00
June 2 SPA	e h m s 13 35 47	June 3 WIL	eP h m s 07 40 52	June 4 MIR	e h m s 17 02 00	June 5 MIR	eP h m s 18 34 06 i h m s 18 34 28
June 2 SPA	iP h m s 13 54 53	June 3 DRV	iP h m s 09 17 31	BYR	iP h m s 17 03 59	June 5 WIL	iP h m s 19 31 14
June 2 SBA	eP h m s 14 52 51	June 3 MIR	eP h m s 10 27 07	June 4 DRV	iP h m s 17 19 29 e h m s 17 19 54	June 5 BYR	eP h m s 20 42 29
June 2 SPA	e h m s 15 21 36	June 3 MIR	e h m s 11 18 16	June 4 DRV	eP h m s 19 14 54	June 5 BYR	e h m s 22 49 30
June 2 DRV	eP h m s 16 03 39 e h m s 16 05 53	June 3 MIR	eP h m s 11 31 39	June 4 DRV	eP h m s 22 59 32 e h m s 22 59 42 e h m s 23 04 02	June 5 MIR	e h m s 22 57 20
June 2 WIL	iP h m s 17 28 35	June 3 H-13 42 27.3 06.4 S. 148.1 E. h about 32 km.		June 4 MIR	e h m s 23 56 53	June 6 MIR	e h m s 01 24 50
June 2 H-17 15 08.7 29.8 N. 130.6 E. h about 15 km.		BYR	e h m s 13 54 57	June 5 MIR	e h m s 00 44 17	June 6 H-02 29 04.8 08.8 S. 153.9 E. h about 60 km.	
SPA	e h m s 17 33 57	June 3 H-15 02 25.5 22.4 N. 045.2 W. h about 25 km.		June 5 MIR	e h m s 02 11 11	BYR	eP h m s 02 41 13
BYR	eP h m s 17 34 04	BYR	eP' h m s 15 21 23	June 5 MIR	e h m s 04 25 42	SPA	e h m s 02 41 20
June 2 DRV	iP h m s 18 36 48	June 3 WIL	eP h m s 15 24 28	June 5 SPA	e h m s 10 28 45	June 6 MIR	e h m s 05 29 01
June 2 DRV	eP h m s 18 50 37	June 3 BYR	e h m s 15 54 17	June 5 BYR	e h m s 13 05 40	June 6 MIR	e h m s 06 42 26
June 2 SPA	iP h m s 19 08 36						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
June 6 MAW	h m s 1P 07 55 15	June 7 SPA	e 06 55 07	June 8 SPA	e 05 19 16	June 9 SBA	eP 06 58 00
June 6 H-08 48 51.6 20.0 S. 169.1 E. h about 17 km.		June 7 DRV	eP 07 31 07	BYR	1P 05 20 21 e 05 25 57	June 9 H-07 40 18.5 09.0 N. 126.6 E. h about 65 km.	
BYR	eP 08 59 46	June 7 SPA	e 08 25 18	June 8 SPA	eP 12 04 06	MIR	eP 07 52 17
June 6 MIR	e 10 17 30	June 7 MAW	i 08 56 00	June 8 MIR	e 13 27 36	SBA	eP 07 53 10
June 6 H-10 33 05.8 38.2 S. 073.3 W. h about 40 km.		June 7 MIR	e 12 01 29 e 12 29 57	June 8 MIR	e 13 45 46	June 9 SBA	eP 08 58 45
BYR	eP 10 41 25	June 7 AIA	1P 12 07 15	June 8 MIR	e 14 08 03	June 9 H-10 25 40.3 05.9 S. 147.0 E. h about 72 km.	
SPA	1P 10 42 11	June 7 MIR	e 12 58 44	June 8 MIR	e 14 59 13	SPA	1P 10 38 04
June 6 DRV	eP 10 55 28	June 7 MIR	e 13 25 57	June 8 H-15 19 21.4 07.3 S. 155.7 E. h about 54 km.		June 9 SBA	eP 13 17 33
June 6 MIR	e 11 00 59 e 11 26 29	June 7 MIR	e 14 10 53	BYR	eP 15 31 37	June 9 H-13 25 48.1 23.3 S. 066.4 W. h about 184 km.	
June 6 BYR	e 11 57 12	June 7 AIA	e 14 15 07	June 8 MIR	eP 19 29 33	SPA	eP 13 36 22
June 6 MIR	e 13 14 45	BYR	e 14 15 29	SPA	eP 19 32 28	June 9 MIR	e 14 22 49
June 6 MIR	i 14 13 39	SPA	e 14 16 09	BYR	eP 19 33 02	June 9 MIR	e 15 47 33
June 6 DRV	eP 14 47 05	June 7 AIA	e 14 30 11	June 8 H-20 49 18.9 55.7 S. 026.2 W. h about 25 km.		June 9 MIR	e 16 25 23
June 6 WIL	eP 15 47 34 i 15 48 16	June 7 MIR	e 14 49 27	SPA	1P 20 56 06	June 9 SBA	eP 16 55 04
MIR	eP 15 50 28	June 7 BYR	eP 15 48 39	BYR	1P 20 56 22 eS 21 02 29 e 21 06 42	June 9 SPA	e 17 15 01
June 6 H-17 50 08.6 39.1 N. 123.1 W. h about 23 km.		June 7 BYR	i 20 15 02	SBA	1P 20 57 46	June 9 SPA	e 17 54 43
SPA	e 18 09 11	June 7 SPA	e 23 36 54	MIR	eP 20 58 12	June 9 SPA	1P 21 21 21
June 6 MIR	e 22 40 31	June 8 H-01 31 59.9 18.1 S. 178.4 W. h about 603 km.		DRV	1P 20 58 43 pP 20 58 53	June 10 SPA	1P 00 00 34
June 6 BYR	e 23 18 54	DRV	e 01 39 46 i 01 40 40	WIL	1P 20 58 43 pP 20 58 53	MAW	1P 00 02 59
June 7 BYR	eP 02 51 19	WIL	e 01 39 46 i 01 41 48	June 9 H-01 35 49.0 51.6 N. 177.2 W. h about 25 km.		June 10 SPA	e 02 16 46
June 7 BYR	eP 05 06 25	SBA	eP 01 41 14	SPA	1P' 01 55 14	June 10 H-02 59 44.8 20.9 S. 170.8 E. h about 31 km.	
June 7 SBA	eP 05 17 58	BYR	1P 01 41 57	June 9 H-06 04 55.8 21.1 S. 178.3 E. h about 339 km.		SPA	e 03 10 57
June 7 MAW	i 06 39 18	SPA	1P 01 42 26	SPA	eP 06 15 28		
		MIR	1P 01 42 31				

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
June 10 MCQ	iP 13 30 44 eS 13 30 51	June 11 DRV	eP 12 40 54	June 13 DRV	eP 05 54 22	MAW	iP' 08 15 20 pP 08 15 32
SBA	eP 13 35 51	June 11 H-17 02 16.4 10.6 S. 164.7 E. h about 132 km.		June 13 DRV	eP 06 24 52	June 14 MIR	e 08 47 20
SPA	iP 13 37 38	SBA	iP 17 13 02	June 13 MIR	e 09 41 20	DRV	eP 08 47 54
MAW	iP 13 38 40	BYR	eP 17 14 01	June 13 BYR	eP 11 04 38	June 14 BYR	eP 12 02 56
June 10 H-17 25 11.3 19.0 S. 167.1 E. h about 102 km.		SPA	iP 17 14 13	June 13 MAW	iP 14 52 13	June 14 DRV	eP 16 53 38
SPA	eP 17 33 35	MAW	iP 17 14 21	June 13 MAW	iP 17 14 42	June 14 BYR	iP 17 14 26
SBA	eP 17 35 03	MIR	e 17 15 12	June 13 DRV	iP 18 02 33	June 14 H-17 14 23.2 54.2 N. 169.2 E. h about 63 km.	
June 10 SPA	e 23 56 51	June 11 SBA	e 18 15 30	June 13 WIL	iP 18 18 40 pP 18 18 53	MAW	iP' 17 33 51 pP 17 33 58
June 11 H-02 05 43.3 19.0 S. 168.8 E. h about 85 km.		June 11 MAW	iP 18 30 37	June 13 SPA	iP 19 19 31	June 14 BYR	eP 19 32 51
BYR	eP 02 16 36	SPA	e 18 31 59	MAW	i 19 20 46	June 14 MAW	i 21 18 57
SPA	iP 02 16 53	BYR	e 18 32 56	June 13 MAW	iP 23 08 43	June 14 DRV	eP 22 14 48
MAW	iP 02 17 38	June 12 BYR	eP 01 06 25	June 13 DRV	eP 23 45 34	June 15 BYR	eP 01 30 42
June 11 SPA	e 03 28 44	June 12 BYR	e 02 52 44	June 14 BYR	eP 01 40 11 iS 01 53 58	June 15 MAW	iP 05 54 06
June 11 H-04 35 00.6 19.6 S. 177.7 W. h about 370 km.		June 12 MIR	eP 04 01 34	June 14 BYR	eP 01 49 56	June 15 SBA	iP 06 03 39
SBA	iP 04 44 23	June 12 H-09 46 27.0 65.0 N. 016.6 W. h about 28 km.		June 14 BYR	eP 03 00 14	BYR	eP 06 04 26
BYR	eP 04 45 06	SPA	e 10 06 45	June 14 BYR	eP 03 57 56	June 15 H-06 30 37.0 20.4 S. 070.9 W. h about 60 km.	
MAW	i 04 45 28	June 12 MIR	e 11 40 50 e 11 41 46	June 14 BYR	e 05 06 03	MIR	eP 06 40 37
SPA	iP 04 45 37	June 12 H-13 45 40.6 13.2 S. 167.2 E. h about 233 km.		June 14 MIR	e 07 45 49	BYR	iP 06 41 04 eS 06 49 36
June 11 SPA	e 05 13 28	DRV	iP 13 55 00	June 14 H-07 51 51.0 54.3 N. 169.1 E. h about 34 km.		SBA	eP 06 42 25
June 11 H-07 15 37.6 43.5 N. 018.3 E. h about 21 km.		SBA	eP 13 55 57	SBA	eP' 08 11 12 e 08 14 29	MAW	e 06 43 12
MAW	iP' 07 34 24	BYR	iP 13 56 55	MAW	iP' 08 11 24 pP 08 11 40	WIL	iP 06 43 50
MIR	e 07 34 38	SPA	iP 13 57 11	June 15 BYR	eP 06 53 02	MIR	e 06 54 46
SPA	iP' 07 34 52	MAW	eP 13 57 44	June 15 BYR	e 07 00 06		
BYR	eP' 07 35 05	June 12 MAW	iP 22 43 17				
SBA	eP' 07 35 08	June 12 MIR	i 23 21 33				
June 11 SBA	eP 11 46 58			June 14 H-07 55 48.9 54.2 N. 169.3 E. h about 56 km.			

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
June 15 BYR	eP 08 41 49 h m s	June 16 BYR	eP 07 57 17 h m s	June 17 DRV	e 07 03 31 h m s	June 18 BYR	e 01 29 54 h m s
June 15 BYR	e 09 19 03	June 16 BYR	eP 11 10 31	June 17 SBA	e 07 53 10	June 18 BYR	eP 05 40 20
June 15 H-11 56 19.3 13.3 S. 167.0 E. h about 211 km.		June 16 H-14 13 36.6 10.0 S. 079.4 W. h about 56 km.		June 17 MIR	e 08 09 13	SPA	iP 05 40 35
SBA	iP 12 06 39	BYR	eP 14 25 01	June 17 SBA	eP 09 40 20	June 18 BYR	eP 05 49 20
BYR	iP 12 07 36	June 16 DRV	eP 14 56 14	June 17 MAW	i 11 06 18	June 18 MIR	i 10 05 53
June 15 H-12 10 40.6 18.4 S. 176.7 W. h about 278 km.		June 16 DRV	eP 17 13 48	June 17 BYR	eP 11 52 30	June 18 SBA	e 10 49 14
BYR	eP 12 21 02 e 12 21 29	June 16 H-17 48 47.1 16.6 S. 167.7 E. h about 25 km.		June 17 BYR	eP 12 01 58	June 18 SBA	eP 10 54 05
June 15 MIR	e 17 33 01	SBA	iP 17 59 03	June 17 SBA	eP 12 10 45	June 18 SBA	eP 11 23 08
June 15 H-17 31 56.2 10.3 S. 161.6 E. h about 112 km.		MIR	e 17 59 47	June 17 H-13 22 21.4 10.7 S. 165.3 E. h about 106 km.		June 18 SBA	iP 12 03 07
BYR	eP 17 43 45	June 16 BYR	eP 22 27 02	DRV	eP 13 31 04	June 18 MAW	iP 12 46 36
June 15 DRV	eP 19 12 11	June 17 SBA	eP 02 31 19	SBA	eP 13 33 03	June 18 H-16 59 11.7 00.8 S. 133.8 E. h about 25 km.	
June 15 DRV	eP 21 20 20	June 17 MAW	iP 03 09 02	WIL	iP 13 33 14	SBA	eP 17 11 15
June 15 MIR	eP 23 20 46	BYR	eP 03 09 48	MIR	iP 13 33 43	SPA	iP 17 12 07
June 16 BYR	e 02 40 17	June 17 H-04 27 38.2 40.1 S. 045.7 E. h about 15 km.		BYR	eP 13 34 02 e 13 38 53	BYR	eP 17 12 22
MAW	e 02 46 10	DRV	iP 04 32 08 iS 04 35 56	MAW	iP 13 34 46 pP 13 34 55	June 18 WIL	eP 21 17 14
June 16 BYR	iP 06 00 37	MIR	eP 04 34 52 iS 04 40 42	June 17 DRV	e 13 52 04	June 18 H-23 42 31.3 04.8 S. 151.8 E. h about 47 km.	
June 16 MIR	e 06 29 00	WIL	iP 04 35 48 eS 04 42 20	June 17 BYR	eP 14 31 21 e 14 43 46 e 14 44 37	DRV	iP 23 52 49 i 23 53 02 iS 24 08 33
June 16 H-06 27 29.8 00.2 S. 122.8 E. h about 177 km.		DRV	iP 04 37 15	June 17 H-14 26 29.7 43.2 N. 088.0 E. h about 50 km.		WIL	iP 23 53 24
WIL	iP 06 38 06	SBA	iP 04 37 28	MAW	iP' 14 45 51	MIR	iP 23 54 00
DRV	iP 06 38 12 e 06 53 03	BYR	iP 04 37 48	June 17 H-22 28 04.1 51.7 N. 177.0 E. h about 22 km.		SBA	iP 23 54 00
MIR	iP 06 38 25	June 17 DRV	e 04 51 22	MAW	iP' 22 47 44	MAW	iP 23 54 02
MAW	iP 06 39 19	BYR	eP 04 52 35 e 04 56 11	June 17 H-22 28 04.1 51.7 N. 177.0 E. h about 22 km.		SPA	iP 23 55 03
SBA	eP 06 39 31 e 06 47 22	June 17 WIL	iP 06 04 15	June 17 H-22 28 04.1 51.7 N. 177.0 E. h about 22 km.		June 19 BYR	e 00 13 10
		June 17 MIR	e 06 34 20	MAW	iP' 22 47 44	June 19 MAW	e 01 47 42
				June 17 BYR	eP 23 13 04	June 19 H-03 32 01.8 05.6 S. 151.5 E. h about 130 km.	

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SBA	eP 03 43 08	SPA	e 02 27 06	June 21 MIR	e h m s 07 36 50	June 21 H-22	h m s 52 52.0	
DRV	eP 03 43 33	June 20 SBA	1P 03 32 07	June 21 MIR	e 08 12 12	07.4 S. 130.1 E.	h about 52 km.	
BYR	eP 03 44 24	BYR	eP 03 33 05	June 21 H-07	55 46.0	MIR	e 23 03 25	
MAW	i 03 44 24	June 20 BYR	eP 05 54 57	61.3 N. 153.4 W.	h about 32 km.	MAW	1P 23 03 59	
SPA	1P 03 44 24	June 20 SBA	eP 06 27 26	h about 67 km.	SPA	eP' 08 15 44	SBA	eP 23 04 20
June 19 SBA	eP 06 25 08	H-06	16 22.6	June 21 H-08	38 28.4	SPA	1P 23 05 12	
BYR	eP 06 26 16	06.9 S. 126.6 E.	h about 272 km.	20.8 S. 175.6 W.	h about 67 km.	June 21 BYR	eP 23 15 30	
SPA	1P 06 26 43	MAW	1P 06 27 28	h about 67 km.	June 21 SBA	eP 08 48 15	e 23 37 51	
June 19 SBA	eP 10 53 55	SPA	1P 06 28 18	BYR	eP 08 48 57	DRV	eP 03 20 10	
June 19 MIR	e 12 43 30	BYR	eP 06 28 38	SPA	1P 08 49 29	June 22 DRV	eP 05 12 37	
June 19 H-15	45 03.2	e 06 30 07	June 20 SBA	eP 06 49 45	MIR	eP 08 49 44	i 05 12 55	
17.0 S. 172.5 W.	h about 29 km.	1 06 50 54	June 20 BYR	e 09 35 14	e 09 08 05	MAW	1P 08 50 41	
BYR	1P 15 55 58	June 20 MIR	1P 17 40 29	June 21 H-10	19 05.6	June 22 DRV	eP 07 06 25	
SPA	1P 15 56 24	June 20 BYR	eP 17 28 34	19.9 S. 177.9 W.	h about 587 km.	June 22 MIR	e 12 04 15	
MAW	1P 15 57 47	June 20 MIR	1P 17 40 29	h about 587 km.	BYR	eP 10 28 55	June 22 H-11	
June 19 H-16	39 21.4	June 21 BYR	e 02 35 53	BYR	eP 10 29 24	SPA	1P' 12 07 47	
20.9 S. 177.8 W.	h about 405 km.	June 21 MIR	e 02 42 09	SPA	1P 10 29 24	BYR	eP' 12 07 51	
BYR	eP 16 49 16	June 21 BYR	eP 04 06 30	June 21 MIR	e 14 34 33	June 22 MIR	1P 13 45 42	
SPA	1P 16 49 47	SPA	e 04 06 45	June 21 BYR	eP 15 52 19	June 22 H-14	55 39.8	
June 19 MIR	e 19 09 07	June 21 BYR	e 04 41 15	SPA	1P 15 52 56	06.9 S. 147.0 E.	h about 70 km.	
June 19 DRV	eP 19 28 34	June 21 BYR	e 04 41 15	June 21 MIR	e 17 35 58	DRV	1P 15 05 39	
June 19 BYR	eP 21 09 20	June 21 H-04	43 43.3	June 21 H-18	58 18.6	MAW	eP 15 07 49	
June 20 H-00	05 46.9	05.7 N. 082.6 W.	h about 23 km.	38.8 S. 072.9 W.	h about 40 km.	SPA	1P 15 07 58	
19.4 S. 175.4 W.	h about 244 km.	BYR	eP 04 56 30	BYR	eP 19 06 31	BYR	eP 15 08 04	
BYR	1P 00 16 08	SPA	1P 04 57 08	SPA	1P 19 07 21	e 15 16 56	June 22 MIR	
SPA	1P 00 16 40	MIR	e 05 01 34	SBA	eP 19 08 12	June 22 MIR	1P 15 16 44	
June 20 H-02	16 04.9	June 21 BYR	eP 05 26 11	MAW	1P 19 09 20	June 22 DRV	eP 17 32 10	
20.7 S. 169.5 E.	h about 109 km.	June 21 DRV	eP 07 15 40	June 21 DRV	eP 20 51 33	June 22 DRV	1P 18 11 29	
BYR	eP 02 26 48	1 07 15 53						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)		
June 22 DRV	eP 18 48 59	June 23 SBA	eP 22 39 49	June 24 MIR	eP 18 53 10	WIL	iP 11 23 28		
June 23 MIR	e 00 33 15	BYR	e 22 40 41	June 24 SBA	eP 19 30 51	DRV	eP 11 23 31 e 11 27 18 eS 11 33 58		
June 23 BYR	e 03 14 15	MAW	eP 22 42 33	June 25 H-01 31 41.9 20.8 S. 179.2 W. h about 645 km.	MAW	eP 11 23 35	MIR	eP 11 23 39 eS 11 34 00	
June 23 H-09 44 37.7 25.7 N. 128.5 E. h about 36 km.		June 24 DRV	eP 01 12 58	SBA	iP 01 40 34	SBA	eP 11 24 55 i 11 28 54	SPA	e 11 29 04
DRV	iP 09 57 47 eS 10 08 49	SBA	eP 01 13 06	BYR	iP 01 41 20	SPA	e 11 29 04	BYR	eP' 11 29 12 e 11 32 59 e 11 36 06
WIL	iP 09 57 47	June 24 H-01 21 18.2 25.6 N. 101.1 E. h about 35 km.		SPA	iP 01 41 28	MAW	iP 01 42 51	June 25 BYR	e 12 31 55
MIR	eP 09 58 02 eS 10 08 37	SPA	iP' 01 39 56	June 25 H-02 49 02.1 20.6 S. 071.0 W. h about 37 km.		BYR	iP 02 59 27	June 25 H-12 49 41.8 03.7 N. 126.6 E. h about 25 km.	
MAW	eP 09 58 43 i 10 11 52	June 24 H-01 43 01.2 15.7 S. 179.1 W. h about 29 km.		SPA	e 01 54 26	SPA	iP 03 00 08	DRV	e 13 00 58
SBA	eP 10 03 03 e 10 12 10	SPA	e 01 54 26	June 24 DRV	eP 02 01 41	SBA	eP 03 00 49	MAW	iP 13 02 11
BYR	eP 10 03 25 e 10 04 39 e 10 04 46 e 10 13 17	June 24 H-03 01 47.6 06.8 S. 146.8 E. h about 50 km.		MAW	iP 03 01 36 pP 03 01 45	DRV	e 03 01 48	SBA	eP 13 02 16
SPA	iP 10 03 37	SPA	iP 03 14 09	DRV	e 03 01 48	BYR	e 13 03 19	BYR	e 13 03 19
June 23 H-09 58 26.0 19.1 N. 121.4 E. h about 40 km.		June 24 H-11 56 24.7 27.7 S. 177.1 W. h about 52 km.		June 25 MIR	e 05 02 38	June 25 BYR	eP 13 24 26	June 25 SPA	i 20 16 42
MAW	iP 10 11 52	SBA	eP 12 05 38	June 25 DRV	eP 05 11 18	June 25 BYR	eP 13 24 26	June 26 BYR	eP 02 31 24
BYR	e 10 17 13 e 10 27 45	SPA	eP 12 06 43	June 25 H-06 26 49.6 37.3 S. 073.5 W. h about 40 km.		June 26 SPA	iP 06 01 55	June 26 SBA	eP 07 54 36
June 23 MAW	iP 12 52 20	June 24 SBA	eP 12 29 52	BYR	eP 06 35 13 e 06 48 30	BYR	eP 06 02 14	June 26 SBA	eP 07 54 36
BYR	eP 12 56 06	June 24 DRV	iP 14 17 57	SPA	iP 06 36 03	BYR	eP 06 02 14	June 26 SBA	eP 07 54 36
June 23 H-15 03 15.4 33.5 S. 071.8 W. h about 40 km.		June 24 H-14 13 02.4 55.8 N. 162.6 E. h about 24 km.		SBA	eP 06 36 52	June 26 SBA	eP 07 54 36	June 26 DRV	eP 09 33 13
BYR	eP 15 12 10	SPA	iP' 14 32 40	MAW	iP 06 38 00 pP 06 38 06	June 26 DRV	eP 09 33 13	June 26 H-09 54 35.1 07.1 S. 149.6 E. h about 59 km.	
SPA	iP 15 12 57	June 24 H-17 03 14.9 15.3 S. 167.6 E. h about 130 km.		DRV	e 06 38 15	June 26 MIR	eP 10 05 44		
SBA	eP 15 13 46	SPA	iP' 14 32 40	June 25 BYR	eP 06 52 06	June 26 SBA	eP 10 05 50		
MAW	iP 15 14 46	June 24 H-17 03 14.9 15.3 S. 167.6 E. h about 130 km.		June 25 SBA	eP 06 58 23	SPA	iP 10 06 55		
June 23 BYR	eP 15 55 21	SBA	eP 17 11 27	June 25 H-11 10 23.3 24.3 N. 122.6 E. h about 33 km.		BYR	eP 10 06 57		
SPA	e 15 56 17	SPA	iP 17 14 42						
MAW	e 15 58 06	June 24 DRV	e 18 32 54						



Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
June 26 BYR	eP 14 26 28	June 27 SBA	eP 14 37 03	DRV	1P 19 01 16	BYR	eP 10 37 05
June 26 MIR	e 15 40 44	June 27 MAW	1P 18 19 50	MAW	1P 19 02 28	SPA	1P 10 38 16
June 26 MAW	i 19 09 52	June 27 DRV	eP 19 11 54	SBA	1P 19 02 36	June 29 BYR	e 10 50 12
June 26 BYR	eP 20 42 56	June 27 SPA	1P 19 58 00	June 28 DRV	1P 20 56 53	June 29 SBA	eP 11 34 55
June 27 H-03 30 01.9 06.1 S. 148.8 E. h about 55 km.		SBA	eP 19 58 46	June 28 H-20 47 30.6 17.6 S. 175.2 W. h about 244 km.		June 29 H-12 09 32.5 17.9 S. 167.8 E. h about 44 km.	
WIL	1P 03 40 41	WIL	1P 20 00 12	SPA	1P 20 58 34	BYR	eP 12 20 37
MIR	eP 03 41 15	June 28 SBA	eP 04 40 03	MIR	1P 20 58 35	June 29 H-13 49 16.9 07.9 S. 127.3 E. h about 80 km.	
SBA	eP 03 41 23	June 28 SPA	1P 07 15 05	MAW	1P 20 59 42	WIL	1P 13 59 12
MAW	1P 03 42 21 pP 03 42 27	June 28 DRV	1P 08 48 18	June 28 DRV	eP 21 31 23	MIR	eP 13 59 38
SPA	1P 03 42 26	June 28 SBA	eP 09 10 41	June 29 H-00 52 12.0 15.1 S. 166.9 E. h about 122 km.		SBA	1P 14 00 39
DRV	eP 03 43 21	DRV	e 09 12 23	SBA	1P 01 02 26	MAW	eP 14 00 41
June 27 MAW	eP 05 46 33	June 28 SPA	e 09 27 50	SPA	1P 01 03 41	SPA	1P 14 01 31
June 27 DRV	eP 05 55 31	June 28 DRV	1P 09 42 49	BYR	eP 01 03 25	BYR	1P 14 01 52
June 27 H-08 17 50.3 30.0 S. 177.7 W. h about 69 km.		June 28 H-11 17 48.6 07.7 S. 107.9 E. h about 94 km.		SPA	1P 01 03 41	June 29 H-16 28 04.4 62.3 N. 152.4 W. h about 39 km.	
DRV	1P 08 25 56	MAW	eP 11 28 32	June 29 BYR	eP 02 39 34	BYR	1P' 16 47 31 e 16 50 50 e 16 51 21
SBA	eP 08 26 31	SPA	e 11 30 01	June 29 BYR	eP 02 55 35	WIL	eP' 16 47 40
SPA	1P 08 27 54	June 28 SPA	e 11 34 09	June 29 H-03 30 18.8 56.2 S. 026.9 W. h about 25 km.		SBA	eP' 16 47 43
MAW	i 08 29 13	June 28 DRV	1P 13 08 52	SPA	1P 03 37 03	SPA	1P' 16 47 48
June 27 H-13 33 21.5 39.1 S., 74.9 W. h about 40 km.		June 28 SBA	eP 13 44 03	BYR	1P 03 37 17 eS 03 43 16	MIR	eP' 16 47 57
SPA	1P 13 42 22	June 28 DRV	1P 14 14 13	MAW	1P 03 37 53	June 29 BYR	1P 17 20 10
June 27 H-13 38 30.6 48.0 S. 099.6 E. h about 25 km.		June 28 H-18 50 27.5 00.2 S. 124.3 E. h about 58 km.		SBA	1P 03 38 41	June 29 BYR	e 17 37 23
MIR	eP 13 42 21 eS 13 46 26	MCQ	1P 19 00 38	MIR	eP 03 39 09 e 03 46 32	June 29 MIR	e 19 01 09
WIL	1P 13 42 55 1S 13 46 40	WIL	1P 19 01 14	June 29 MAW	1P 06 40 38	WIL	1P 19 01 14
SBA	eP 13 43 09 e 13 45 58			June 29 MIR	e 08 57 22	June 29 SBA	eP 20 36 05
MAW	1P 13 44 12 pP 13 44 16			June 29 H-10 28 46.6 35.2 S. 106.0 W. h about 25 km.		June 29 DRV	eP 20 52 37
SPA	1P 13 46 24						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
June 29	h m s		h m s		h m s		h m s
H=20 58 16.6		SBA	eP 19 47 04				
41.8 S. 079.7 E.		SPA	e 19 48 34				
h about 33 km.							
MIR	eP 21 03 47	June 30					
MAW	eP 21 04 03	BYR	e 20 31 49				
WIL	1P 21 04 25	SPA	e 20 32 42				
SPA	1P 21 06 59	June 30					
SBA	eP 21 07 03	MIR	e 20 49 30				
BYR	eP 21 08 10		e 20 49 52				
June 29							
BYR	e 21 25 53						
June 29							
WIL	eP 21 29 26						
June 29							
BYR	eP 22 56 55						
June 29							
BYR	eP 22 58 18						
June 30							
MAW	e 00 35 09						
June 30							
WIL	eP 07 12 25						
June 30							
WIL	1P 08 50 35						
June 30							
MAW	1P 09 59 36						
BYR	e 10 02 46						
June 30							
SBA	eP 11 26 19						
MAW	e 11 26 50						
June 30							
SBA	eP 14 29 04						
June 30							
WIL	eP 14 44 33						
June 30							
MAW	e 15 19 48						
June 30							
BYR	e 19 24 40						
June 30							
H=19 29 51.0							
16.5 N. 122.0 E.							
h about 40 km.							
MIR	e 19 42 13						
	e 19 52 53						
DRV	e 19 42 32						

# ANTARCTIC SEISMOLOGICAL BULLETIN

July, August, September, 1962

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U. S. DEPARTMENT OF COMMERCE

Luther H. Hodges, Secretary

COAST AND GEODETIC SURVEY—WASHINGTON

H. Arnold Karo, Director

FOR OFFICIAL DISTRIBUTION

U. S. COAST AND GEODETIC SURVEY  
ANTARCTIC SEISMOLOGICAL BULLETIN

The Scientific Committee on Antarctic Research of the International Council of Scientific Unions recommended that a bulletin of phase readings be issued from seismological stations in the Antarctic.

The United States Coast and Geodetic Survey has undertaken the publication of the Antarctic Seismological Bulletin to be issued quarterly, based on the readings received by radio from the Antarctic stations. The phase designation shown in this bulletin is the identification given by the station operator.

The epicenters shown in this Bulletin are computed by the United States Coast and Geodetic Survey using the phase readings from many stations in addition to the Antarctic readings shown.

STATION AND INSTRUMENTAL CONSTANTS

1

Country, Station and Station Abbreviation	Position		Foundation and Elevation (In Meters)	Instruments and Components	To Seconds	T <sub>g</sub> Seconds
	Latitude	Longitude				
ARGENTINA Deception (DEC)	62°59' S	60°43' W	Rock 7 m	Mainka Mainka	N 5.0 E 5.0	
AUSTRALIA Macquarie (MCQ)	54°29'55" S	158°57'22" E	Weathered Basaltic Lava 14 m	Benioff Benioff Benioff	Z 1.0 N 1.0 E 1.0	0.2 0.2 0.2
Mawson (MAW)	67°36'21" S	62°52'48" E	Pre-Cambrian granite 9 m	Benioff Benioff Benioff	Z 1.0 N 1.0 E 1.0	0.2 70.0 70.0
Wilkes (WIL)	66°15.5' S	110°31.2' E	Rock 9 m	Grenet Lehner-Griffith Lehner-Griffith	Z 1.4 N 21.0 E 13.0	1.0 60.0 75.0
FRANCE Dumont d'Urville (DRV)	66°40' S	140°01' E	Rock 40 m	Labrouste Galitzin Galitzin	Z 1.5 N 12.5 E 12.5	11.0 12.3
Kerguelen (KII)	49°21'39.3" S	70°04'00.9" E	Basalt 22 m	Grenet-Coulomb Grenet-Coulomb Paris Type IPG Paris Type IPG	Z 9.71 Z 1.03 N 15.0 E 15.0	4.25 0.3 4.25 4.25
NEW ZEALAND Hallett (HLL)	72°17.7' S	170°18.5' E	Rock 5 m	Willmore Press-Ewing Press-Ewing Press-Ewing	Z 1.0 Z 15.0 N 15.0 E 15.0	2.0 75.0 75.0 75.0
Scott Base (SBA)	77°51' S	166°45' E	Rock 15 m	Benioff Benioff Benioff	Z 0.2 N 25.0 E 25.0	0.2 - 25** 0.2 - 25** 0.2 - 10**
USSR Mirny (MIR)	66°33' S	93°00' E	Rock 30 m	SVKM SVK SGK SGK	Z 2.5 Z 12.5 N 12.5 E 12.5	1.0 1.1 1.1 1.1
UNITED KINGDOM Argentine Island (AIA)	65°15' S	64°16' W	Rock 11 m	Willmore Willmore Willmore	Z 1.0 N 1.0 E 1.0	0.25 0.25 0.25
UNITED STATES Byrd (BYR)	80°01' S	119°31' W	Ice 1515 m	Benioff Wilson-Lamison Wilson-Lamison Sprengnether* Sprengnether* Sprengnether*	Z 1.2 N 7.8 E 8.0 Z 30.0 N 30.0 E 30.0	0.5 0.2 3.5 90.0 14.0 90.0
South Pole (SPA)	90° S	0	Ice 2800 m	Benioff Benioff Wilson-Lamison (0-180°)	Z 1.0 Z 1.2 6.0	0.5 0.5 0.5

\*Began operation March 1, 1962

\*\*Long period galvanometers recording on 35 mm film.

ANTARCTIC SEISMOGRAM DEPOSITORIES

ARGENTINA: Servicio Meteorologico Nacional  
Paseo Colon 317, 2° Piso  
Buenos Aires, Argentina

USSR: Research Institute of Earth Physics  
Academy of Sciences of the USSR  
Moscow, USSR

AUSTRALIA: Chief Geophysicist  
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203 Collins Street  
Melbourne, Australia

UNITED KINGDOM: Falkland Island Dependency Survey  
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London, SW1,  
England

FRANCE: Institut de Physique de Globe  
191 rue St. Jacques  
Paris 5e, France

UNITED STATES: U. S. Coast and Geodetic Survey  
Seismology Division  
Commerce Building  
Washington 25, D. C.

NEW ZEALAND: Superintendent  
Seismological Observatory  
DSIR, P. O. Box 8005  
Wellington, New Zealand

COAST AND GEODETIC SURVEY

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
	h m s		h m s		h m s		h m s
JUL 1		BYR E	13 06 16	DRV E	09 01 59	JUL 3	
BYR E	01 42 58					AIA EP	05 30 20
JUL 1		JUL 1		JUL 2		I	40 17
H-01 32 11.0		H-13 35 05.1		SBA EP	09 42 34	JUL 3	
14.1S 167.2E		15.7S 172.6W		JUL 2		AIA E	05 44 14
h ABOUT 156KM		h ABOUT 65KM		AIA E	12 44 14	E	47 10
DRV IP	01 41 30	SBA EP	13 45 07	JUL 2		E	49 16
SBA EP	01 42 27	BYR E	13 45 44	JUL 2		JUL 3	
BYR IP	01 43 26	WIL IP	13 46 14	SBA EP	12 55 36	AIA E	06 17 57
SPA IP	01 43 42	MIR E	13 46 50	JUL 2		JUL 3	
MAW P	01 44 17	JUL 1		DRV EP	13 54 01	H-06 23 36.0	
JUL 1		WIL IP	19 47 23	JUL 2		17.5S 173.2W	
H-01 56 15.6		JUL 1		SBA EP	14 59 25	h ABOUT 25KM	
3.8S 150.4E		AIA EP	19 54 50	JUL 2		SBA IP	06 33 55
h ABOUT 24KM		ES	54 57	WIL EP	15 15 56	BYR EP	06 34 30
SBA EP	02 07 54	JUL 1		pP	16 10	SPA IP	06 35 06
BYR IP	02 08 57	BYR E	20 42 13	JUL 2		JUL 3	
JUL 1		JUL 2		MIR E	15 49 44	H-06 31 08.5	
H-03 37 36.2		DRV EP	01 31 46	JUL 2		28.0N 56.2E	
30.1N 102.8E		JUL 2		H-15 42 22.1		h ABOUT 25KM	
h ABOUT 25KM		MIR E	02 56 35	0.2S 123.1E		AIA E	06 47 32
BYR EP	03 56 39	JUL 2		h ABOUT 136KM		JUL 3	
JUL 1		AIA IP	05 20 27	MIR EP	15 53 13	H-08 34 28.5	
BYR EP	04 14 45	JUL 2		DRV E	15 53 14	17.2S 170.8W	
SPA E	04 15 17	MIR IP	05 31 24	MAW IP	15 54 15	h ABOUT 25KM	
JUL 1		JUL 2		SBA EP	15 54 24	SBA EP	08 44 36
AIA I	04 28 38	MAW EP	06 51 12	SPA E	15 55 06	BYR EP	08 45 21
JUL 1		JUL 2		BYR E	15 55 30	SPA E	08 45 55
MIR E	04 46 39	DRV EP	08 18 56	JUL 2		JUL 3	
JUL 1		JUL 2		BYR E	16 09 48	DRV EP	10 16 31
H-05 07 37.0		H-08 32 37.9		JUL 2		JUL 3	
23.8S 176.9W		10.3S 165.9E		WIL EP	17 02 09	DRV EP	17 53 24
h ABOUT 25KM		h ABOUT 50KM		pP	02 23	JUL 3	
DRV EP	05 16 33	DRV IP	08 42 29	JUL 2		H-18 13 35.6	
SBA EP	05 17 05	pP	42 56	SBA EP	17 17 32	56.3S 142.5W	
BYR E	05 17 52	ES	50 20	JUL 2		h ABOUT 25KM	
SPA IP	05 18 23	HLL EP	08 42 50	MAW EP	18 23 04	BYR EP	18 18 57
MIR EP	05 18 39	WIL IP	08 43 23	JUL 2		ES	23 29
MAW IP	05 19 18	pP	43 48	MAW EP	18 32 56	HLL EP	18 19 00
JUL 1		IS	52 08	MIR E	18 35 23	SPA IP	18 19 17
AIA E	08 11 01	SBA EP	08 43 26	JUL 2		IS	29 05
I	11 23	ES	52 16	MAW IP	19 45 48	SBA EP	18 19 24
JUL 1		MIR IP	08 44 05	JUL 2		ES	28 28
AIA I	08 40 46	IS	45 13	AIA I	22 17 30	DRV EP	18 20 34
JUL 1		BYR IP	08 44 23	JUL 2		ES	28 46
SBA EP	10 26 09	pP	44 50	AIA E	23 29 03	AIA E	18 20 42
JUL 1		IS	54 06	JUL 2		JUL 3	
SBA EP	13 04 28	SPA IP	08 44 48	MAW IP	23 29 03	MIR IP	18 22 36
JUL 2		MAW I	08 45 08	JUL 3			
BYR E	08 59 10	JUL 2		DRV EP	01 59 15		

ANTARCTIC SEISMOLOGICAL BULLETIN

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
	h m s		h m s		h m s		h m s
JUL 3 H-18 22 06.3 54.6S 132.3W h ABOUT 25KM		SBA EP	17 11 18	JUL 5 BYR EP	19 08 43	WIL EP	19 03 52
		BYR E	17 12 16			AP	04 10
SBA EP	18 28 28	JUL 4 MIR E	20 20 30	JUL 5 MAW EP	19 53 08	JUL 6 BYR EP	20 50 03
DRV EP	18 28 46	JUL 4 BYR E	22 52 37	JUL 5 BYR EP	20 28 51	JUL 6 WIL IP	23 18 23
AIA E	18 28 49	MIR EP	22 55 01	JUL 6 SPA E	02 14 31	IS	27 52
SPA EP	18 29 05	JUL 4 H-23 17 38.0 28.5S 177.5W h ABOUT 25KM		JUL 6 BYR EP	02 15 16	DRV IP	23 18 23
JUL 3 MAW I	19 15 11	BYR E	23 27 26	MAW EP	02 15 23	IS	27 52
JUL 3 H-20 59 04.8 17.8S 167.8E h ABOUT 23KM		JUL 5 SPA E	04 29 40	JUL 6 BYR IP	02 50 30	MAW IP	23 19 12
SBA EP	21 09 12	JUL 5 H-07 32 33.2 11.3S 166.5E h ABOUT 33KM		JUL 6 MCO I	04 27 10	MIR EP	23 19 16
BYR E	21 10 13	SBA EP	07 43 22	JUL 6 H-09 16 15.0 38.0N 20.2E h ABOUT 30KM		I	20 07
SPA E	21 10 29	BYR EP	07 44 19	JUL 6 H-12 12 01.1 16.5S 174.1W h ABOUT 27KM		WIL I	23 20 20
JUL 3 H-21 16 59.3 4.3N 31.6W h ABOUT 23KM		SPA IP	07 44 33	SBA EP'	09 35 17	JUL 6 H-23 05 32.2 36.6N 70.4E h ABOUT 203KM	
BYR EP	21 30 13	JUL 5 BYR E	08 57 13	BYR EP'	09 35 30	MIR IP'	23 23 32
SPA E	21 30 18	JUL 5 DRV EP	09 05 09	JUL 6 DRV EP	09 58 38	IS	29 28
DRV EP'	21 35 27	JUL 5 H-10 32 28.8 .6S 139.0E h ABOUT 25KM		JUL 6 H-12 12 01.1 16.5S 174.1W h ABOUT 27KM		DRV IP'	23 23 49
JUL 3 BYR E	22 01 36	SBA E	10 44 27	JUL 6 H-12 12 01.1 16.5S 174.1W h ABOUT 27KM		IS	30 14
JUL 4 BYR EP	06 10 43	SPA IP	10 45 31	SBA EP	12 22 22	BYR E	23 24 01
DRV EP	06 12 51	BYR EP	10 45 35	SPA EP	12 23 33	SBA EP	23 24 08
JUL 4 MIR E	06 26 55	JUL 5 H-12 09 28.5 54.9S 156.3E h ABOUT 25KM		JUL 6 MAW EP	12 23 12	SPA IP	23 24 10
JUL 4 DRV EP	12 44 46	BYR E	12 16 24	JUL 6 WIL IP	13 15 16	HLL EP	23 24 15
JUL 4 H-12 55 52.9 44.0S 79.2W h ABOUT 25KM		JUL 5 BYR E	12 26 16	pp	15 30	AIA I	23 24 33
BYR EP	13 03 26	JUL 5 DRV EP	14 04 04	MAW EP	13 15 20	E	26 16
SPA E	13 04 20	JUL 5 SBA EP	15 30 35	JUL 6 SBA EP	13 27 13	JUL 6 MIR IP	23 32 17
DRV EP	13 06 34	JUL 5 H-17 40 55.3 30.9N 141.4E h ABOUT 23KM		JUL 6 H-13 27 52.1 25.0S 176.7W h ABOUT 25KM		IS	33 39
JUL 4 MIR E	15 27 19	DRV EP	17 58 24	MAW EP	13 39 46	DRV IP	23 35 20
JUL 4 H-17 00 53.5 14.9S 167.8E h ABOUT 62KM		JUL 5 SBA EP	15 30 35	JUL 6 WIL I	14 57 09	JUL 7 WIL EP	01 35 30
DRV EP	17 09 21	JUL 5 H-17 40 55.3 30.9N 141.4E h ABOUT 23KM		JUL 6 MAW EP	13 15 20	pp	35 57
		DRV EP	17 58 24	JUL 6 SBA EP	13 27 13	JUL 7 SPA IP	03 13 51
		JUL 5 H-12 09 28.5 54.9S 156.3E h ABOUT 25KM		JUL 6 H-13 27 52.1 25.0S 176.7W h ABOUT 25KM		JUL 7 MAW EP	06 00 46
		BYR E	12 16 24	MAW EP	13 39 46	BYR E	06 05 14
		JUL 5 BYR E	12 26 16	JUL 6 WIL I	14 57 09	JUL 7 H-06 12 48.9 51.3N 178.6E h ABOUT 60KM	
		JUL 5 DRV EP	14 04 04	JUL 6 MAW EP	13 15 20	MAW EP'	06 31 25
		JUL 5 SBA EP	15 30 35	JUL 6 H-12 12 01.1 16.5S 174.1W h ABOUT 27KM		pp	32 21
		JUL 5 H-17 40 55.3 30.9N 141.4E h ABOUT 23KM		JUL 6 WIL I	14 57 09	BYR EP	06 31 33
		DRV EP	17 58 24	JUL 6 MAW IP	17 19 51	DRV EP	06 31 46
		JUL 5 SBA EP	15 30 35	JUL 6 SPA E	19 01 00	WIL EP	06 31 47
		JUL 5 H-12 09 28.5 54.9S 156.3E h ABOUT 25KM				pp	32 00
		BYR E	12 16 24				
		JUL 5 BYR E	12 26 16				
		JUL 5 DRV EP	14 04 04				
		JUL 5 SBA EP	15 30 35				
		JUL 5 H-17 40 55.3 30.9N 141.4E h ABOUT 23KM					
		DRV EP	17 58 24				

COAST AND GEODETIC SURVEY

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
	h m s		h m s		h m s		h m s
HLL IP	06 31 47	JUL 7		JUL 8		JUL 10	
SBA IP	06 31 51	MIR E	22 51 01	H-22 54 44.7		DRV EP	05 05 31
E	35 11	JUL 7		28.1S 176.5W		JUL 10	
MIR EP	06 31 59	BYR EP	23 14 29	h ABOUT 25KM		H-05 12 06.4	
SPA IP	06 32 07	JUL 8		DRV EP	23 03 12	20.8S 178.7W	
AIA I	06 32 22	H-02 25 55.8		BYR E	23 04 28	h ABOUT 584KM	
JUL 7		14.4S 75.5W		SPA EP	23 05 05	DRV IP	05 20 29
BYR EP	06 58 03	h ABOUT 88KM		MAW IP	23 06 24	SBA IP	05 21 03
JUL 7		BYR EP	02 36 52	MIR E	23 08 21	WIL IP	05 21 40
DRV EP	08 13 38	JUL 8		JUL 9		BYR EP	05 21 47
JUL 7		H-03 22 03.8		SBA EP	03 41 06	MAW IP	05 23 22
MAW E	10 17 21	51.5N 178.5E		JUL 9		JUL 10	
JUL 7		h ABOUT 60KM		WIL EP	09 47 33	WIL IP	07 18 17
WIL EP	10 22 54	SBA EP	03 41 05	P	47 46	JUL 10	
P	23 08	BYR EP	03 41 10	JUL 9		WIL IP	09 20 02
JUL 7		MIR EP	03 41 23	H-09 59 07.8		JUL 10	
MIR E	10 30 13	AIA I	03 41 32	56.0S 158.1E		H-12 56 03.8	
JUL 7		MAW EP	03 41 34	h ABOUT 25KM		22.3S 177.2W	
MIR E	11 30 13	JUL 8		DRV EP	10 02 26	h ABOUT 333KM	
JUL 7		H-04 03 56.8		SBA EP	10 04 03	MAW I	13 07 39
H-11 47 19.4		55.5S 30.1W		BYR EP	10 05 52	JUL 10	
7.3S 128.3E		h ABOUT 25KM		MAW IP	10 06 58	BYR E	15 07 36
h ABOUT 30KM		AIA E	04 08 29	JUL 9		JUL 10	
DRV IP	11 57 24	SPA EP	04 10 48	SPA E	14 02 16	SBA E	18 29 08
WIL IP	11 57 26	BYR IP	04 10 57	BYR E	14 03 24	JUL 10	
SBA EP	11 58 50	SBA EP	04 12 23	MIR E	14 16 37	H-19 21 36.9	
MAW I	11 58 54	MIR EP	04 12 54	JUL 9		6.5S 75.2W	
SPA IP	11 59 41	DRV EP	04 13 49	MIR E	14 25 31	h ABOUT 46KM	
BYR EP	12 00 02	JUL 7		JUL 9		BYR P	19 33 23
JUL 7		BYR EP	04 12 27	MIR E	14 28 43	JUL 11	
MAW E	12 21 42	JUL 7		SPA E	14 28 43	MIR EP	04 20 12
JUL 7		MAW IP	04 17 40	JUL 9		JUL 11	
MAW E	14 29 28	JUL 8		AIA EP	15 26 37	SBA EP	05 37 17
JUL 7		MIR E	05 02 44	JUL 9		JUL 11	
SPA E	19 14 12	JUL 8		WIL IP	16 27 41	BYR EP	06 49 06
JUL 7		MIR I	07 53 06	P	27 56	JUL 11	
H-19 04 16.7		JUL 8		JUL 10		SBA EP	06 58 17
11.3S 164.8E		SBA EP	11 13 56	DRV EP	00 37 10	BYR EP	06 59 06
h ABOUT 25KM		JUL 8		I	37 49	SPA IP	06 59 37
DRV EP	19 14 07	BYR EP	14 33 52	JUL 10		JUL 11	
SBA EP	19 15 08	JUL 8		MAW IP	01 07 10	H-07 17 27.4	
SPA E	19 16 19	BYR EP	15 22 13	JUL 10		53.2N 159.6E	
JUL 7		JUL 8		MAW IP	02 29 54	h ABOUT 69KM	
H-21 20 57.7		DRV EP	19 48 40	JUL 10		BYR E	07 36 42
51.9N 158.6E		JUL 8		H-04 21 12.0		SPA IP	07 36 49
h ABOUT 33KM		BYR EP	20 42 16	39.1S 75.4W		JUL 11	
SPA E	21 40 20	JUL 8		h ABOUT 25KM		MAW I	07 20 56
JUL 8		MAW I	21 01 31	BYR IP	04 29 22	JUL 11	
JUL 8		JUL 8		MAW IP	04 32 16	BYR E	07 40 20



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	h m s		h m s		h m s		h m s
JUL 11 BYR EP	12 35 08	SPA E	01 51 17	JUL 13 MAW EP	02 58 15	JUL 13 H-22 19 23.3	
					59 01	56.2N 164.0E	
JUL 11 H-12 40 30.7		JUL 12 SPA IP	04 16 58	JUL 13 H-03 32 12.6		h ABOUT 59KM	
11.9N 122.1E				10.2N 121.7E			
h ABOUT 25KM		MIR E	04 17 08	h ABOUT 157KM		MAW IP	22 38 42
WIL IP	12 52 28	JUL 12 BYR EP	05 37 05	WIL IP	03 43 40	BYR EP	22 38 46
DRV EP	12 52 35	JUL 12 SBA EP	09 11 42		43 52	SPA IP	22 38 56
MIR IP	12 52 45			IS	46 38	JUL 13 H-22 55 48.4	
MAW E	12 53 27	JUL 12 H-09 33 21.8		DRV EP	03 43 44	11.9S 75.1W	
SBA EP	12 53 43	17.9S 178.7W		MIR IP	03 43 55	h ABOUT 91KM	
BYR EP	12 54 46	h ABOUT 545KM		HLL EP	03 44 40	BYR IP	23 06 59
JUL 11 BYR E	13 10 13	DRV IP	09 42 07	MAW E	03 44 45	SPA E	23 07 39
JUL 11 BYR E	13 32 04	SBA IP	09 42 42	BYR EP	03 46 10	JUL 14 H-01 02 51.5	
JUL 11 SPA E	13 35 50	SPA IP	09 43 53	SPA E	03 48 48	51.5N 179.0E	
JUL 11 H-13 58 24.5		MIR EP	09 43 58	JUL 13 DRV EP	03 46 40	h ABOUT 25KM	
6.5N 73.2W		JUL 12 DRV E	10 00 29			SPA EP	01 22 15
h ABOUT 115KM		JUL 12 MAW IP	12 39 16	JUL 13 H-04 10 49.9		MAW EP	01 22 28
BYR E	14 18 14	JUL 12 BYR EP	13 54 50	32.4S 179.7W		JUL 14 SPA E	04 40 30
JUL 11 SPA IP	16 40 08	JUL 12 MAW IP	16 37 40	h ABOUT 87KM		JUL 14 MIR E	08 02 38
BYR EP	16 41 16	JUL 12 SPA IP	17 51 11	SBA EP	04 19 07	JUL 14 AIA E	08 11 45
JUL 11 H-16 52 44.8		SBA EP	17 51 18	SPA IP	04 20 34	JUL 14 AIA E	08 43 20
31.9S 178.5W		BYR EP	17 52 21	BYR EP	04 21 06	JUL 14 MAW E	13 00 17
h ABOUT 37KM		JUL 12 DRV EP	18 47 13	JUL 13 BYR EP	04 38 46	JUL 14 SBA EP	15 04 03
DRV E	17 00 37		49 13	JUL 13 SPA E	05 56 00	SPA E	15 04 06
SBA EP	17 01 14	JUL 12 DRV E	19 01 58	JUL 13 AIA EP	10 41 54	DRV IP	15 04 56
BYR E	17 02 09	JUL 12 MAW I	19 54 36	JUL 13 AIA E	15 46 17	JUL 14 AIA IP	17 46 54
SPA EP	17 02 39	JUL 12 MIR E	22 21 48	JUL 13 AIA EP	15 48 08	JUL 14 AIA IP	17 52 44
MIR EP	17 02 52	JUL 12 H-22 50 58.8			48 36	JUL 14 MIR E	19 46 59
JUL 11 MIR E	17 22 33	3.9S 104.1W		JUL 13 SBA EP	18 43 30	JUL 14 H-20 38 01.3	
JUL 11 DRV EP	21 10 40	h ABOUT 25KM		JUL 13 DRV E	18 57 39	50.2N 155.8E	
JUL 11 SPA E	22 31 39	BYR EP	23 02 47	JUL 13 AIA E	21 09 02	h ABOUT 60KM	
JUL 12 BYR EP	00 43 26	SPA EP	23 03 39	JUL 13 MAW IP	21 54 28	SBA EP	20 56 58
JUL 12 H-01 40 37.9		SBA EP	23 03 39	JUL 13 MAW EP	22 14 26	BYR EP	20 57 08
19.9S 177.5W		JUL 12 BYR E	23 26 50	JUL 13 SPA EP		SPA EP	20 57 11
h ABOUT 321KM		JUL 13 SPA E	01 11 51	JUL 14 BYR EP		BYR EP	21 00 46

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
	h m s		h m s		h m s		h m s
JUL 14 BYR EP	21 01 12	BYR EP E	19 45 02 46 12	JUL 16 SBA EP	08 14 03	JUL 16 BYR E	16 02 19
JUL 14 MAW E	22 57 14	JUL 15 DRV E	23 45 55	JUL 16 H-08 28 10.8 11.8S 166.4E h ABOUT 57KM		JUL 16 H-16 16 40.9 34.8S 108.6W h ABOUT 25KM	
JUL 15 MAW E	03 35 15	JUL 16 DRV EP	00 50 31	WIL IP	08 36 16	MIR EP	16 23 37
JUL 15 AIA E	06 38 51	JUL 16 BYR E	01 11 40	BYR EP	08 39 50	BYR E	16 25 00
JUL 15 AIA EP	06 49 19	JUL 16 DRV EP	01 28 38	SPA IP	08 40 05	SBA EP	16 26 03
JUL 15 H-06 47 22.5 3.9N 140.9E h ABOUT 103KM		JUL 16 H-02 04 52.6 52.1S 138.9E h ABOUT 14KM		MAW I	08 40 36	SPA EP	16 26 15
MAW EP pP	07 05 10 06 05	MCQ EP	02 07 49	JUL 16 H-09 25 55.4 13.0S 167.2E h ABOUT 180KM		MAW EP	16 26 18
SPA E	07 06 19	DRV EP	02 08 20	MIR E	09 03 27	WIL EP	16 28 21
BYR EP E E	07 06 22 06 47 08 35	WIL EP IS	02 09 30 13 09	JUL 16 SBA EP	09 03 27	JUL 16 BYR EP	16 26 38
SBA E	07 06 23	HLL EP	02 10 12	MIR E	09 06 59	JUL 16 MIR E	19 32 39
JUL 15 DRV EP	07 07 43	MIR EP IS	02 10 36 15 38	JUL 16 H-20 07 13.4 19.9S 175.7W h ABOUT 114KM		JUL 16 BYR EP	16 26 38
JUL 15 BYR IP	07 09 34	SBA EP	02 10 44	MIR IP	09 36 59	JUL 16 MIR E	19 32 39
JUL 15 BYR EP	07 10 20	SPA IP	02 12 11	BYR I	09 37 14	JUL 16 H-20 07 13.4 19.9S 175.7W h ABOUT 114KM	
JUL 15 DRV E	08 15 57	MAW EP	02 12 16	SPA IP	09 37 30	SPA E	20 18 16
JUL 15 AIA E	08 57 20	BYR E	02 22 00	MAW IP	09 38 02	JUL 16 DRV EP	22 30 47
JUL 15 MAW IP	09 35 24	JUL 16 BYR E	02 26 13	JUL 16 SPA IP	11 20 02	JUL 17 DRV EP	03 44 30
JUL 15 SPA IP	10 45 18	JUL 16 MIR E	03 26 13	BYR E	11 20 16	JUL 17 H-05 32 08.8 43.0S 74.9W h ABOUT 26KM	
JUL 15 DRV E	12 41 26	JUL 16 MAW IP	03 39 54	MAW IP	11 20 51	JUL 17 H-05 32 08.8 43.0S 74.9W h ABOUT 26KM	
JUL 15 SBA EP	12 47 33	JUL 16 H-04 49 21.5 11.2S 79.8W h ABOUT 75KM		JUL 16 BYR E	11 26 17	BYR EP E	05 39 47 40 51
JUL 15 SPA E	12 48 47	BYR EP	05 00 35	JUL 16 H-12 54 40.6 62.3N 153.1W h ABOUT 39KM		SPA IP	05 40 42
MAW IP	12 50 02	SPA IP	05 01 19	DRV EP	13 09 58	SBA IP	05 41 31
JUL 15 WIL IP	15 18 05	SBA EP	05 01 45	MAW EP	13 13 32	MAW IP ES	05 42 50 51 46
JUL 15 AIA I	15 41 38	MIR E	05 05 01	SBA EP	13 14 06	DRV IP	05 43 02
JUL 15 H-19 34 09.4 20.3S 169.2E h ABOUT 24KM		JUL 16 BYR EP	05 34 29	BYR E	13 14 07	MIR IP ES	05 43 20 52 39
SBA EP	19 44 00	JUL 16 WIL IP pP	06 10 22 10 35	WIL IP	13 14 16	WIL IP pP IS	05 43 25 40 35 52 44
		MIR E	06 14 05	SPA P	13 14 23	JUL 17 MIR EP	06 09 50
		JUL 16 MIR E	06 44 21	MIR EP	13 14 32	MAW E	06 11 23
				JUL 16 BYR E	13 17 25	JUL 17 SBA IP	06 52 56
				JUL 16 BYR E	13 25 19		

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h m s		h m s		h m s		h m s	
JUL 17 SBA EP	07 13 37	SPA IP	01 33 38	JUL 18 WIL IP	17 00 41	SPA IP	12 13 32
JUL 17 BYR EP	08 01 26	JUL 18 DRV EP	02 06 43	JUL 18 MAW IP	18 36 38	SBA EP	12 14 15
JUL 17 MCQ E	08 23 49	JUL 18 HLL EP	05 41 50	pP	36 40	MAW IP	12 14 34
JUL 17 MIR E	09 33 08	ES	49 44	JUL 18 WIL EP	18 54 30	JUL 19 SPA E	12 58 17
JUL 17 MAW I	10 02 14	JUL 18 H-05 53 48.1		JUL 18 DRV EP	19 59 12	JUL 19 AIA E	15 58 57
JUL 17 SBA EP	12 20 17	9.6S 119.8E		JUL 19 H-00 52 13.9		ES	16 02 57
JUL 17 DRV EP	13 11 37	h ABOUT 68KM		5.1S 153.6E		JUL 19 SPA E	20 00 29
JUL 17 WIL EP	15 35 22	WIL IP	06 03 37	h ABOUT 49KM		JUL 19 MIR E	21 31 56
JUL 17 H-15 53.37.4		DRV IP	06 03 39	DRV IP	01 02 31	JUL 20 MAW I	01 43 17
15.7S 168.2E		MIR IP	06 03 47	MIR I	01 02 45	JUL 20 DRV EP	02 44 21
h ABOUT 164KM		MAW I	06 04 47	WIL IP	01 03 09	JUL 20 MIR E	09 09 15
BYR EP	16 04 42	SBA EP	06 05 08	SBA EP	01 03 41	JUL 20 DRV EP	11 49 28
JUL 17 H-17 20 22.9		SPA IP	06 05 54	BYR EP	01 04 42	JUL 20 DRV EP	11 49 28
43.1N 144.5E		BYR IP	06 06 22	SPA IP	01 04 45	JUL 20 H-16 27 20.9	
h ABOUT 30KM		E	08 51	MAW IP	01 04 48	21.0S 174.8W	
SBA EP	17 39 13	JUL 18 H-09 23 37.5		JUL 19 H-03 39 45.3		h ABOUT 28KM	
SPA EP	17 39 35	7.2S 119.9E		17.3S 173.3W		DRV E	16 36 45
BYR EP	17 39 36	h ABOUT 588KM		h ABOUT 15KM		SBA EP	16 37 13
E	17 39 47	DRV E	09 32 45	SBA EP	03 50 05	SPA EP	16 38 28
E	43 00	MIR IP	09 33 01	BYR EP	03 50 41	MAW E	16 39 42
AIA E	17 40 16	MAW IP	09 33 58	SPA IP	03 51 17	JUL 20 WIL E	17 21 52
JUL 17 H-23 12 09.0		SBA EP	09 34 17	JUL 19 DRV EP	04 44 08	JUL 20 SPA EP	19 10 47
7.8S 148.1E		SPA IP	09 35 02	JUL 19 BYR EP	06 22 03	JUL 20 AIA I	21 08 54
h ABOUT 42KM		BYR EP	09 35 28	JUL 19 SPA E	07 31 16	JUL 20 AIA IP	21 09 17
JUL 17 DRV EP	23 23 48	E	37 20	JUL 19 MAW EP	09 09 01	JUL 20 SPA E	23 15 50
SPA EP	23 24 27	JUL 18 AIA E	09 48 38	JUL 19 BYR E	08 08 43	JUL 20 SBA IP	23 42 48
JUL 17 AIA I	23 35 46	E	51 04	JUL 19 MAW EP	09 45 27	SPA IP	23 43 37
JUL 17 AIA IP	23 36 07	JUL 18 H-10 10 12.7		JUL 19 MIR E	12 00 25		
JUL 18 WIL IP	00 16 23	15.3N 148.1E		JUL 19 SPA E	12 13 06		
IS	25 29	h ABOUT 16KM		JUL 19 H-12 02 31.3			
JUL 18 H-01 21 02.8		WIL EP	12 52 10	20.6S 68.7W			
4.3S 152.9E		JUL 18 H-14 41 45.0		h ABOUT 160KM			
h ABOUT 51KM		21.5S 175.8W		BYR EP	14 51 52		
SBA EP	01 32 35	h ABOUT 218KM		SPA IP	14 52 26		
BYR IP	01 33 35	BYR EP	14 51 52				

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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
JUL 21 AIA E	00 40 27	MAW IP	00 33 58	JUL 23 BYR E	01 08 18	JUL 23 BYR EP	23 35 37
JUL 21 AIA E	03 00 22	JUL 22 DRV E	00 56 06	JUL 23 AIA E	04 03 46	JUL 23 BYR EP	23 35 58
JUL 21 WIL EP pP	03 24 10 24 27	JUL 22 DRV EP	02 23 38	JUL 23 SPA E	04 39 42	JUL 24 MIR E	01 26 05
JUL 21 AIA E	04 01 49	JUL 22 MAW E	03 49 04	JUL 23 MAW I	05 13 38	JUL 24 SBA EP	04 00 09
JUL 21 SPA EP	08 17 44	JUL 22 BYR EP	04 22 14	JUL 23 H-07 19 35.0 22.9S 67.8W h ABOUT 193KM		JUL 24 WIL IP pP	04 54 52 55 08
BYR EP	08 18 00	JUL 22 WIL EP E	05 43 52 44 15	BYR EP	07 29 35	JUL 24 DRV EP	05 29 07
MAW E	08 18 28	JUL 22 MAW I	05 49 06	SPA IP	07 30 14	JUL 24 MCQ P	06 54 30
JUL 21 AIA E	10 19 40	JUL 22 MAW E	07 56 12	MAW E I	07 30 37 31 42	JUL 24 MIR E	09 44 24
JUL 21 BYR E	10 31 42	JUL 22 MIR E	10 11 54	JUL 23 MAW EP	11 21 46	JUL 24 DRV IP	12 02 54
SPA IP	10 32 28	JUL 22 MIR I	13 10 46	JUL 23 MAW I	12 52 00	JUL 24 MIR E	13 28 32
MAW E	10 35 22	JUL 22 H-13 36 49.7 8.4S 158.8E h ABOUT 107KM		JUL 23 DRV EP	15 06 36	JUL 24 AIA E I	16 09 31 09 59
JUL 21 BYR E	12 29 06	DRV EP	13 46 45	SPA E	15 08 40	JUL 24 MIR EP	16 20 20
JUL 21 BYR E	12 34 48	WIL IP	13 47 30	MAW E	15 09 37	JUL 24 DRV EP	17 49 57
JUL 21 MAW I	14 16 19	SBA IP	13 47 51	JUL 23 MIR E	17 21 51	JUL 24 MIR EP	19 31 35
SPA E	14 17 32	MIR IP	13 48 10	JUL 23 MCQ IP	17 56 12	JUL 24 MAW E	21 21 00
BYR EP	14 18 11	BYR EP pP	13 48 52 49 27	JUL 23 DRV EP	18 28 34	JUL 24 H-21 08 22.6 15.5N 92.5W h ABOUT 129KM	21 26 31
JUL 21 AIA E	15 41 28	SPA IP	13 48 59	JUL 23 SBA EP	20 13 53	MAW IP pP	21 27 08 27 36
JUL 21 DRV EP	15 50 48	MAW IP	13 49 14	JUL 23 MIR E	22 53 56	WIL IP pP	21 27 11 27 40
JUL 21 SPA E	18 05 17	JUL 22 MAW E	14 00 26	JUL 23 H-23 09 12.4 14.1S 166.8E h ABOUT 99KM		MIR E	21 27 16
JUL 22 SPA IP	00 28 44	JUL 22 MAW E	14 27 27	DRV IP	23 18 38	JUL 25 SBA EP	00 04 54
JUL 22 BYR EP	00 31 58	JUL 22 MIR P	16 23 00	WIL IP	23 19 37	JUL 25 BYR IP	00 12 55
JUL 22 H-00 21 30.9 5.9S 151.7E h ABOUT 81KM		JUL 22 MAW IP	18 20 56	SBA EP	23 19 37	JUL 25 H-00 11 52.2 14.4S 76.1W h ABOUT 46KM	
DRV EP	00 31 42	JUL 22 BYR E	21 07 48	MIR EP	23 20 19	SPA IP	00 23 37
WIL IP ES	00 32 35 40 55	JUL 22 H-23 49 27.0 3.5S 145.6E h ABOUT 28KM		MAW IP I	23 20 19 21 25		
MIR EP ES	00 32 54 42 14	DRV E	23 59 56	BYR EP E	23 20 37 20 58		
SPA IP	00 33 58	JUL 23 MIR E	00 33 30	SPA IP	23 20 50		
BYR EP	00 33 58						

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h m s		h m s		h m s		h m s	
SBA EP	00 24 09	JUL 26		BYR EP	21 39 16	JUL 27	
DRV E	00 25 12	H-05 02 14.0		MAW E	21 39 47	AIA IP	17 00 12
JUL 25		5.5S 151.1E		MIR E	21 41 06	JUL 27	
MIR EP	03 39 42	h ABOUT 93KM		DRV EP	21 42 01	DRV EP	17 33 20
JUL 25		BYR EP	05 14 39	JUL 27		JUL 27	
H-04 37 50.7		SPA E	05 14 39	WIL IP	21 51 38	BYR EP	18 17 32
18.9N 81.1W		JUL 26		JUL 27		JUL 27	
h ABOUT 64KM		H-07 01 01.8		BYR EP	00 40 44	MAW EP	18 55 29
DRV IP	04 55 31	5.3S 150.8E		JUL 27		JUL 27	
BYR E	04 56 14	h ABOUT 71KM		MAW I	02 41 02	H-19 26 34.6	
E	57 53	DRV E	07 11 13	JUL 27		13.2S 167.1E	
HLL EP	04 56 18	SPA E	07 13 29	MIR EP	04 27 01	h ABOUT 286KM	
ES	05 06 49	BYR EP	07 13 30	JUL 27		SBA IP	19 36 47
MIR EP	04 56 36	JUL 26		WIL E	04 33 22	MIR IP	19 37 29
MAW IP	04 56 36	H-08 14 41.8		JUL 27		BYR EP	19 37 44
SP	56 58	7.5N 82.7W		WIL IP	04 33 29	SPA IP	19 38 00
SPA IP	04 57 48	h ABOUT 21KM		SP	33 42	MAW IP	19 38 34
JUL 25		BYR EP	08 27 40	JUL 27		JUL 27	
BYR E	05 10 12	ES	37 13	WIL I	06 04 40	BYR E	22 55 44
JUL 25		SPA IP	08 28 18	JUL 27		JUL 27	
DRV E	05 32 11	SBA EP	08 28 38	H-06 11 55.3		BYR E	23 10 33
JUL 25		HLL EP	08 28 39	14.8S 167.6E		JUL 28	
H-06 05 15.9		MAW EP	08 29 50	h ABOUT 205KM		H-00 05 10.8	
14.3S 75.5W		I	33 30	SBA EP	06 22 06	16.2S 173.2W	
h ABOUT 100KM		WIL EP	08 30 06	BYR EP	06 23 05	h ABOUT 40KM	
BYR EP	06 16 12	MIR E	08 33 00	MAW I	06 23 16	BYR EP	00 10 05
SPA IP	06 16 54	DRV EP	08 33 24	SPA IP	06 23 20	IS	16 14
SBA EP	06 17 23	ES	41 27	JUL 27		HLL EP	00 14 59
JUL 25		JUL 26		DRV EP	06 51 46	SPA IP	00 15 17
AIA IP	08 26 17	AIA E	10 58 00	JUL 27		SBA EP	00 15 35
ES	26 46	E	11 00 44	SPA E	08 29 55	I	15 38
JUL 25		JUL 26		JUL 27		WIL IP	00 16 23
SBA EP	09 07 31	AIA EP	12 59 28	SBA EP	10 19 39	IS	25 29
JUL 25		ES	59 33	JUL 27		MIR IP	00 17 03
WIL EP	11 00 29	JUL 26		DRV IP	10 35 57	IS	26 49
E	00 41	DRV EP	15 12 37	JUL 27		MAW IP	00 17 58
JUL 25		JUL 26		MIR E	11 15 28	JUL 28	
WIL IP	11 33 38	MIR EP	19 39 55	JUL 27		DRV E	00 36 08
SP	33 53	AIA E	19 44 50	MAW I	11 27 47	BYR E	00 36 38
JUL 25		E	47 27	JUL 27		JUL 28	
AIA E	19 05 58	JUL 26		H-12 38 35.1		BYR IP	00 44 32
JUL 25		AIA IP	19 49 59	51.6N 174.1W		JUL 28	
AIA E	22 30 10	E	50 45	h ABOUT 60KM		BYR IP	01 44 20
JUL 25		JUL 26		SPA E	12 57 57	JUL 28	
AIA E	22 52 49	H-21 32 17.9		MAW I	12 58 17	BYR IP	01 44 57
JUL 26		56.4S 25.7W		JUL 27		JUL 28	
H-02 33 15.3		h ABOUT 25KM		MAW E	15 24 08	SPA IP	02 44 56
4.9S 81.3W		AIA E	21 36 57	JUL 27			
h ABOUT 25KM		SPA IP	21 39 01				
BYR EP	02 45 12						

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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
JUL 28 SPA E	04 24 20	JUL 29 AIA IP ES	03 34 53 35 13	MAW E	01 00 59	SBA EP I	20 32 35 36 50
BYR IP	04 24 35	JUL 29 MIR E	04 42 27	JUL 30 BYR EP	02 21 42	HLL EP	20 32 45
JUL 28 BYR IP	04 57 14	JUL 29 WIL EP pP	08 09 03 09 13	JUL 30 BYR IP	04 41 11	MAW E	20 33 29
JUL 28 H-06 02 24.1 31.0S 67.8W h ABOUT 217KM		JUL 29 H-08 57 46.1 23.6N 114.3E h ABOUT 65KM		JUL 30 AIA E	07 22 38	WIL EP IS	20 34 07 44 21
BYR IP	06 11 29	MIR E	09 13 02	JUL 30 BYR E	09 10 30	MIR IP IS	20 37 33 44 20
SPA IP	06 12 04	JUL 29 MAW E	12 07 57	JUL 30 AIA E	07 22 38	JUL 31 SPA E	01 39 52
MAW IP	06 13 50	JUL 29 MAW E	12 07 57	JUL 30 BYR E	09 10 30	JUL 31 H-02 19 05.2 3.2S 144.1E h ABOUT 20KM	
JUL 28 MIR EP	10 40 32	JUL 29 AIA E	12 53 08	JUL 30 SPA E	14 15 47	DRV IP	02 29 37
JUL 28 SBA EP	11 54 12	JUL 29 AIA E	13 51 38	JUL 30 SBA EP	15 19 07	WIL EP	02 30 01
SPA I	11 55 32	JUL 29 WIL I	15 42 47	SPA E	15 20 31	MIR EP	02 30 34
BYR EP	12 00 28	JUL 29 WIL IP pP	16 03 35 03 48	JUL 30 SBA EP	16 08 27	SBA EP	02 30 53
JUL 28 AIA E	13 09 31	JUL 29 WIL IP pP	16 31 56 32 10	SPA E	16 09 52	MAW I	02 31 35
JUL 28 BYR E	13 39 09	JUL 29 MAW EP	17 37 00	JUL 30 H-17 16 44.4 3.3S 143.9E h ABOUT 25KM		SPA IP	02 31 51
SPA I	13 39 46	JUL 29 MIR EP	17 41 27	DRV IP IS	17 27 13 35 43	BYR EP E	02 31 57 32 55
JUL 28 BYR EP	14 27 36	JUL 29 SBA E	18 26 52	WIL IP IS	17 27 37 36 30	JUL 31 H-05 09 17.5 32.5N 132.1E h ABOUT 33KM	
JUL 28 BYR EP	16 56 37	WIL IP	18 27 34	HLL EP	17 28 03	BYR EP E	05 28 14 42 26
JUL 28 AIA E	17 03 55	BYR EP E	18 28 04 30 18	MIR IP IS	17 28 11 37 31	JUL 31 H-05 13 04.1 18.8N 120.8E h ABOUT 39KM	
BYR E	17 06 05	SPA IP	18 28 30	SBA IP E	17 28 29 38 14	WIL IP	05 25 40
JUL 28 H-19 43 00.3 36.9N 141.9E h ABOUT 39KM		MIR IP	18 28 30	MAW IP ES	17 29 12 39 30	DRV IP	05 25 46
SPA E	20 01 59	MAW IP pP	18 28 44 29 44	SPA IP pP	17 29 29 29 36	MIR IP	05 25 51
JUL 28 H-20 46 26.0 44.6N 148.6E h ABOUT 32KM		JUL 29 MIR IP	18 46 13	BYR IP ES	17 29 35 44 13	MAW IP pP	05 25 51 26 29
MAW EP I	20 57 34 59 12	MAW IP pP	18 28 44 29 44	JUL 30 SPA E	18 02 32	JUL 31 MIR E	06 49 19
SBA EP	21 01 54	JUL 29 MIR IP	18 46 13	JUL 30 SPA E	20 10 01	JUL 31 WIL IP pP	08 22 50 23 05
JUL 28 SBA EP	23 45 52	JUL 29 AIA E	19 15 34	JUL 30 H-20 18 49.3 5.0N 76.3W h ABOUT 45KM		JUL 31 BYR E	11 34 58
BYR EP	23 47 15	JUL 30 BYR EP	00 54 59	BYR IP	20 31 34	MIR E	11 35 09
SPA EP	23 47 41	SPA IP	00 55 48	SPA IP pP IS	20 32 08 32 12 42 36	JUL 31 SPA E	11 44 59

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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
JUL 31 MIR E	12 22 19	AUG 1 SPA IP	11 58 13	AUG 2 MAW I	12 12 13	BYR IP	07 47 20
JUL 31 AIA E	12 32 00	AUG 1 SPA E	12 31 15	AUG 2 MAW I	17 38	AUG 3 H-08 56 12.1	
JUL 31 MIR E	13 18 21	AUG 1 WIL EP	12 35 43	AUG 2 AIA E	12 16 03	23.2S 67.5W	
AUG 1 DRV IP	02 49 51	AUG 1 SBA EP	12 47 39	AUG 2 AIA E	12 29 39	h ABOUT 71KM	
AUG 1 WIL IP	03 26 09	MAW IP	12 48 44	AUG 2 MAW I	13 09 12	AIA IP	09 03 57
AUG 1 H-03 49 11.9		BYR EP	12 48 45	AUG 2 SPA E	13 18 36	EPP	05 28
27.0S 176.4W		SPA IP	12 49 16	AUG 2 H-13 26 42.4		ES	10 09
h ABOUT 33KM		AUG 1 H-12 47 46.6		AUG 2 SBA EP	13 38 08	BYR EP	09 06 20
DRV IP	03 57 46	27.1S 176.3W		BYR EP	13 39 10	ES	14 38
SBA EP	03 58 17	h ABOUT 33KM		SPA IP	13 39 11	SPA IP	09 06 58
BYR EP	03 59 02	DRV E	12 56 21	AUG 2 H-13 26 42.4		SBA IP	09 07 46
MAW IP	03 59 04	SBA E	12 56 54	4.8S 152.1E		ES	17 12
WIL IP	03 59 08	BYR EP	12 57 36	h ABOUT 79KM		HLL IP	09 08 00
SPA IP	03 59 38	WIL IP	12 57 42	SBA EP	13 38 08	MCQ E	09 08 20
AUG 1 H-04 28 26.7		MAW EP	12 58 44	BYR EP	13 39 10	I	09 20
5.5N 125.3E		DRV IP	17 18 54	SPA IP	13 39 11	DRV IP	09 08 55
h ABOUT 33KM		AUG 1 SPA E	21 59 37	AUG 2 AIA E	17 06 29	WIL IP	09 09 11
MAW I	04 40 46	AUG 1 WIL IP	23 18 44	AUG 2 AIA E	20 13 17	IS	19 53
AUG 1 H-04 36 57.6		MAW EP	12 57 54	AUG 2 DRV EP	22 15 44	AUG 3 SBA E	09 35 09
3.2S 143.7E		WIL IP	12 57 54	AUG 2 I	15 55	E	38 37
h ABOUT 33KM		BYR EP	02 01 30	AUG 2 AIA EP	22 53 15	AUG 3 H-10 04 44.6	
MCQ EP	04 46 10	AUG 2 WIL IP	02 29 01	AUG 2 BYR EP	23 09 28	10.1S 161.2E	
DRV I	04 47 25	AUG 2 WIL IP	03 29 59	AUG 3 AIA E	00 10 40	h ABOUT 40KM	
WIL IP	04 47 48	BYR EP	02 01 30	AUG 3 AIA E	00 16 59	SBA EP	10 15 41
IS	56 41	AUG 2 WIL IP	03 29 59	AUG 3 BYR EP	03 16 31	BYR IP	10 16 41
HLL IP	04 48 15	BYR EP	02 01 30	AUG 3 H-04 06 08.4		SPA IP	10 16 50
SBA IP	04 48 41	AUG 2 WIL IP	03 29 59	5.2N 76.4W		MAW IP	10 17 09
SPA IP	04 49 40	BYR EP	02 01 30	h ABOUT 79KM		AIA E	10 22 43
BYR IP	04 49 46	AUG 2 SPA E	04 01 14	BYR EP	04 18 49	AUG 3 H-10 16 26.7	
E	52 06	AUG 2 SPA E	05 44 45	SPA IP	04 19 24	23.3S 171.2E	
E	52 40	AUG 2 WIL E	05 55 56	AUG 3 AIA EP	04 40 41	h ABOUT 39KM	
AUG 1 H-05 21 25.5		AUG 2 SPA E	07 00 52	AUG 3 AIA EP	04 41 40	MAW IP	10 26 55
27.1S 176.3W		AUG 2 MAW E	09 25 28	AUG 3 H-07 37 55.2		BYR EP	10 26 57
h ABOUT 34KM		AUG 2 MAW I	11 12 06	45.1S 38.3E		SPA IP	10 27 16
SPA E	05 31 51	SPA IP	11 12 22	h ABOUT 33KM		AUG 3 H-11 04 03.6	
AUG 1 MAW E	05 49 12	SPA IP	11 12 22	SPA IP	07 46 08	40.9N 73.3E	
		SPA IP	11 12 22	SBA EP	07 47 17	h ABOUT 25KM	
						SPA E	11 23 13
						SBA EP	11 23 14
						BYR E	11 23 39
						AIA I	11 23 40

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
AUG 3 H-12 04 59.8 55.8S 27.3W h ABOUT 33KM		AUG 5 SPA E	02 56 18	AUG 6 WIL EP	07 44 08	AIA E	21 03 32
AIA E	12 09 37	AUG 5 MAW EP	04 41 08		44 14	MAW IP	21 03 40
SPA IP	12 11 45		41 44	AUG 6 H-08 41 17.8 58.4S 25.5W h ABOUT 54KM		IS	13 18
BYR IP	12 11 59	AUG 5 AIA E	06 51 24	AIA IP	08 45 43	AUG 6 SPA E	21 30 55
E	17 57	AUG 5 SBA EP	07 45 56	SPA IP	08 47 39	AUG 6 AIA E	21 40 48
MAW E	12 12 36	AUG 5 BYR E	10 00 25	BYR EP	08 47 57	AUG 6 AIA E	21 54 21
SBA EP	12 13 25	AUG 5 BYR E	10 38 07	E	57 39	E	56 25
AUG 3 BYR IP	15 26 22	AUG 5 SBA EP	14 28 03	MAW IP	08 48 28	AUG 6 MAW EP	22 31 24
AUG 3 SPA IP	16 27 00	AUG 5 SBA EP	14 28 03	I	54 25	I	33 26
AUG 3 AIA E	17 37 55	AUG 5 H-15 08 34.1 13.7S 166.6E h ABOUT 60KM		SBA EP	08 49 24	AUG 6 AIA E	23 52 46
AUG 3 SBA EP	18 32 18	DRV EP	15 18 06	HLL EP	08 50 02	AUG 7 H-06 19 27.9 21.1S 179.1W h ABOUT 600KM	
AUG 3 AIA E	19 07 22	HLL EP	15 18 26	WIL IP	08 50 19	BYR EP	06 29 07
AUG 3 BYR IP	20 25 02	WIL EP	15 19 04	E	57 45	SPA E	06 29 35
AUG 4 AIA E	01 33 09	SBA EP	15 19 05	DRV IP	08 50 43	AUG 7 SBA E	07 21 31
AUG 4 AIA E	05 30 02	MAW EP	15 20 06	AUG 6 AIA I	13 08 09	E	24 26
AUG 4 BYR E	05 37 18	PP	20 58	AUG 6 AIA EP	13 17 55	AUG 7 MAW IP	08 54 42
AUG 4 H-05 39 20.7 17.4S 174.7W h ABOUT 135KM		SPA IP	15 20 18	AUG 6 AIA I	13 39 08	AUG 7 H-08 44 43.7 4.8N 127.8E h ABOUT 33KM	
WIL IP	05 51 26	AUG 5 BYR EP	15 29 56	AUG 6 AIA I	13 39 08	DRV EP	08 56 17
PP	51 40	AUG 5 WIL EP	16 27 28	AUG 6 AIA I	13 39 08	SPA E	08 56 58
AUG 4 AIA E	06 18 44	PP	27 43	SPA IP	15 38 47	MAW I	08 57 18
AUG 4 AIA E	08 56 43	AUG 5 MAW EP	18 11 25	AUG 6 AIA E	20 04 54	BYR EP	08 57 50
AUG 4 BYR IP	09 06 21	PP	13 08	AUG 6 AIA E	20 04 54	E	02 11
AUG 4 SBA EP	10 55 30	AUG 5 MCQ E	18 36 37	AUG 6 H-20 51 56.8 26.9S 177.1W h ABOUT 50KM		AUG 7 BYR E	10 17 57
AUG 4 AIA E	11 05 26	AUG 5 MCQ EP	21 35 45	HLL IP	21 00 20	AUG 7 AIA E	11 38 33
AUG 4 SPA E	14 20 39	AUG 6 AIA E	01 22 12	DRV IP	21 00 28	AUG 7 AIA EP	13 17 55
AUG 4 AIA E	15 35 07	AUG 6 SBA EP	01 54 47	ES	07 19	AUG 7 AIA I	13 39 08
AUG 4 SBA EP	18 20 05	WIL EP	01 55 02	SBA IP	21 01 02	AUG 7 SPA IP	14 36 39
		DRV IP	01 55 07	E	08 26	BYR EP	14 36 41
		AUG 6 WIL IP	04 27 49	BYR IP	21 01 48	MAW I	14 37 46
		PP	28 02	ES	09 54	AUG 7 AIA E	20 04 54
		AUG 6 WIL IP	06 00 17	E	16 30		
				WIL IP	21 01 49		
				IS	09 45		
				SPA IP	21 02 23		



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	h m s		h m s		h m s		h m s
AUG 8		MAW	IP 13 47 15	AUG 9		MCO	EP 01 54 09
WIL	IP 04 09 02			DRV	E 11 47 10	HLL	EP 01 55 57
	pP 09 16	AUG 8		AUG 9		DRV	IP 01 56 02
AUG 8		WIL	EP 15 06 56	AIA	E 12 35 32		E 57 57
AIA	E 06 17 34		pP 07 10	AUG 9			IPP 59 58
AUG 8		AUG 8		DRV	E 14 17 42	SBA	EP 01 56 36
BYR	EP 07 15 38	WIL	EP 16 06 56	MIR	EP 14 23 03		E 02 05 28
			pP 07 10	AUG 9		WIL	IP 01 57 13
AUG 8		AUG 9		MIR	E 14 53 18		pP 59 24
MAW	EP 08 58 19	H-00 21 10.7		AUG 9			IS 02 05 03
	I 59 19	22.4S 70.0W		MIR	E 14 53 18	BYR	IP 01 57 21
AUG 8		h ABOUT 160KM		AUG 9			pP 58 30
H-09 19 22.4		BYR	E 00 31 13	H-17 24 48.5			ES 02 05 23
16.4S 179.5W		SPA	IP 00 31 53	44.5S 73.4W		SPA	IP 01 57 49
h ABOUT 493KM		AUG 9		h ABOUT 33KM			IS 02 06 12
BYR	EP 09 29 38	AUG 9		BYR	EP 17 32 14	MIR	IP 01 57 55
SPA	EP 09 30 06	AIA	E 03 35 04	SPA	IP 17 33 09	AIA	IP 01 58 53
MAW	IP 09 31 06	AUG 9		SBA	EP 17 34 06	MAW	IP 01 58 54
AUG 8		AUG 9		DRV	IP 17 35 33		IS 02 08 14
H-10 54 56.3		H-04 21 55.4		MIR	I 17 42 16	AUG 11	
52.1N 170.5W		6.7N 73.1W		AUG 9		SBA	EP 02 14 51
h ABOUT 40KM		h ABOUT 180KM		BYR	E 18 12 38	SPA	IP 02 15 04
SPA	E 11 14 16	BYR	EP 04 34 34	AUG 9		BYR	EP 02 15 34
MAW	I 11 14 26	SPA	IP 04 35 07	MIR	IP 21 23 37	AUG 11	
AUG 8		AUG 9		AUG 9		BYR	EP 02 25 42
H-12 00 15.1		MIR	E 05 35 06	MIR	E 23 25 03	AUG 11	
17.8S 168.0E			E 45 15	AUG 10		MIR	E 06 11 55
h ABOUT 30KM		AUG 9		DRV	IP 21 14 43	AUG 11	
SBA	E 12 10 21	H-06 19 51.4		AUG 10		H-06 47 41.7	
BYR	E 12 11 25	24.1S 66.5W		H-21 03 59.2		15.7S 172.9W	
SPA	EP 12 11 39	h ABOUT 128KM		49.4N 27.9W		h ABOUT 157KM	
MAW	I 12 12 17	AIA	IP 06 27 25	h ABOUT 33KM		HLL	EP 06 57 17
AUG 8		BYR	IP 06 29 48	SPA	EP 21 23 16	SBA	EP 06 57 54
H-12 12 22.5		SPA	IP 06 30 26	SBA	EP 21 23 45	BYR	EP 06 58 29
17.9S 168.0E		MAW	IP 06 30 56	I	23 51	DRV	EP 06 58 32
h ABOUT 33KM		I	31 56	AUG 10		SPA	IP 06 59 05
SBA	EP 12 22 28	SBA	IP 06 31 13	HLL	EP 23 55 24	MIR	E 06 59 07
BYR	EP 12 23 33	DRV	IP 06 32 24	DRV	EP 23 55 47	AUG 11	
	E 30 47	MIR	IP 06 32 30	SBA	EP 23 56 40	AIA	E 07 29 20
SPA	IP 12 23 46	AUG 9		BYR	EP 23 58 42	AUG 11	
MAW	I 12 24 26	BYR	EP 07 57 25	SPA	IP 23 58 48	AUG 11	
AUG 8		AUG 9		AUG 11		H-08 15 43.7	
H-13 35 11.2		DRV	E 10 13 25	DRV	E 00 00 08	25.2N 123.3E	
18.0S 168.1E		AUG 9		MIR	E 00 05 16	h ABOUT 140KM	
h ABOUT 33KM		DRV	E 10 23 56	AUG 11		MCO	E 08 28 06
DRV	E 13 44 18	MIR	E 10 24 23	MAW	E 01 29 10	WIL	IP 08 28 36
SBA	EP 13 45 16	AUG 9		AUG 11			IS 39 20
BYR	EP 13 46 18	DRV	E 10 36 24	H-01 47 39.6			
SPA	IP 13 46 35		E 42 22	20.0S 178.8W			
			E 44 22	h ABOUT 638KM			

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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
DRV	IP	AUG 12		AUG 13		AUG 16	
	EP	AIA	E	AIA	E	SPA	EP
	IS		11 25 03		14 43 31		00 44 20
		AUG 12		AUG 13		AUG 16	
MIR	IP	AIA	E	AIA	E	SPA	E
	IPP		15 24 00		19 22 52		05 21 30
	IS						
		AUG 12		AUG 13		AUG 15	
HLL	EP	AIA	E	H-20	11 36.1	MAW	EP
			18 37 49		51.8N 110.2E		I
					h ABOUT 33KM		11 39 30
		AUG 12					40 23
SBA	EP	H-20	35 17.0	SPA	E	BYR	E
			36.0S 72.4W		20 31 09		11 39 56
			h ABOUT 43KM	BYR	EP	SPA	EP
SPA	IP				20 31 26		11 40 04
		BYR	E	AUG 13		SBA	EP
BYR	IP		20 43 51	AIA	E		11 45 05
	PP	SPA	IP		21 53 15	AUG 15	
	ES		20 44 40			AIA	I
	E			AUG 14			15 52 01
AIA	E	AUG 13		H-01	10 50.5	AUG 15	
		AIA	E		49.9S 163.0E	SBA	EP
			05 35 43		h ABOUT 43KM		16 10 37
AUG 11		AUG 13		DRV	IP	SPA	IP
MIR	E	AIA	E		01 15 27		16 11 51
			05 47 38		I	AUG 15	
					16 10	H-16	22 12.3
AUG 11		AUG 13		HLL	EP		37.5S 73.6W
BYR	EP	H-06	35 56.0		01 15 49		h ABOUT 33KM
			2.1N 83.5W	SBA	EP	BYR	E
			h ABOUT 33KM		01 16 40		16 30 35
AUG 11		BYR	EP	MIR	IP	SPA	IP
H-18	12 53.7		06 48 25		01 18 08		16 31 25
	6.6S 130.3E	SPA	EP		IPP		
	h ABOUT 173KM		06 49 05		IS		
DRV	IP	AUG 13			24 03	AUG 15	
		BYR	IP	SPA	IP	AIA	I
SBA	EP		06 58 55		01 18 25		16 50 57
			IS	MAW	IP		
MAW	I(P)		07 11 00		01 19 32	AUG 15	
		AUG 13			ES	H-20	15 29.9
SPA	IP	MIR	E		26 38		21.2S 179.3W
			07 29 58	AUG 14			h ABOUT 600KM
BYR	IP	DRV	E	MIR	E	SBA	EP
			07 30 20		02 28 49		20 24 22
AUG 11		AUG 13		AUG 14		BYR	EP
AIA	E	MAW	IP	AIA	E		20 25 08
			09 26 06		05 46 17	SPA	EP
			E				20 25 37
AUG 11			27 06	AUG 14		AUG 15	
AIA	I	AUG 13		MIR	E	MIR	I
		MAW	E		06 45 22		23 00 58
			10 32 50	AUG 14		AUG 16	
AUG 12		SPA	EP	AIA	E	MAW	E
MAW	E		10 35 19		07 08 43		10 19 16
		BYR	EP	AUG 14		AUG 16	
			10 36 31	BYR	EP	SPA	IP
AUG 12		SBA	EP		09 08 16		14 52 28
H-03	36 50.2		10 37 32	AUG 14		AUG 16	
	11.3S 166.5E	AUG 13		AIA	I	DRV	E
	h ABOUT 43KM	AIA	E		09 48 55		21 49 06
BYR	EP		10 52 42	AUG 14		AUG 16	
				AIA	I	DRV	EP
SPA	E	AUG 13			09 49 03		23 59 15
		AIA	E	AUG 14		AUG 17	
			11 56 11	AIA	I	H-00	32 26.9
AUG 12		AUG 13			10 37 10		15.8S 172.9W
H-10	38 01.8	AIA	I	AUG 14			h ABOUT 33KM
	58.2S 25.1W		12 31 57	AIA	I	HLL	EP
	h ABOUT 33KM	AUG 13			10 53 33		00 42 15
SPA	IP	AIA	IP	AUG 14		DRV	EP
			IP	MIR	E		00 42 27
BYR	IP		52 54		11 12 46	SBA	EP
		AUG 13		AUG 14			00 42 51
MAW	I(P)	AIA	E		14 44 32	BYR	EP
			13 46 44				00 43 26
SBA	EP	AUG 13		AUG 14			
		AIA	E	AIA	I		
			14 23 41		17 03 38		

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	h m s		h m s		h m s		h m s
SPA EP	00 44 02	SPA EP	23 07 33	AUG 18		AUG 19	
AUG 17		AUG 17		H-17 46 14.9		H-18 26 38.6	
H-03 23 31.5		BYR EP	23 36 57	62.3N 152.5W		44.6N 81.7E	
31.6S 67.7W		AUG 18		h ABOUT 32KM		h ABOUT 33KM	
h ABOUT 33KM		H-02 06 40.2		SBA EP	18 05 37	MIR EP	18 45 09
BYR EP	03 32 46	19.9S 170.2E		BYR IP	18 05 41	ESKS	55 30
SPA P	03 33 29	h ABOUT 78KM		WIL EP	18 05 49	WIL EP	18 45 12
SBA IP	03 34 19	SBA IP	02 16 27	SPA EP	18 05 57	ESKS	55 47
MAW IP	03 35 10	BYR IP	02 17 28	MIR EP	18 06 40	DRV IPKP	18 45 24
AUG 17		SPA IP	02 17 47	AUG 18		EPP	46 44
H-03 56 12.9		AUG 18		H-20 44 27.2		ESKS	52 35
12.2S 167.1E		H-04 01 33.5		22.7S 173.1E		SPA EP	18 45 41
h ABOUT 18KM		21.9S 179.3W		h ABOUT 82KM		HLL EPKP	18 45 49
SBA EP	04 06 57	h ABOUT 516KM		SBA IP	20 54 54	SBA EP	18 45 50
BYR IP	04 07 44	SBA EP	04 10 28	SPA IP	20 55 15	BYR IP	18 46 08
SPA E	04 08 10	BYR IP	04 11 14	AUG 18		E	50 06
AUG 17		SPA P	04 11 43	H-22 49 47.5		E	50 26
H-05 04 31.5		AUG 18		7.3S 156.1E		E	51 55
10.6N 121.6E		H-05 42 02.8		h ABOUT 60KM		AUG 19	
h ABOUT 33KM		3.5S 150.5E		BYR IP	23 02 02	BYR E	19 47 11
MCO EP	05 15 58	h ABOUT 19KM		SPA IP	23 02 06	AUG 19	
DRV EP	05 16 27	BYR E	05 54 46	MAW I(P)	23 02 14	H-23 12 50.4	
EPP	19 23	AUG 18		AUG 19		26.6S 69.8W	
ESKS	26 30	BYR EP	06 25 51	H-00 23 03.9		h ABOUT 51KM	
WIL EP	05 16 32	AUG 18		19.9S 66.9W		BYR IP	23 22 35
MIR E	05 16 36	BYR EP	07 26 13	h ABOUT 240KM		E	23 05
HLL EP	05 17 23	AUG 18		BYR IP	00 33 17	SPA IP	23 23 18
SBA EP	05 17 36	H-08 22 13.3		E	34 15	SBA IP	23 24 03
BYR E	05 18 42	4.7S 150.2E		SPA IP	00 33 52	HLL IPKP	23 24 18
AUG 17		h ABOUT 82KM		MAW IP	00 35 14	MAW I(P)	23 24 55
H-07 26 33.4		BYR E	08 34 41	AUG 19		DRV IP	23 25 18
4.7S 79.4W		AUG 18		MIR E	01 20 57	MIR IP	23 25 27
h ABOUT 96KM		WIL I	13 35 15	AUG 19		WIL IP	23 25 35
BYR IP	07 38 21	AUG 18		H-04 14 10.9		IP	25 56
SPA EP	07 39 01	MIR E	16 24 39	16.1S 173.4W		AUG 19	
BYR EP	07 40 36	AUG 18		h ABOUT 33KM		SPA EP	23 52 18
AUG 17		MIR E	16 55 11	SPA E	04 25 44	BYR E	23 52 22
SPA E	15 18 25	AUG 18		AUG 19		AUG 20	
AUG 17		H-16 43 54.3		H-06 28 39.1		MIR EP	02 22 11
H-16 19 47.3		62.3N 152.5W		50.6N 129.5W		AUG 20	
19.3S 177.5W		h ABOUT 32KM		h ABOUT 33KM		H-11 22 39.8	
h ABOUT 528KM		BYR EP	17 03 20	WIL EP	06 41 34	20.9S 178.8W	
SPA E	16 30 12	E	05 14	AUG 19		h ABOUT 605KM	
AUG 17		E	06 34	WIL EP	11 57 58	BYR EP	11 32 19
H-22 55 55.4		WIL IP	17 03 30	AUG 19		AUG 20	
15.4S 172.7W		SPA EP	17 03 38	WIL EP	12 09 05	H-12 58 24.1	
h ABOUT 33KM		MIR EP	17 03 56	IP	09 20	12.4S 112.1E	
SBA EP	23 06 22	AUG 18		AUG 19		h ABOUT 87KM	
		MIR E	17 47 03	WIL EP	12 09 05	MIR E	13 07 30

COAST AND GEODETIC SURVEY

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)							
h m s		h m s		h m s		h m s								
DRV	IP	13 08 03	AUG 21	SPA	EP	21 16 12	AUG 22							
MAW	IP	13 08 50	MIR	E	16 37 44	MIR	EP	21 16 29	H-11 11 56.3					
SPA	IP	13 10 13	AUG 21	MAW	IP	21 17 32	MAW	IP	21 17 32	49.7S 117.5E				
BYR	IP	13 10 48	WIL	EP	17 11 09	AUG 21	HLL	EP	21 19 47	h ABOUT 33KM				
AUG 20			IP		11 32	DRV	EP	21 21 00	WIL	EP	11 15 51			
BYR	EP	17 46 35	AUG 21	H-17 04 35.2	15.5S 172.6W	WIL	EP	21 21 53	DRV	EP	11 16 33			
AUG 20			h ABOUT 33KM	SBA	EP	17 15 02	IP		21 12	MIR	EP	11 16 38		
H-23 18 39.8			BYR	EP	17 15 38	WIL	IP	21 57	MAW	I	11 18 23			
14.7S 166.6E			SPA	E	17 16 12	ES		30 53	SBA	EP	11 18 33			
h ABOUT 52KM			MIR	E	17 16 27	MIR	EP	21 22 11	SPA	EP	11 19 35			
SBA	EP	23 29 05	MAW	IP	17 17 24	MAW	EP	21 22 12	BYR	E	11 20 24			
MIR	EP	23 29 48	AUG 21	H-17 30 14.0	62.4N 152.6W	BYR	E	21 26 24	AUG 22					
BYR	IP	23 30 05	h ABOUT 42KM	BYR	E	17 49 41	AUG 21	DEC	IP	21 31 11	H-12 05 54.9			
SPA	IP	23 30 20	BYR	E	17 50 01	IS		35 08	IS		28.6S 176.7W			
MAW	I	23 30 40	AUG 21	MIR	E	18 27 58	AUG 21	DRV	EP	21 49 00	h ABOUT 56KM			
AUG 21			BYR	EP	18 28 24	MAW	IP	22 14 38	BYR	E	12 15 34			
MIR	E	07 18 07	DRV	EP	18 28 29	SPA	EP	22 14 55	SPA	E	12 16 09			
SPA	E	07 19 07	AUG 21	H-18 19 33.3	41.4N 15.5E	MIR	EP	22 15 12	MIR	E	12 16 25			
AUG 21			h ABOUT 34KM	MIR	EP	18 38 23	AUG 22	BYR	E	01 29 18	MAW	I	12 17 29	
WIL	IP	08 32 52	MIR	EP	18 38 39	BYR	E	05 00 57	AUG 22					
IP		33 06	BYR	E	18 38 46	H-05 29 26.6	AUG 22	MIR	E	16 25 34	H-14 31 44.2			
MIR	E	08 35 48	DRV	EP	18 38 59	28.6S 176.7W	AUG 22	BYR	EP	14 53 45	29.5S 112.3W			
AUG 21			E		40 28	h ABOUT 55KM	AUG 22	MIR	E	16 38 54	h ABOUT 33KM			
WIL	EP	09 00 28	SBA	EP	18 39 03	DRV	EP	05 37 46	AUG 22	MIR	EP	17 08 39		
IP		00 42	AUG 21	MAW	E(P)	18 59 21	MIR	EP	05 37 56	AUG 22	WIL	IP	18 28 53	
AUG 21			BYR	EP	19 01 27	SBA	EP	05 38 16	IP		29 07			
MIR	I	13 24 06	AUG 21	SPA	I	20 32 12	SPA	EP	05 39 40	AUG 22	BYR	EP	19 04 29	
AUG 21			AUG 21	HLL	EP	21 14 07	MAW	E	05 41 00	AUG 22				
MIR	E	14 16 51	DRV	IP	21 14 19	AUG 22	H-09 12 49.7	20.3S 177.8W	AUG 22	BYR	EP	19 04 29	H-21 08 22.9	
AUG 21			I		14 32	h ABOUT 503KM	SPA	IP	09 23 10	AUG 22	WIL	EP	02 29 08	8.3N 123.8E
WIL	EP	15 28 24	I		14 49	SBA	EP	21 14 50	MAW	E	11 14 03	h ABOUT 125KM		
IP		38 39	SBA	EP	21 14 50	WIL	EP	21 15 40	DRV	IP	21 19 56			
AUG 21			IP		16 13	IP		16 13	SBA	EP	21 21 07			
H-16 10 08.7			ES		23 37	ES		23 37	AUG 23					
28.2S 176.7W									WIL	EP	02 29 08			
h ABOUT 57KM														
HLL	EP	16 18 26												
DRV	IP	16 18 32												
I		18 44												
SBA	EP	16 19 02												
BYR	E	16 19 50												
WIL	I	16 19 54												
SPA	IP	16 20 25												
MIR	EP	16 20 42												
MAW	IP	16 21 44												

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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
AUG 23 H-03 57 18.0 55.3N 167.3E h ABOUT 33KM		AUG 23 H-19 17 26.6 15.6S 172.2W h ABOUT 33KM		MAW IP 06 58 06		DRV IP 08 40 15 IPP 42 05 IS 47 02	
SPA IP 04 16 47		BYR EP 19 28 27		AUG 24 MIR E 07 52 17		SBA IP 08 40 49	
AUG 23 BYR EP 07 38 12		AUG 23 BYR P 19 48 07		SPA IP 07 57 02		WIL IP 08 41 26 IPP 43 19 IS 49 17	
AUG 23 SPA IP 08 38 57		SPA EP 19 48 26		AUG 24 MIR E 08 12 21		SPA IP 08 42 03 IS 50 32	
AUG 23 SBA EP 08 56 29		MIR EP 19 48 57		AUG 24 H-09 04 22.9 15.0S 173.3W h ABOUT 33KM		MIR IP 08 42 09 IPP 44 07 IS 50 37	
AUG 23 BYR EP 08 57 30		AUG 23 H-20 52 51.8 56.1S 26.6W h ABOUT 33KM		HLL EP 09 14 19		MAW IP 08 43 08 IPP 45 11 ES 52 30	
AUG 23 WIL EP 10 21 23 IPP 21 34		SPA IP 20 59 36		DRV EP 09 14 29 ES 22 42		AUG 25 MCQ IP 08 43 22	
AUG 23 BYR EP 11 10 15		BYR IP 20 59 50 EPP 21 01 21 ES 05 19		SBA EP 09 14 53		AUG 25 SPA IP 09 09 53	
AUG 23 H-12 35 34.2 51.7N 173.8E h ABOUT 33KM		MAW IP 21 00 26		BYR EP 09 15 28 EPCP 15 35		AUG 25 WIL EP 15 38 41 IPP 39 26	
MAW I 12 55 10		MIR IP 21 01 41		WIL EP 09 15 36 ES 24 48		AUG 25 WIL EP 18 04 39 IPP 04 43	
AUG 23 H-12 46 22.7 62.2N 152.8W h ABOUT 25KM		WIL IP 21 02 13		SPA EP 09 16 03		AUG 25 MIR EP 18 55 37	
MAW I 13 05 50		DRV IP 21 02 36 E 03 30		MIR EP 09 16 17 ES 26 11		AUG 26 MIR E 00 41 25	
AUG 23 BYR EP 13 05 50		AUG 23 BYR EP 23 27 10		MAW E(P) 09 17 11		AUG 26 MIR EP 03 32 01	
SPA IP 13 06 14		AUG 24 MIR E 02 24 01		AUG 24 DRV E 10 09 44		AUG 26 MIR E 06 51 56	
AUG 23 H-13 03 44.5 17.5S 178.7W h ABOUT 571KM		AUG 24 H-03 58 46.2 11.2S 165.0E h ABOUT 32KM		AUG 24 H-13 15 37.0 17.5S 70.4W h ABOUT 92KM		AUG 26 MIR EP 07 00 07	
BYR E 13 13 46		DRV EP 04 08 35		BYR IP 13 26 18 I 26 35		AUG 26 H-06 48 57.1 34.0N 139.2E h ABOUT 38KM	
SPA IP 13 14 16		BYR EP 04 10 34		SPA IP 13 26 57		SPA EP 07 07 52	
AUG 23 H-15 29 46.6 22.9N 120.8E h ABOUT 17KM		SBA IP 04 10 37		SBA EP 13 27 35		AUG 26 H-07 58 37.6 00.1N 121.3E h ABOUT 185KM	
DRV EP 15 42 17 EPP 45 30		SPA IP 04 10 48		MAW I(P) 13 29 13 I 29 22		AUG 26 MIR EP 08 09 28	
MAW I 15 48 16		AUG 24 DRV E 06 27 36		AUG 24 BYR E 17 51 19		MAW I 08 10 20	
BYR E 15 49 40		AUG 24 H-06 47 08.1 24.5S 178.8E h ABOUT 526KM		AUG 25 SPA E 02 20 45		SPA E 08 11 28	
AUG 23 H-16 48 46.3 21.4S 179.1W h ABOUT 587KM		DRV IP 06 55 04 IPP 59 21		WIL EP 02 26 17 IPP 26 30		AUG 26 SBA EP 10 40 38	
DRV EP 16 57 04		SBA IP 06 55 43		AUG 25 MIR IP 08 16 33		AUG 26 MIR E 16 06 13	
BYR EP 16 58 24		WIL IP 06 56 18		AUG 25 H-08 31 48.7 20.5S 178.5W h ABOUT 561KM			
SPA IP 16 58 54		BYR IP 06 56 34 E 58 26 E 59 24		HLL EP 08 40 10			
		MIR IP 06 57 03					

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h m s		h m s		h m s		h m s	
AUG 26 H-23 30 38.0 3.7S 140.1E h ABOUT 50KM		MAW EP EPP	16 37 58 38 52	MAW IP IPP I	11 14 17 18 15 29 20	AUG 29 MAW E	19 26 32
DRV IP	23 41 00	BYR E	16 39 06	SPA IP	11 18 49	AUG 29 H-19 41 03.7 19.4S 178.1W h ABOUT 582KM	
WIL IP	23 41 20	SPA EP	16 39 07	DRV EP IPP IS	11 18 50 22 26 28 18	SPA IP	19 51 23
MIR IP	23 41 41	AUG 27 MAW I(P)	18 38 44	BYR EP I EPP ISKS	11 18 55 22 25 23 20 28 27	AUG 29 H-22 04 07.4 22.5S 71.6W h ABOUT 33KM	
SBA EP	23 42 19	AUG 27 H-22 13 29.6 12.3S 167.1E h ABOUT 220KM		MCQ IP	11 19 26	BYR EP	22 14 22
MAW IP I	23 42 54 43 10	BYR IP	22 24 48	AUG 28 SBA I	17 19 10	SPA IP	22 15 05
SPA IP	23 43 17	AUG 27 SPA EP	23 25 04	AUG 28 SPA IP	20 30 37	AUG 29 H-22 36 53.9 34.1N 139.1E h ABOUT 33KM	
AUG 27 H-02 18 58.8 40.2N 137.8E h ABOUT 274KM		AUG 27 H-23 28 45.2 6.0S 149.5E h ABOUT 48KM		AUG 28 HLL EPKP	21 19 09	SPA IP	22 55 49
SBA EP	02 37 15	MAW IP I	23 41 07 41 19	AUG 28 H-22 46 00.8 2.2S 67.8E h ABOUT 33KM		BYR EP EPP	22 55 52 57 52
MAW I	02 37 20	BYR IP I	23 41 15 41 26	DRV EP	22 58 15	AUG 30 BYR E	00 41 26
SPA EP	02 37 36	AUG 27 H-23 30 10.4 21.6S 171.5E h ABOUT 69KM		SPA IP	22 58 53	AUG 30 BYR EP	06 33 04
BYR EP EPP	02 37 40 02 40 39	DRV IP	23 38 54	AUG 29 MIR E	03 46 54	AUG 30 MIR E	07 15 05
AUG 27 MIR E	02 49 00	SBA EP	23 39 39	AUG 29 H-07 38 18.8 24.2S 67.1W h ABOUT 187KM		AUG 30 SPA IP	10 17 09
AUG 27 MIR E	03 04 49	BYR EP	23 40 39	SPA E	07 48 46	AUG 30 H-11 36 11.3 40.2S 72.6W h ABOUT 37KM	
AUG 27 H-05 59 10.4 5.7S 154.9E h ABOUT 370KM		SPA IP	23 41 00	AUG 29 MIR EP	08 49 52	BYR IP	11 44 14
BYR E	06 10 52	AUG 28 H-00 29 26.4 34.2N 139.7E h ABOUT 33KM		AUG 29 H-09 12 00.4 1.9S 67.9E h ABOUT 33KM		SBA EP	11 45 55
AUG 27 BYR EP	08 02 14	BYR E	00 48 21	MAW IP EPP	09 20 37 22 44	MAW I	11 47 04
AUG 27 BYR EP	08 26 22	AUG 28 H-00 40 04.9 15.7S 173.1W h ABOUT 33KM		MIR EP	09 22 51	DRV EP	11 47 32
AUG 27 MIR E	08 48 17	SBA EP	00 50 30	DRV EP	09 24 15	AUG 30 DRV E	14 02 25
AUG 27 SPA E	10 47 18	BYR EP	00 51 06	SPA IP	09 24 50	AUG 30 WIL IP EPP	16 02 28 02 42
AUG 27 MIR E	11 14 53	SPA EP	00 51 41	SBA EP	09 25 02	AUG 30 H-17 17 51.9 21.2S 174.4W h ABOUT 33KM	
AUG 27 MIR IP	11 18 30	MAW I	00 52 51	AUG 29 H-12 23 20.8 8.0S 73.6W h ABOUT 165KM		HLL EP	17 27 01
AUG 27 SPA E	12 32 19	AUG 28 DRV EP	03 50 04	BYR E	12 35 22	DRV IP E	17 27 13 27 53
AUG 27 SBA EP	16 09 36	AUG 28 SPA E	06 45 09	AUG 29 SPA IP	18 20 05	SBA EP	17 27 41
AUG 27 H-16 20 04.7 38.3N 142.4E h ABOUT 40KM		AUG 28 H-10 59 58.5 38.0N 23.1E h ABOUT 120KM					

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	h m s		h m s		h m s		h m s
BYR EP	17 28 20	AUG 31		AUG 31		MIR IP	05 02 59
EPCP	29 16	H-10 33 30.2		MIR E	20 13 55	IPP	05 42
		15.4S 177.3W				IS	11 48
WIL IP	17 28 29	h ABOUT 60KM		AUG 31		BYR IP	05 03 09
IS	37 15			MAW I	21 25 28	E	03 46
SPA IP	17 28 56	HLL EP	10 43 16	SEP 1		SPA IP	05 03 26
MIR IP	17 29 13	DRV EP	10 43 20	MIR E	03 55 20	IS	12 40
ES	38 34	SBA EP	10 43 54	SEP 1		MAW IP	05 04 03
BYR EP	17 29 41	BYR EP	10 44 35	H-03 46 05.0		IPS	13 53
ES	36 55	SPA IP	10 45 07	51.3N 179.7W			
MAW IP	17 30 10	MIR EP	10 45 10	h ABOUT 25KM		SEP 1	
AUG 30		AUG 31		BYR E	04 05 17	MAW I(P)	05 18 08
SPA E	17 57 02	DRV E	11 03 30	MIR E	04 05 22	SEP 1	
AUG 30		AUG 31		BYR EP	04 05 24	BYR EP	05 30 56
H-19 09 15.9		MIR EP	12 14 57	SPA IP	04 05 27	MIR EP	05 30 58
47.7S 32.6E		AUG 31		MAW I(P)	04 05 40	SBA E	05 31 16
h ABOUT 33KM		MIR E	13 19 07	I	17 09	SEP 1	
MAW IP	19 14 40	AUG 31		SEP 1		BYR EP	05 34 14
MIR EP	19 16 15	SPA E	15 45 30	BYR E	04 08 51	SEP 1	
BYR EP	19 18 20	WIL EP	15 51 21	WIL EP	04 09 18	MAW EP	07 31 34
SBA EP	19 18 22	AUG 31		SEP 1		E	34 11
DRV EP	19 18 33	DRV E	17 11 47	H-03 58 21.5		SEP 1	
AUG 30		AUG 31		51.1N 180.0E		H-07 42 07.4	
H-20 16 01.1		H-17 02 43.4		h ABOUT 33KM		51.2N 180.0E	
9.9S 161.8E		51.3N 179.7W		SPA E	04 17 30	h ABOUT 33KM	
h ABOUT 63KM		h ABOUT 26KM		MAW IP	04 17 57	MAW E(P)	08 01 44
SPA E	20 28 02	BYR E	17 21 03	SEP 1		SEP 1	
AUG 30		EPP	25 28	MAW IP	04 17 57	H-07 51 08.2	
BYR EP	22 27 52	E	43 12	SEP 1		51.3N 179.9W	
AUG 31		HLL EPKP	17 21 39	MIR EP	04 58 41	h ABOUT 42KM	
DRV EP	03 56 17	WIL EP	17 21 48	SEP 1		SBA EP	08 10 11
AUG 31		SBA EP	17 21 49	H-04 41 41.5		MIR EP	08 10 23
DRV IP	05 01 14	MIR EP	17 21 59	51.3N 179.9W		BYR EP	08 10 25
IPP	02 08	E	25 26	h ABOUT 37KM		SPA IP	08 10 29
IS	08 32	E	25 34	MIR E	05 00 56	MAW IP	08 10 43
AUG 31		SPA EP	17 22 05	BYR EP	05 00 58	EPP	11 10
MAW I(P)	05 55 12	MAW IP	17 22 20	ESKP	05 49	SEP 1	
SPA EP	05 57 49	AUG 31		ESKS	14 43	MIR EPKP	08 13 49
BYR EP	05 58 52	DRV IPKP	17 31 33	HLL EP	05 01 13	SEP 1	
AUG 31		AUG 31		MAW I(P)	05 01 16	MIR E	08 39 48
H-09 00 04.8		H-17 56 08.9		SEP 1		SEP 1	
15.3S 177.2W		51.2N 179.9W		SPA EP	05 02 01	MIR E	11 46 57
h ABOUT 59 KM		h ABOUT 43KM		SEP 1		SEP 1	
DRV EP	09 09 54	BYR EP	18 15 23	H-04 52 14.5		MIR E	12 20 06
BYR EP	09 11 10	SPA EP	18 15 29	15.9S 168.2E		SEP 1	
MIR E	09 11 43	MAW IP	18 15 44	h ABOUT 244KM		WIL EP	13 55 40
AUG 31		AUG 31		MCQ EP	04 59 21	IPP	55 55
BYR E	10 43 28	DRV IP	19 39 32	SBA IP	05 02 11	SEP 1	
				S	10 21	H-15 01 04.6	
				WIL EP	05 02 15	25.8N 65.3E	
				I	02 16	h ABOUT 46KM	

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	h m s		h m s		h m s		h m s
MAW E	15 14 13	SEP 2		SEP 2		MIR E	08 58 15
MIR EP	15 14 19	H-08 23 28.5		SPA E	23 29 50	SEP 4	
SPA E	15 19 41	34.2N 139.5E		SEP 2		WIL EP	09 29 02
BYR E	15 20 10	h ABOUT 33KM		H-23 56 53.6		EPP	29 16
SEP 1		SPA E	08 42 24	7.0S 124.8E		SEP 4	
MIR E	15 46 10	BYR EP	08 42 26	h ABOUT 470KM		SPA E	13 49 10
SEP 1		SEP 2		MIR E	00 06 36	SEP 4	
SPA IP	18 05 46	MIR E	11 11 04	SBA EP	00 07 41	BYR EP	17 28 42
BYR EP	18 06 02	SEP 2		SPA IP	00 08 29	SEP 4	
MAW I(P)	18 06 08	DRV IP	13 13 26	BYR E	00 10 50	H-19 28 37.0	
SEP 1		SEP 2		SEP 3		15.5S 167.7E	
SPA I	18 25 46	MIR E	14 32 52	SPA EP	00 17 58	h ABOUT 133KM	
SEP 1		SEP 2		SEP 3		SBA P	19 38 47
MAW IP	19 34 34	MIR EP	15 16 54	MIR E	09 33 31	BYR IP	19 39 40
ES	46 38	SEP 2		SEP 3		SPA IP	19 40 03
MIR EP	19 34 57	H-15 21 55.0		MIR E	14 18 03	SEP 4	
IPP	39 21	10.2S 120.3E		SEP 3		BYR EP	19 40 33
ISKS	45 40	h ABOUT 33KM		SBA EP	20 09 42	SEP 4	
WIL IP	19 35 10	DRV IP	15 31 51	SEP 3		DRV EP	13 34 12
ISKS	45 55	MAW IP	15 31 57	SPA E	20 33 53	SEP 5	
ISP	49 17	SBA EP	15 33 16	BYR EP	20 34 10	BYR EP	08 06 05
SEP 1		SPA IP	15 34 02	SEP 3		SEP 5	
SPA IP	19 39 38	BYR EP	15 34 29	DRV IP	22 12 27	SBA EP	08 51 09
SBA EP	19 39 48	E	34 45	SEP 3		SEP 5	
BYR EP	19 39 50	SEP 2		H-22 06 08.9		H-08 35 56.3	
EPP	43 33	MAW E	15 49 54	56.6S 27.2W		52.7N 159.1E	
HLL EP	19 39 53	SPA E	15 51 02	h ABOUT 33KM		h ABOUT 101KM	
SEP 1		BYR EP	15 51 26	SPA IP	22 12 47	BYR E	08 55 06
BYR EP	19 42 43	SEP 2		BYR IP	22 13 02	SEP 5	
ESKS	54 53	BYR E	16 08 25	MAW IP	22 13 36	DRV EP	09 44 43
SEP 1		SEP 2		MIR E	22 14 52	SEP 5	
MAW IP	19 50 34	BYR E	16 14 28	SEP 3		BYR EP	09 57 36
IPP	58 36	SEP 2		BYR EP	22 19 13	SEP 5	
MIR IP	19 50 43	H-16 13 18.1		SEP 3		MIR IP	11 18 15
HLL EPKP	19 53 31	22.4S 68.1W		MIR E	22 58 54	SEP 5	
SEP 1		h ABOUT 170KM		SEP 4		H-11 17 06.7	
SPA E	22 14 35	SPA IP	16 24 00	WIL IP	00 52 50	3.3S 139.9E	
SEP 1		MAW I(P)	16 25 18	I	53 05	h ABOUT 110KM	
WIL EP	23 55 40	I	26 00	SEP 4		DRV IP	11 27 25
I PP	55 55	SEP 2		SEP 4		WIL IP	11 27 44
SEP 2		H-20 16 41.7		SPA EP	01 35 31	EPP	28 07
BYR E	01 23 40	38.5S 179.8W		SEP 4		MIR I	11 28 21
SEP 2		h ABOUT 33KM		SBA EP	03 48 06	MAW I(P)	11 29 16
H-03 02 29.3		BYR E	20 25 21	BYR EP	03 50 10	SPA IP	11 29 40
51.3N 179.8W		SPA IP	20 25 47	SPA IP	03 50 17	BYR EP	11 29 49
h ABOUT 26KM		MIR EP	20 26 07	SEP 4		SEP 5	
MAW IP	03 22 05	MAW EP	20 27 14	MIR E	07 38 35	BYR IP	11 30 17
SEP 2		SEP 2		SEP 4			
BYR E	20 36 35	BYR E	20 36 35	SPA E	08 55 53		



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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
SEP 5		BYR IP	15 15 04	SEP 8		SEP 9	
H-16 04 29.0		SPA IP	15 15 11	WIL IP	00 14 19	MIR EP	04 40 58
40.7N 112.0W		MAW IP	15 15 24	E <sub>p</sub> P	14 35		
h ABOUT 14KM				SEP 8		SEP 9	
BYR E	16 23 35	SEP 6		MIR E	00 33 28	WIL EP	07 52 20
		H-18 06 22.9				I <sub>p</sub> P	52 37
SEP 6		31.8S 178.8W		SEP 8		SPA E	07 54 52
H-06 47 25.3		h ABOUT 81KM		SPA I	01 05 37		
31.1S 72.0W		SBA EP	18 14 47	SEP 8		SEP 9	
h ABOUT 33KM		BYR EP	18 15 39	SPA EP	04 27 39	H-08 39 38.2	
SEP 6		SPA IP	18 16 14			21.8S 171.1E	
SBA EP	07 04 21	MAW IP	18 17 30	SEP 8		h ABOUT 112KM	
SEP 6		SEP 6		SEP 8		SBA IP	08 49 08
BYR E	07 11 28	BYR EP	18 17 35	H-07 27 06.7		BYR EP	08 50 09
SEP 6		SEP 7		22.4S 171.5E		SPA I	08 50 29
SBA EP	07 53 08	SPA E	02 30 20	h ABOUT 76KM		SEP 9	
SEP 6		SEP 7		SBA EP	07 36 36	MIR E	09 36 26
MIR E	08 46 50	BYR EP	18 17 35	BYR EP	07 37 36	SEP 9	
SEP 6		SEP 7		SEP 8		MIR E	10 04 21
H-10 49 00.7		H-07 07 27.8		WIL E	08 35 25	SEP 9	
21.2S 174.5W		3.2S 128.0E		I	35 40	MIR E	10 04 21
h ABOUT 110KM		h ABOUT 216KM		SEP 8		SEP 9	
SBA EP	10 58 39	BYR E	07 20 07	MIR E	16 27 17	H-11 23 41.6	
BYR E	10 59 19	SEP 7		SEP 8		10.5N 121.8E	
SPA EP	10 59 56	BYR EP	07 42 22	BYR E	18 40 35	h ABOUT 33KM	
MIR E	11 00 14	SEP 7		SEP 8		MIR E	11 35 47
MAW I	11 01 10	H-07 41 51.0		MIR E	20 15 09	SEP 9	
SEP 6		6.3S 130.0E		SEP 8		H-19 12 37.1	
WIL EP	11 11 17	h ABOUT 180KM		MIR E	20 58 21	62.4N 152.4W	
SEP 6		DRV IP	07 51 44	SEP 8		h ABOUT 57KM	
H-11 10 50.3		MAW IP	07 53 16	MIR IP	21 05 35	BYR EP	19 32 01
4.0S 126.4E		SPA IP	07 54 01	SEP 9		SPA IP	19 32 25
h ABOUT 33KM		BYR IP	07 54 20	H-01 34 38.5		SEP 10	
WIL EP	11 21 17	SEP 7		10.3N 121.4E		MIR E	02 41 24
DRV EP	11 21 18	SPA E	11 43 38	h ABOUT 58KM		SEP 10	
MIR EP	11 21 39	SEP 7		MIR IP	01 46 41	SBA EP	07 16 28
MAW E(P)	11 22 38	H-23 37 27.5		BYR EP	01 53 00	SEP 10	
SPA EP	11 23 28	26.3S 178.0W		SEP 9		MIR E	07 42 40
BYR EP	11 23 50	h ABOUT 50KM		MIR E	02 13 40	SEP 10	
SEP 6		BYR E	23 47 24	SEP 9		DRV EP	08 00 53
BYR EP	11 27 21	SEP 7		H-02 56 04.9		SEP 10	
SEP 6		H-23 39 13.7		17.9S 178.6W		MIR E	08 23 54
BYR EP	12 08 44	41.1N 116.8W		h ABOUT 625KM		SEP 10	
SEP 6		h ABOUT 33KM		MIR E	03 09 03	H-09 36 24.3	
BYR EP	12 08 44	DRV EP	23 59 58	SEP 9		35.0N 27.1E	
SEP 6		SEP 7		H-03 21 55.5		h ABOUT 33KM	
H-15 03 01.9		H-23 52 09.1		15.6S 73.4W		SPA IP	09 55 20
8.4S 158.8E		08.4S 159.0E		h ABOUT 98KM		BYR EP	09 55 35
h ABOUT 95KM		h ABOUT 95KM		BYR IP	03 32 44	ESKP	59 02
SBA EP	15 14 01	DRV I	24 02 03	I <sub>p</sub> P	33 08	SBA EP	09 55 39
		BYR EP	24 04 10	I <sub>s</sub> P	33 19	SEP 10	
				SEP 9		MIR E	10 10 01
				SPA IP	03 33 25	SEP 10	
				SBA IP	03 34 00	WIL E	11 25 37
				MAW IP	03 34 50		

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
SEP 10 H-15 43 59.4 21.1S 179.2W h ABOUT 640KM		SEP 10 MIR E	20 13 19	SPA E	19 57 17	MAW E	21 10 58
MCO IP	15 50 21	SEP 10 H-20 07 56.5 13.6S 111.6W h ABOUT 33KM		SEP 11 DRV EPKP	21 15 36	MIR EP	21 15 10
HLL EP	15 52 10			EPP	16 37	SBA EP	21 15 55
DRV IP	15 52 15	BYR EP	20 18 44	SEP 12 MIR E	03 24 35	SPA EP	21 15 57
IPP	54 11	MIR E	20 23 06	SEP 12 MIR EP	04 28 09	HLL EPKP	21 16 00
IS	58 56	SEP 11 H-00 33 13.0 6.1S 149.4E h ABOUT 62KM		SEP 12 MIR EP	04 28 09	BYR EP	21 16 13
SRA EP	15 52 49			SEP 12 H-04 50 14.3 7.0S 12.4W h ABOUT 33KM		EPP	18 53
E	54 49	MIR E	00 44 29	h ABOUT 33KM		IPKS	19 47
BYR IP	15 53 23	MAW I	00 45 34	SEP 12 H-04 50 14.3 7.0S 12.4W h ABOUT 33KM		SEP 12 MIR E	21 35 23
IPP	55 37	SPA IP	00 45 38	SEP 12 H-04 50 14.3 7.0S 12.4W h ABOUT 33KM		SEP 12 MIR E	22 30 04
ES	16 01 28	BYR EP	00 45 40	SEP 12 H-04 50 14.3 7.0S 12.4W h ABOUT 33KM		SEP 13 SPA IP	00 11 10
WIL EP	15 53 26	SEP 11 SBA EP	01 26 57	SEP 12 MIR E	10 05 42	BYR EP	00 11 22
EP	55 26	BYR E	01 27 52	SEP 12 MIR E	10 05 42	SRA EP	00 12 14
IS	16 01 06	E	29 15	SEP 12 SPA IP	11 38 55	SEP 13 MIR EP	01 09 09
SPA IP	15 54 03	SEP 11 SBA EP	01 26 57	SEP 12 H-12 28 16.3 23.1S 68.8W h ABOUT 150KM		SEP 13 H-05 02 22.8 21.3S 174.7W h ABOUT 33KM	
I	56 11	BYR E	01 27 52	BYR EP	12 38 14	SBA EP	05 12 10
IS	16 02 19	E	29 15	EPP	38 41	BYR EP	05 12 50
MIR IP	15 54 09	SPA IP	01 28 26	MIR EP	12 39 26	SPA E	05 13 23
IPP	56 40	SEP 11 H-02 24 22.9 15.2S 173.4W h ABOUT 33KM		SBA EP	12 39 40	SEP 13 MIR IP	06 02 32
ES	16 02 29	BYR EP	02 35 28	SEP 12 SBA EP	14 28 41	SEP 13 H-08 07 49.2 47.7N 157.0E h ABOUT 31KM	
MAW IP	15 55 07	SPA IP	02 36 04	BYR E	14 29 12	BYR EP	08 27 10
EP	56 02	MIR EP	02 36 17	SPA IP	14 29 47	SEP 13 BYR EP	08 58 31
ISKS	16 04 24	MAW I	02 37 11	MIR E	14 30 09	SEP 13 MIR E	09 20 41
SEP 10		SEP 11 SPA E	04 19 16	SEP 12 H-18 18 42.9 4.4S 145.4E h ABOUT 32KM		SEP 13 BYR EP	13 15 16
SPA EP	16 21 15	SEP 11 MIR E	05 35 24	WIL EP	18 29 34	SEP 13 BYR EP	13 21 03
I	16 21 57	SEP 11 MIR E	05 38 31	MIR EP	18 30 02	SEP 13 MIR E	15 39 16
SBA EP	16 22 03	SEP 11 SPA IP	16 03 45	SBA EP	18 30 31	SEP 13 SPA E	19 26 52
WIL E	16 22 10	SEP 11 DRV EP	17 07 33	SPA EP	18 31 17	MAW IP	19 27 49
SEP 10		SEP 11 DRV EP	18 19 04	BYR EP	18 31 22	IPP	28 00
BYR EP	17 45 05	SEP 11 H-19 46 21.5 22.4S 172.3E h ABOUT 33KM		SEP 12 WIL E	20 05 27	SEP 13 MIR E	22 20 49
SEP 10		BYR E	19 57 06	SEP 12 H-20 57 00.4 36.5N 69.2E h ABOUT 50KM			
BYR EP	17 45 05			WIL E(P)	21 10 28		
SEP 10							
MIR E	19 06 27						
SEP 10							
MIR E	19 33 24						

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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
	h m s		h m s		h m s		h m s
SEP 13 MIR EPP E	23 11 27 12 36	SPA EP	22 10 11	SEP 17 SPA E	01 38 31	SEP 18 DRV I	01 05 01
SEP 14 DRV IP	06 11 31	SEP 15 H-22 50 46.3 48.5N 156.8E h ABOUT 33KM		BYR EP	01 38 54	SEP 18 DRV E	02 20 45
SEP 14 H-11 11 56.4 51.4S 146.3E h ABOUT 33KM		MAW E(P) IPP	23 09 24 12 38	SEP 17 WIL I	02 32 12	SEP 18 BYR EP	03 11 37
SPA EP	11 19 18	DRV EP E I	23 09 24 10 15 20 43	SEP 17 BYR E	03 40 45	SEP 18 H-05 13 37.5 7.3N 82.4W h ABOUT 41KM	
SEP 14 H-15 52 41.2 17.9S 176.5E h ABOUT 33KM		WIL IP	23 09 34	SEP 17 H-04 59 51.5 17.7S 178.6W h ABOUT 576KM		SPA E	05 27 14
SBA EP	16 02 49	HLL EPKP	23 09 36	SBA EP	05 09 11	SEP 18 H-06 10 26.3 2.3N 126.9E h ABOUT 33KM	
SPA EP	16 04 05	SBA EP	23 09 48	SPA EP	05 10 21	DRV IP EPP	06 21 32 24 06
SEP 14 H-17 23 13.4 26.6S 178.5W h ABOUT 449KM		BYR EP E E EPP	23 09 53 10 05 10 23 13 42 14 23	SEP 17 DRV EP	07 00 26	WIL IP I(S)	06 21 33 30 39
BYR EP	17 32 28	SPA EP	23 09 59	SEP 17 H-17 55 45.4 21.0S 179.1W h ABOUT 601KM		HLL EPKP	06 22 31
SPA E	17 33 00	SEP 16 H-03 05 33.0 19.3N 103.1W h ABOUT 100KM		HLL EP	18 03 59	SBA EP	06 22 50
MAW I	17 33 56	MAW I(P)	03 24 22	DRV IP	18 04 03	SPA IP	06 23 36
SEP 14 H-18 17 52.1 19.9S 177.6W h ABOUT 350KM		SEP 16 H-05 36 15.7 35.8N 118.1W h ABOUT 10KM		SBA IP ES	18 04 42 11 57	SEP 18 WIL EP I(P)	08 08 14 08 29
DRV IP	18 26 42	MAW IP	05 56 01	WIL IP EPP	18 05 14 07 14	SEP 18 DRV EP	14 54 15
SBA I E	18 27 14 28 38	SEP 16 SPA E	06 29 27	BYR IP	18 05 23	SEP 18 DRV EP	16 49 41
BYR IP E	18 27 59 29 19	SEP 16 BYR EP	13 54 34	SPA IP	18 05 52	SEP 18 H-20 11 47.5 21.0S 169.9E h ABOUT 81KM	
SPA IP	18 28 30	SEP 16 BYR EP	13 59 13	MAW E(P)	18 07 06	DRV IP	20 20 30
MAW IP I(P)	18 29 18 30 44	SEP 16 HLL EP	15 22 58	SEP 17 BYR IP	18 07 27	SBA EP	20 21 26
SEP 14 SPA E	18 56 23	SEP 16 SPA E	21 28 35	SPA IP IS	18 07 59 14 08	BYR IP	20 22 27
BYR EP	18 56 28	MAW I	21 29 55	SEP 17 BYR EP	18 33 44	SPA IP	20 22 46
SEP 15 H-11 18 23.0 20.4S 68.1W h ABOUT 33KM		SEP 16 SPA EP	22 05 58	SEP 18 H-00 29 05.2 7.5N 82.3W h ABOUT 33KM		SEP 18 H-21 47 30.9 14.8S 178.1W h ABOUT 526KM	
BYR IP	11 28 53	SEP 16 MAW I	22 39 52	BYR EP	00 41 59	HLL EP	21 56 33
SPA E	11 29 33	SEP 17 MAW I(P)	01 30 47	SPA EP EPP	00 42 38 42 42	DRV EP	21 56 40
SEP 15 BYR EP	11 29 20	SEP 17 SPA IP	01 30 50	HLL EP	00 43 00	SBA EP	21 57 08
SEP 15 DRV EP	22 08 10	BYR EP	01 31 12	HLL EPKP	00 47 00	BYR E	21 57 52
BYR E	22 09 47	SBA EP	01 32 22	WIL E(P)	00 48 02	SPA IP	21 58 22
				DRV EP IS	00 48 42 58 39	SEP 18 BYR EP	22 14 14

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
SPA IP	h m s 22 14 48	h ABOUT 34KM		MAW IP	h m s 09 28 22	MAW IP	h m s 03 58 14
DRV E	22 18 54	MAW IP	18 17 43	IP	28 30	SEP 22	
SEP 18		SPA EP	18 18 50	SEP 21		BYR EP	06 40 50
MAW IP	22 23 32	BYR EP	18 19 08	MIR E	12 12 49	SEP 22	
SEP 18		SEP 20		SEP 21		H-06 44 04.9	
SBA EP	23 18 49	H-06 03 23.7		MAW IP	12 22 51	24.3S 67.1W	
SPA IP	23 19 11	4.5S 80.5W		SEP 21		h ABOUT 168KM	
MAW IP	23 21 26	h ABOUT 17KM		MIR E	12 42 07	MAW IP	06 56 04
SEP 19		SPA EP	06 16 02	SEP 21		SEP 22	
SPA IP	00 28 00	SEP 20		H-14 54 51.0		H-06 51 32.3	
SEP 19		H-09 25 26.7		17.7S 178.7W		26.5N 97.0E	
SPA IP	01 31 59	15.5S 76.1W		h ABOUT 536KM		h ABOUT 33KM	
SEP 19		h ABOUT 33KM		SPA I	15 05 23	WIL EP	07 04 32
SPA IP	01 31 59	SPA EP	09 37 10	SEP 21		MIR IP	07 04 41
SEP 19		SEP 20		MAW IP	16 16 14	ES	15 15
H-01 22 35.5		H-16 38 24.6		SEP 21		MAW IP	07 04 42
52.3N 173.4W		4.7S 139.4E		MAW IP	19 30 38	IP	05 09
h ABOUT 33KM		h ABOUT 33KM		SEP 21		DRV EP	07 05 07
BYR E	01 41 40	DRV IP	16 48 43	WIL E	21 09 41	EPP	08 50
MAW EP	01 42 19	I	48 47	SEP 21		HLL EPKP	07 10 06
SEP 19		WIL EP	16 49 02	MIR E	22 27 05	SEP 22	
H-01 42 15.1		SBA EP	16 50 05	SEP 21		MAW IP	08 35 28
7.6N 81.8W		SPA EP	16 51 01	MAW EPKP	22 40 40	SEP 22	
h ABOUT 33KM		E	56 04	SEP 21		DRV EP	15 15 11
BYR EP	01 55 02	SEP 21		H-22 38 51.7		SBA EP	15 15 52
SEP 19		MAW I(P)	00 19 46	57.7S 64.1W		BYR EP	15 17 02
BYR EP	04 28 49	SEP 21		h ABOUT 51KM		MAW IP	15 18 42
SEP 19		SEP 21		BYR EP	22 44 40	SEP 23	
H-05 07 39.1		H-02 26 18.5		SPA IP	22 45 17	DRV EP	02 00 43
48.1N 145.1E		53.7N 160.3E		SBA EP	22 46 32	SEP 23	
h ABOUT 466KM		h ABOUT 147KM		HLL EP	22 47 02	SPA E	06 40 52
BYR E	05 25 53	SPA E	02 45 34	MAW IPKP	22 47 35	SEP 23	
SEP 19		SEP 21		DRV EP	22 48 17	H-06 59 49.9	
SPA IP	05 28 55	DRV P	03 11 56	E	23 06 32	23.7S 179.9E	
SEP 19		SEP 21		WIL IP	22 48 29	h ABOUT 549KM	
H-07 48 35.2		H-05 04 28.6		SEP 21		SPA I	07 09 46
11.5N 141.0E		51.4N 178.0W		MAW IPKP	23 24 46	SEP 23	
h ABOUT 61KM		h ABOUT 33KM		SEP 21		H-07 01 45.7	
DRV EP	08 00 28	MAW I(P)	05 24 17	DEC EP	23 39 14	4.9S 151.9E	
SBA EP	08 01 29	SEP 21		IS	41 25	h ABOUT 71KM	
MAW IP	08 01 58	MAW IP	07 11 40	SEP 22		BYR E	07 14 14
IP	02 10	SEP 21		MIR E	00 42 29	SPA EP	07 14 15
SEP 19		H-08 44 11.0		SEP 22		SEP 23	
DRV EP	08 16 23	21.2S 179.0W		MIR E	02 27 37	SPA E	08 56 01
SEP 19		h ABOUT 624KM		SEP 22		BYR E	08 57 08
BYR EP	11 11 11	BYR E	08 53 47	DRV EP	02 34 05	SEP 23	
SEP 19		E	59 04	SEP 22		DRV EP	13 15 50
BYR EP	15 25 06	SPA I	08 56 23	SEP 22			
SPA IP	15 25 19	SEP 21		H-03 38 29.9			
SEP 19		H-09 08 45.7		51.1N 177.9E			
H-18 06 44.4		51.4N 178.3W		h ABOUT 33KM			
		h ABOUT 33KM					

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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
	h m s		h m s		h m s		h m s
SEP 23 H-15 50 46.4 60.1N 151.2W h ABOUT 86KM		MIR EP 14 58 38		SEP 25 MIR E 10 57 45		SEP 26 H-15 42 49.6 15.2S 72.4W h ABOUT 276KM	
SPA IP 16 10 26		SEP 24 BYR EP 15 01 02		DRV EP 11 02 03		MAW IP 15 54 48	
MIR EP 16 10 30		SEP 24 BYR EP 15 47 37		SEP 25 H-14 49 46.9 11.7N 138.6E h ABOUT 33KM		SEP 26 MAW IP 15 57 10	
SEP 23 DRV EP 19 21 45		SEP 24 MAW IP 20 58 34		DRV IP 15 01 44		SEP 26 MAW IP 16 00 51	
SEP 23 MIR E 22 00 05		SEP 24 MAW IP 21 32 50		MIR EP 15 02 20		SEP 26 MAW IP 17 23 46	
SEP 23 MIR E 23 40 07		SEP 24 H-22 01 11.5 0.2N 124.0E h ABOUT 155KM		SBA EP 15 02 50		SEP 26 MAW E 19 06 22	
SEP 24 SPA E 04 37 10		MAW IP 22 13 02		SEP 25 SPA E 22 35 56		SEP 26 MAW IP 20 40 28	
BYR EP 04 37 17		SPA E 22 13 56		SEP 26 WIL EP 00 30 17 ES 37 36		SEP 26 MAW IP 20 45 27	
SEP 24 H-05 28 26.5 9.2N 126.6E h ABOUT 33KM		SEP 25 H-00 21 14.6 55.6S 124.3W h ABOUT 67KM		SEP 26 MAW IP 04 15 02		SEP 26 SPA E 21 46 01	
DRV EP 05 40 13		BYR IP 00 26 29 E 30 56		SEP 26 MAW EP 09 41 26		MAW IP 21 46 12 IP 46 20	
MIR EP 05 40 30		HLL EP 00 27 38		SEP 26 MAW IP 09 48 08		SEP 26 MAW IP 22 46 24	
SEP 24 BYR E 09 17 52		SBA EP 00 27 39		SEP 26 MAW IP 09 49 42		SEP 26 MAW IP 23 40 06	
SEP 24 DRV EP 10 01 24		SPA IP 00 27 57		SEP 26 MAW IP 10 41 26		SEP 26 MAW IP 23 42 20	
MAW IP 10 03 38 IP 03 44		MIR EP 00 30 40		SEP 26 SPA E 10 56 01		SEP 26 MAW E(IP) 23 43 46	
SEP 24 MIR E 11 18 40		MAW I(P) 00 30 52		SEP 26 H-12 44 48.9 27.5S 176.4W h ABOUT 33KM		SEP 27 MAW IP 00 34 12	
SEP 24 H-13 56 45.8 23.5S 67.1W h ABOUT 162KM		DRV E 00 35 39		SBA EP 12 53 52 E 57 44		SEP 27 MIR E 03 35 25	
BYR EP 14 06 42		SEP 25 H-04 48 40.9 7.4S 34.9E h ABOUT 33KM		BYR EP 12 54 37 E 56 31 E 58 27		SEP 27 BYR E 05 37 56	
SPA IP 14 07 21		MAW IP 04 59 06 IP 59 20		SPA IP 12 55 13		SEP 27 H-06 48 45.8 31.2S 67.9W h ABOUT 71KM	
MAW IP 14 08 50		SEP 25 MIR E 05 42 32		MIR IP 12 55 28 I 56 42		BYR IP 06 57 58	
SEP 24 H-14 22 47.0 7.7N 82.3W h ABOUT 79KM		SEP 25 H-07 30 09.3 24.0S 176.6W h ABOUT 33KM		MAW IP 12 56 23 I 13 00 11		SPA IP 06 58 40	
BYR EP 14 35 38		SBA EP 07 39 34		WIL IP 12 58 29		SEP 27 H-06 53 30.0 47.4S 34.3E h ABOUT 33KM	
SEP 24 MAW IP 14 30 24		SPA IP 07 40 53		SEP 26 SPA E 13 24 14		MAW IP 06 58 54 E 07 00 20	
SEP 24 H-14 38 21.7 42.8N 145.3E h ABOUT 33KM		MAW EP 07 42 06		SEP 26 HLL EP 13 53 08		MIR EP 07 00 26	
MAW I(P) 14 57 22		SEP 25 MIR EP 08 04 52		SEP 26 MAW I 14 11 54		SPA IP 07 01 25	
SPA EP 14 57 35		MAW IP 08 05 31 IP 05 36				SBA IP 07 02 36	
		SPA EP 08 08 12					

COAST AND GEODETIC SURVEY

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
BYR EP	h m s 07 02 38	MAW I	h m s 14 50 53	BYR EP	h m s 05 32 22	SEP 30	h m s
DRV IP	07 02 46	SEP 28		SPA IP	05 33 02	MIR EP	10 29 41
SEP 27		SPA EP	01 27 06	SEP 29		BYR IP	10 31 57
BYR EP	07 04 37	SEP 28		H-15 17 47.7		SEP 30	
SEP 27		WIL EP	02 22 55	27.05 63.6W		MIR IP	10 40 08
H-07 50 28.3		IP	23 09	h ABOUT 575KM		SEP 30	
17.9S 64.9W		SEP 28		SPA IP	15 26 20	H-10 48 10.3	
h ABOUT 120KM		H-02 15 32.6		IS	35 05	5.2S 152.7E	
BYR IP	08 01 06	16.7S 167.5E		BYR IP	15 26 46	h ABOUT 33KM	
E	01 36	h ABOUT 50KM		IP	28 34	WIL EP	10 59 07
SPA IP	08 01 45	SBA EP	02 25 54	IS	34 11	SBA EP	10 59 38
SBA EP	08 02 26	MIR EP	02 26 40	SBA IP	15 28 10	BYR EPP	11 00 43
MIR E	08 02 45	BYR E	02 26 45	HLL IP'	15 28 28	EPS	11 05
MAW IP	08 03 08	SEP 28		MAW IP	15 28 44	MAW I(P)	11 00 44
IP	03 13	H-03 35 20.3		IP	28 56	SEP 30	
SEP 27		17.5S 178.8W		ES	37 48	H-10 58 37.0	
MIR E	12 00 04	h ABOUT 584KM		DRV IP	15 29 21	5.9S 151.0E	
SEP 27		SBA EP	03 44 44	IS	38 52	h ABOUT 50KM	
H-12 30 53.0		BYR EP	03 45 22	MIR IP	15 29 22	DRV IP	11 08 47
18.4S 68.7W		SPA IP	03 45 50	ES	38 42	SBA EP	11 10 00
h ABOUT 59KM		SEP 28		WIL IP	15 29 32	MAW IP	11 11 02
BYR IP	12 41 32	DRV P	05 44 37	EIP	31 34	IP	11 13
SPA E	12 42 10	SEP 28		IS	39 05	SEP 30	
MAW IP	12 43 34	WIL IP	10 34 35	SEP 29		SPA IP	11 11 04
SEP 27		IP	35 01	SPA EP	15 55 32	SEP 30	
H-12 56 18.6		SEP 28		SBA E	15 55 49	DRV E	11 21 41
4.6S 104.4E		H-18 56 08.7		BYR E	15 55 59	SEP 30	
h ABOUT 144KM		5.2N 76.2W		SEP 29		BYR EP	11 29 27
WIL IP	13 06 23	h ABOUT 127KM		SPA E	17 14 28	SPA E	11 29 50
MIR IP	13 06 27	BYR IP	19 08 45	SEP 29		SEP 30	
DRV IP	13 06 51	EPP	12 13	SBA EP	17 51 20	BYR EP	12 35 21
SBA IP	13 08 13	SPA IP	19 09 10	SEP 29		SEP 30	
SPA IP	13 08 41	SEP 28		MIR E	18 19 18	BYR EP	13 34 38
BYR IP	13 09 16	SPA E	20 02 50	SEP 29		SEP 30	
SEP 27		SEP 28		H-20 42 24.8		BYR EP	16 54 46
BYR EP	13 09 50	H-22 14 52.7		14.2S 168.2E		SEP 30	
SEP 27		13.8S 76.7W		h ABOUT 198KM		H-21 57 24.8	
H-13 25 05.6		h ABOUT 61KM		SPA IP	20 53 57	18.6N 120.9E	
17.6S 178.9W		BYR EP	22 25 53	SEP 29		h ABOUT 51KM	
h ABOUT 507KM		SPA E	22 26 36	SPA IP	21 52 50	WIL IP	22 09 57
BYR EP	13 35 13	SEP 29		SEP 29		IP	10 11
E	37 14	BYR EP	03 16 54	MIR I	22 57 55	DRV IP	22 10 01
SPA IP	13 35 41	SEP 29		SEP 29		MAW IP	22 10 48
MIR EP	13 35 55	BYR EP	03 26 53	MIR E	23 21 07	SPA E	22 16 32
MAW IP	13 36 42	SEP 29		SEP 30		SEP 30	
SEP 27		BYR E	05 22 50	MAW IP	08 31 15	BYR EP	22 26 45
BYR EP	14 50 26	SEP 29		SEP 30			
		H-05 21 49.6		SPA IP	10 00 44		
		20.0S 68.0W		SEP 30			
		h ABOUT 26KM		MAW IP	10 20 32		

# ANTARCTIC SEISMOLOGICAL BULLETIN

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COAST AND GEODETIC SURVEY—WASHINGTON

H. Arnold Karo, Director

FOR OFFICIAL DISTRIBUTION

U. S. COAST AND GEODETIC SURVEY  
ANTARCTIC SEISMOLOGICAL BULLETIN

The Scientific Committee on Antarctic Research of the International Council of Scientific Unions recommended that a bulletin of phase readings be issued from seismological stations in the Antarctic.

The United States Coast and Geodetic Survey has undertaken the publication of the Antarctic Seismological Bulletin to be issued quarterly, based on the readings received by radio from the Antarctic stations. The phase designation shown in this bulletin is the identification given by the station operator.

The epicenters shown in this Bulletin are computed by the United States Coast and Geodetic Survey using the phase readings from many stations in addition to the Antarctic readings shown.



STATION AND INSTRUMENTAL CONSTANTS

1

Country, Station and Station Abbreviation	Position Latitude	Longitude	Foundation and Elevation (In Meters)	Instruments and Components	To	
					Seconds	Tg Seconds
ARGENTINA Deception (DEC)	62°59' S	60°43' W	Rock 7 m	Mainka Mainka N E	5.0 5.0	
AUSTRALIA Macquarie (MCQ)	54°29'55" S	158°57'22" E	Weathered Basaltic Lava 14 m	Benioff Benioff Benioff Z N E	1.0 1.0 1.0	0.2 0.2 0.2
Mawson (MAW)	67°36'21" S	62°52'48" E	Pre-Cambrian granite 9 m	Benioff Benioff Benioff Z N E	1.0 1.0 1.0	0.2 70.0 70.0
Wilkes (WIL)	66°15.5' S	110°31.2' E	Rock 9 m	Grenet Lehner-Griffith Lehner-Griffith Z N E	1.4 21.0 13.0	1.0 80.0 75.0
FRANCE Dumont d'Urville (DRV)	66°40' S	140°01' E	Rock 40 m	Labrouste Galitzin Galitzin Z N E	1.5 12.5 12.5	11.0 12.3
Kerguelen (KII)	49°21'39.3" S	70°04'00.9" E	Basalt 22 m	Grenet-Coulomb Grenet-Coulomb Paris Type IPG Paris Type IPG Z Z N E	9.71 1.03 15.0 15.0	4.25 0.3 4.25 4.25
NEW ZEALAND Hallett (HLL)	72°17.7' S	170°18.5' E	Rock 5 m	Willmore Press-Ewing Press-Ewing Press-Ewing Z Z N E	1.0 15.0 15.0 15.0	2.0 75.0 75.0 75.0
Scott Base (SBA)	77°51' S	166°45' E	Rock 15 m	Benioff Benioff Benioff Z N E	0.2 25.0 25.0	0.2 - 25** 0.2 - 25** 0.2 - 10**
USSR Mirny (MIR)	66°33' S	93°00' E	Rock 30 m	SVKM SVK SGK SGK Z Z N E	2.5 12.5 12.5 12.5	1.0 1.1 1.1 1.1
UNITED KINGDOM Argentine Island (AIA)	65°15' S	64°16' W	Rock 11 m	Willmore Willmore Willmore Z N E	1.0 1.0 1.0	0.25 0.25 0.25
UNITED STATES Byrd (BYR)	80°01' S	119°31' W	Ice 1515 m	Benioff Wilson-Lamison Wilson Lamison Sprengnether* Sprengnether* Sprengnether* Z N E Z N E	1.2 7.8 8.0 30.0 30.0 30.0	0.5 0.2 3.5 90.0 14.0 90.0
Sputh Pole (SPA)	90° S	0	Ice 2600 m	Benioff Benioff Wilson-Lamison Wilson-Lamison Z Z	0.7 0.7 3.5 3.6	0.5 0.5 0.5 0.5

\*Began operation March 1, 1962

\*\*Long period galvanometers recording on 35 mm film.

ANTARCTIC SEISMOGRAM DEPOSITORIES

ARGENTINA: Servicio Meteorologico Nacional  
Paseo Colon 317, 2° Piso  
Buenos Aires, Argentina

NEW ZEALAND: Superintendent  
Seismological Observatory  
DSIR, P. O. Box 8005  
Wellington, New Zealand

AUSTRALIA: Chief Geophysicist  
Bureau of Mineral Resources  
Geology and Geophysics  
203 Collins Street  
Melbourne, Australia

USSR: Research Institute of Earth Physics  
Academy of Sciences of the USSR  
Moscow, USSR

FRANCE: Institut de Physique de Globe  
191 rue St. Jacques  
Paris 5e, France

UNITED KINGDOM: Falkland Island Dependency Survey  
4 Milbank  
London, SW1,  
England

UNITED STATES: U. S. Coast and Geodetic Survey  
Seismology Division  
Commerce Building  
Washington 25, D. C.

## COAST AND GEODETIC SURVEY

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
OCT 1 MIR I	00 57 54	MIR E I	10 10 03 13 00	DRV IP	20 51 57	OCT 3 H-01 16 46.7 40.6N 29.7W h ABOUT 33KM	
SPA IP	00 58 57	OCT 1 BYR EP	10 15 56	SBA EP I	20 52 25 52 46	WIL EP	01 36 22
OCT 1 AIA E	01 05 57	SPA EP	10 15 59	BYR E	20 53 02	OCT 3 H-01 19 22.5 40.7N 29.7W h ABOUT 33KM	
MIR E	01 06 24	DRV E	10 21 35	WIL E(P)	20 53 11	BYR EP	01 38 29
SPA EP	01 08 08	OCT 1 H-12 13 57.4 27.9N 54.9E h ABOUT 16KM		SPA EP	20 53 38	OCT 3 BYR EP	02 08 01
BYR IP	01 08 21	MIR E	12 27 55	MIR E	20 55 28	OCT 3 WIL EP	05 04 17 I P 04 31
OCT 1 WIL EP E P	02 51 35 51 49	SPA IP	12 32 43	OCT 1 SPA E	21 43 06	OCT 3 WIL EP	05 16 50
OCT 1 DRV EP	03 54 39	SBA EP	12 32 51	OCT 2 WIL EP	06 45 45	OCT 3 WIL EP	05 49 57
OCT 1 AIA E	04 02 09	BYR E	12 33 06	OCT 2 SPA E	10 07 11	OCT 3 MAW IP	06 32 06
WIL EP	04 04 58	OCT 1 H-12 49 55.1 49.0N 157.5E h ABOUT 80KM		OCT 2 AIA E	11 14 06	OCT 3 MAW E	07 02 40
OCT 1 H-03 56 52.0 17.5S 178.9W h ABOUT 550KM		MIR I	13 09 43	OCT 2 AIA E	11 40 12	OCT 3 BYR E	08 17 33
DRV IP	04 05 38	OCT 1 H-13 08 28.2 52.8N 167.2W h ABOUT 33KM		OCT 2 DRV IP	12 11 28	OCT 3 AIA E	10 47 02
SBA IP	04 06 13	SPA E	13 27 53	OCT 2 SBA EP	13 15 42	OCT 3 BYR E	10 55 26
WIL IP I P	04 06 48 08 40	OCT 1 AIA E	13 30 20	OCT 2 AIA E	15 25 03	OCT 3 SBA EP	12 03 03
BYR IP	04 06 57	OCT 1 MIR EP E	14 46 52 52 08	OCT 2 DRV IP	18 58 26	BYR IP	12 04 57
SPA IP	04 07 26	OCT 1 MIR E	14 49 46	OCT 2 AIA E	15 25 03	SPA IP	12 05 23
MAW IP	04 08 26	SPA IP	14 50 08	OCT 2 DRV IP	18 58 26	OCT 3 MAW I(P)	16 21 26
MIR I	04 09 02	BYR EP	14 51 15	OCT 2 H-19 30 34.6 10.4N 126.9E h ABOUT 125KM		OCT 3 H-17 13 41.5 21.0S 168.4E h ABOUT 33KM	
OCT 1 BYR IP	05 08 15	OCT 1 DRV E	15 01 14	MIR E	19 42 33	SBA EP	17 23 27
OCT 1 SBA EP	06 38 20	OCT 1 H-15 07 22.1 5.5S 151.9E h ABOUT 49KM		OCT 2 H-19 51 53.4 2.1N 126.2E h ABOUT 35KM		MIR E	17 24 18
OCT 1 MIR E	07 12 09	DRV IP	15 17 35	MAW IP	20 04 12	BYR EP	17 24 29
SPA IP	07 14 11	MIR IP	15 18 48	OCT 2 AIA E	21 18 56	SPA IP	17 24 43
MAW IP	07 15 59	SBA I	15 18 48	OCT 2 MIR E	22 15 40	OCT 3 WIL EP	18 02 03
OCT 1 WIL I	07 48 24	BYR EP	15 19 50	OCT 2 BYR EP	22 59 30	OCT 3 MIR I ES	18 53 30 57 17
OCT 1 WIL E	08 54 18	SPA IP	15 19 51	OCT 3 AIA EP	00 44 29		
OCT 1 DRV EP	10 06 10	OCT 1 H-20 42 36.5 19.6S 174.5W h ABOUT 143KM					
SBA EP	10 07 08						
WIL EP	10 07 17						
SPA EP	10 08 27						

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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
	h m s		h m s		h m s		h m s
OCT 3		OCT 4		MAW IP	17 19 50	OCT 6	
H-18 48 52.4		H-20 34 38.7		OCT 5		H-04 35 02.5	
57.5S 26.7W		5.1S 151.9E		MIR EP	19 12 21	17.4S 167.8E	
h ABOUT 33KM		h ABOUT 33KM		OCT 5		h ABOUT 33KM	
AIA E 18 53 23		DRV EP 20 45 14		OCT 5		SBA EP 04 45 11	
E 53 39		MAW I(P) 20 46 42		BYR E 20 07 40		BYR IP 04 46 12	
SPA IP 18 55 24		I p P 47 11		OCT 5		OCT 6	
BYR IP 18 55 39		SPA EP 20 47 11		SPA E 20 21 24		MIR E 05 02 43	
E 19 05 49		BYR E 20 47 13		OCT 5		OCT 6	
SBA EP 18 57 04		OCT 4		BYR EP 21 20 00		H-05 38 40.3	
WIL EP 18 58 03		DRV E 21 09 08		OCT 5		26.2N 126.9E	
OCT 3		OCT 4		H-21 59 40.2		h ABOUT 122KM	
H-20 59 49.4		AIA E 21 52 05		6.1S 130.8E		WIL EP 05 51 42	
21.3S 168.3E		OCT 4		h ABOUT 31KM		I p P 51 57	
h ABOUT 41KM		SPA E 22 12 08		SPA E 22 12 08		BYR E 05 57 19	
SPA E 21 10 51		OCT 5		OCT 5		OCT 6	
OCT 4		SPA E 23 29 19		MIR E 23 44 36		BYR IP 06 28 12	
SPA E 00 16 25		OCT 5		OCT 6		OCT 6	
OCT 4		AIA E 01 50 13		H-03 17 07.2		H-07 17 03.3	
BYR EP 00 45 29		E 52 42		40.8N 29.5W		17.4S 167.8E	
OCT 4		OCT 5		h ABOUT 33KM		h ABOUT 33KM	
H-04 42 05.8		WIL EP 03 29 43		BYR EP 03 36 15		MIR EP 07 28 01	
40.4N 29.5W		I p P 29 57		WIL IP 03 36 44		MAW IP 07 29 08	
h ABOUT 33KM		OCT 5		DRV EP 03 36 53		I p P 29 19	
SPA E 05 01 14		H-04 14 39.1		OCT 6		OCT 6	
OCT 4		40.2N 29.5W		H-03 54 58.3		H-07 56 20.4	
MAW IP 06 32 06		h ABOUT 33KM		40.5N 29.5W		17.4S 167.9E	
E 07 02 40		SPA IP 04 33 50		h ABOUT 33KM		h ABOUT 33KM	
OCT 4		OCT 5		WIL IP 04 14 37		HLL EP 08 05 30	
MAW IP 06 32 06		MIR E 06 08 45		DRV EP 04 14 46		DRV EP 08 05 33	
E 07 02 40		OCT 5		OCT 6		WIL E(P) 08 06 15	
OCT 4		SPA EP 07 18 46		H-04 23 24.1		SBA EP 08 06 30	
SPA E 12 44 23		OCT 5		17.4S 167.7E		MAW IP 08 08 27	
OCT 4		MAW E 07 30 06		h ABOUT 33KM		I p P 08 37	
MAW I 12 49 42		OCT 5		DRV EP 04 32 34		OCT 6	
OCT 4		H-08 39 32.2		EPP 34 37		H-08 03 31.7	
DRV EP 15 43 03		40.7N 29.8W		IS 40 00		17.2S 168.0E	
OCT 4		h ABOUT 33KM		HLL P 04 32 50		h ABOUT 33KM	
MIR EP 16 34 01		SPA E 08 58 40		WIL EP 04 33 38		DRV EP 08 12 45	
OCT 4		OCT 5		IS 41 58		SBA EP 08 13 41	
BYR EP 17 04 07		H-10 39 17.5		MIR IP 04 34 22		WIL E(P) 08 13 49	
OCT 4		14.0N 145.2E		EPP 36 55		MIR EP 08 14 33	
SPA E 17 46 00		h ABOUT 131KM		BYR IP 04 34 34		BYR IP 08 14 42	
OCT 4		BYR EP 10 54 46		E 40 07		MAW I(P) 08 15 29	
SPA E 19 10 12		OCT 5		MAW IP 04 35 29		I p P 15 41	
OCT 4		SPA E 13 45 09		ES 45 33		E(S) 25 42	
SPA E 19 33 29		OCT 5		AIA E 04 36 15		OCT 6	
OCT 4		AIA E 14 20 51		OCT 6		HLL EP 08 22 58	
H-19 46 10.1		OCT 5		DRV IP 04 35 45			
38.3N 22.7E		MAW IP 16 02 09		IS 45 58			
h ABOUT 38KM		I p P 02 18					
SPA EP 20 05 10		OCT 5					
BYR EP 20 05 27		SPA E 17 19 08					

## COAST AND GEODETIC SURVEY

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
OCT 6 H-08 31 50.1 17.3S 167.8E h ABOUT 33KM		OCT 6 WIL EP	19 31 02	OCT 7 BYR EP	05 49 50	OCT 7 WIL E(P) I <sub>PP</sub>	14 55 40 55 57
BYR E	08 42 50	OCT 6 WIL IP	20 25 36	SPA E	05 50 07	OCT 7 H-16 00 20.2 57.8S 25.5W h ABOUT 33KM	
OCT 6 MIR E	09 34 11	OCT 6 WIL EP I <sub>PP</sub>	20 58 21 58 35	OCT 7 H-05 47 33.0 17.5S 168.0E h ABOUT 17KM		AIA E	16 04 49
OCT 6 BYR E	10 21 35	OCT 6 H-23 31 27.7 17.5S 167.6E h ABOUT 42KM		BYR EP	05 58 44	SPA IP	16 06 49
OCT 6 H-11 00 52.8 13.3S 167.3E h ABOUT 209KM		DRV IP	23 40 37	SPA IP	05 59 01	BYR IP EPP	16 07 06 09 40
MCQ IP	11 08 23	HLL IP	23 40 55	OCT 7 AIA IP IPP	06 24 32 25 30	MAW IP	16 07 38
DRV IP	11 10 13	SBA EP	23 41 34	OCT 7 H-06 45 13.8 40.5N 29.2W h ABOUT 33KM		SBA EP	16 08 29
WIL IP I <sub>PP</sub> IS	11 11 10 11 58 19 35	WIL EP IS	23 41 39 49 58	SPA EP E	06 57 10 07 04 25	DRV IP	16 09 52
SBA IP	11 11 10	MIR IP IS	23 42 24 51 23	OCT 7 SPA IP	07 29 29	OCT 7 MAW I(P)	16 09 52
MIR IP	11 11 53	OCT 7 BYR E	00 58 07	OCT 7 SPA IP	08 07 47	OCT 7 H-16 47 22.7 17.7S 167.5E h ABOUT 33KM	
BYR IP EPP E	11 12 08 14 54 15 16	SPA E	00 58 19	OCT 7 SPA IP	08 14 59	SBA EP	16 57 27
AIA I	11 13 44	OCT 7 H-00 46 55.4 17.7S 167.8E h ABOUT 33KM		OCT 7 SPA IP	08 43 16	BYR EP EPP	16 58 30 17 03 24
OCT 6 AIA EP	11 51 57	SBA EP	00 59 11	OCT 7 SPA IP	08 43 16	SPA IP	16 58 47
OCT 6 H-11 59 42.3 17.4S 167.8E h ABOUT 17KM		DRV IP E	00 59 13 01 00 15	OCT 7 MIR EP	08 51 41	MAW IP	16 59 30
MIR EP	12 10 43	WIL IP	00 59 15	OCT 7 SPA IP	10 21 51	OCT 7 H-16 52 19.4 17.9S 167.4E h ABOUT 39KM	
OCT 6 BYR IP	13 42 35	BYR EP	01 00 12	OCT 7 SPA IP	11 12 23	SPA IP	17 03 41
OCT 6 H-14 05 24.0 1.5S 77.4W h ABOUT 149KM		SPA IP	01 00 28	OCT 7 SPA IP	12 10 12	OCT 7 WIL E	17 17 11
BYR EP	14 17 24	OCT 7 BYR EP	01 02 16	OCT 7 SPA E	12 15 40	OCT 7 SPA IP	18 12 32
OCT 6 BYR I(P)	17 07 32	OCT 7 BYR E	01 18 36	OCT 7 SPA E	12 21 42	OCT 7 WIL IP I <sub>PP</sub>	19 09 26 09 29
OCT 6 H-18 01 05.4 17.6S 168.0E h ABOUT 33KM		SPA E	01 18 53	OCT 7 H-12 35 30.9 4.9S 144.3E h ABOUT 75KM		OCT 7 BYR EP	22 11 33
DRV EP	18 10 20	OCT 7 SPA IP	03 36 15	SPA EP	12 47 00	OCT 7 WIL E	23 20 10
WIL EP	18 11 19	OCT 7 MIR IP	04 27 48	BYR EP	12 48 06	OCT 7 SPA IP	23 45 52
MIR IP	18 12 04	OCT 7 MIR E	04 30 07	OCT 7 H-13 51 54.4 17.3S 167.8E h ABOUT 17KM		OCT 8 MAW IP	01 20 20
BYR IP	18 12 15	SPA IP	04 34 50	BYR EP	14 03 08	OCT 8 AIA E	02 01 15
OCT 6 AIA I	19 12 20	OCT 7 SPA IP	04 46 29	OCT 7 SPA E	14 17 01	OCT 8 SPA E	03 49 40

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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
OCT 8 H-05 14 20.4 40.5N 29.5W h ABOUT 33KM		MAW E	22 14 29	OCT 9 H-20 14 38.3 3.2S 148.2E h ABOUT 33KM		OCT 10 H-09 20 40.8 22.2S 179.6W h ABOUT 558KM	
BYR EP	05 33 28	BYR E	22 15 11	DRV EP	20 25 09	SBA EP	09 29 29
SPA IP	05 33 30	BYR E	25 24	EPP	27 35	BYR EP	09 30 15
OCT 8 MAW IP	08 49 05	OCT 8 BYR EP	22 22 12	IS	33 42	SPA IP	09 30 45
OCT 8 WIL IP	11 48 32	OCT 8 WIL EP	23 43 35	WIL IP	20 25 38	MAW IP	09 31 50
I <sub>P</sub> P	48 47	OCT 9 DRV EP	00 41 59	IS	34 32	OCT 10 BYR EP	10 46 38
OCT 8 WIL IP	12 20 25	OCT 9 WIL IP	01 12 19	HLL EP	20 25 48	SPA IP	10 47 08
I <sub>P</sub> P	20 39	OCT 9 H-03 13 44.8 17.4S 167.6E h ABOUT 33KM		MIR IP	20 26 11	OCT 10 H-11 12 37.4 10.1S 161.3E h ABOUT 34KM	
OCT 8 H-13 20 32.7 17.8S 167.8E h ABOUT 33KM		BYR EP	03 24 56	IS	35 40	BYR EP	11 24 36
BYR EP	13 31 41	SPA IP	03 25 12	SBA EP	20 26 19	SPA IP	11 24 44
SPA IP	13 31 57	OCT 9 MIR I	03 40 55	MAW IP	20 27 14	MAW IP	11 25 04
OCT 8 MAW E	14 28 15	OCT 9 H-04 28 36.1 46.2N 143.1E h ABOUT 284KM		I <sub>P</sub> P	27 22	I <sub>P</sub> P	25 11
OCT 8 MAW IP	14 43 32	MIR I	04 46 37	SPA IP	20 27 20	OCT 10 H-11 42 39.8 3.2S 77.7W h ABOUT 115KM	
I <sub>P</sub> P	43 38	OCT 9 MIR I	05 49 49	BYR EP	20 27 22	SPA IP	11 55 20
OCT 8 MAW IP	14 59 13	OCT 9 MIR I	08 09 18	ESKS	38 08	MAW IP	12 43 36
OCT 8 MAW I(P)	16 40 42	OCT 9 MIR I	09 06 39	OCT 9 SBA E	20 36 06	I <sub>P</sub> P	43 42
OCT 8 MAW IP	17 29 58	OCT 9 MAW IP	09 19 45	OCT 9 H-21 19 19.0 17.6S 167.6E h ABOUT 19KM		OCT 10 H-13 33 10.3 8.9S 110.3E h ABOUT 33KM	
OCT 8 H-18 54 36.9 10.3S 161.4E h ABOUT 79KM		OCT 9 MIR I	10 31 38	BYR EP	21 30 30	DRV IP	13 43 22
BYR EP	19 06 28	OCT 9 MAW I	13 01 56	MIR I	21 37 31	MAW IP	13 43 59
SPA IP	19 06 37	OCT 9 MIR I	14 45 51	OCT 10 AIA E	00 21 49	I <sub>P</sub> P	44 09
MAW IP	19 06 39	OCT 9 H-15 59 17.5 36.4N 71.3E h ABOUT 241KM		MAW I(P)	00 27 32	i	55 01
OCT 8 H-21 56 22.2 24.3N 121.7E h ABOUT 29KM		SPA IP	16 17 51	OCT 10 MIR I	01 19 02	SPA IP	13 45 25
WIL IP	22 09 24	OCT 9 MAW IP	16 27 56	MAW IP	04 52 31	BYR EP	13 45 59
ESKS	19 37	I <sub>P</sub> P	28 03	I <sub>P</sub> P	52 48	OCT 10 H-14 32 57.3 17.9S 167.8E h ABOUT 34KM	
IS	20 16	OCT 9 MIR I	17 58 08	MIR E	04 52 57	BYR EP	14 44 04
MIR EP	22 09 31	OCT 9 BYR EP	19 33 11	SPA EP	04 54 36	OCT 10 SPA E	16 20 33
ES	20 26			OCT 10 SPA E	08 12 44	SPA E	16 20 33
DRV IP	22 09 34			OCT 10 BYR EP	08 41 40	OCT 10 SPA IP	16 35 51
EPP	13 09			OCT 10 MIR I	09 15 58	OCT 10 MAW IP	17 37 09
ES	20 23						
HLL EP	22 14 22						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
OCT 10		OCT 12		MAW	IP	OCT 13	
H-20 53 34.5		BYR EP	02 54 03	I(P)	50 33	H-11 41 54.6	
34.9S 70.1W		OCT 12		OCT 12		17.3S 167.6E	
h ABOUT 137KM		DRV EP	05 17 08	MIR E	23 11 31	h ABOUT 33KM	
BYR EP	21 02 09	OCT 12		OCT 13		BYR EP	11 53 06
E>P	02 31	MAW I(P)	07 03 15	BYR E	00 40 10	OCT 13	
SPA IP	21 02 55	OCT 12		OCT 13		AIA E	14 59 29
SBA EP	21 03 45	H-07 56 08.4		SPA IP	01 01 30	OCT 13	
MAW EP	21 04 45	20.4S 68.9W		OCT 13		MIR E	15 48 33
DRV EP	21 05 30	h ABOUT 139KM		DRV E	02 24 11	OCT 13	
OCT 10		BYR IP	08 06 26	OCT 13		H-18 47 44.5	
H-21 52 36.8		E>P	06 54	SPA E	06 01 39	12.6S 166.6E	
15.1S 173.3W		OCT 12		OCT 13		h ABOUT 33KM	
h ABOUT 33KM		H-09 08 15.9		MIR E	06 47 37	DRV EP	18 57 27
HLL EP	22 02 29	27.4N 129.1E		OCT 13		HLL EP	18 57 46
DRV IP	22 02 40	h ABOUT 25KM		MIR E	07 01 46	WIL I(P)	18 58 24
SBA EP	22 03 06	MIR E	09 23 12	OCT 13		SBA EP	18 58 24
MIR P	22 04 30	OCT 12		OCT 13		MIR EP	18 59 06
MAW EP	22 05 26	H-11 43 32.3		H-07 33 48.8		BYR EP	18 59 24
OCT 10		18.8S 177.1W		16.7S 167.9E		SPA IP	18 59 36
DRV E	22 24 14	h ABOUT 223KM		h ABOUT 33KM		MAW IP	19 00 09
OCT 11		BYR E	11 53 53	MIR EP	07 44 50	I>P	00 21
MIR E	03 05 59	OCT 12		BYR EP	07 45 03	OCT 13	
OCT 11		AIA E	13 58 41	SPA IP	07 45 20	MIR E	22 39 35
AIA E	04 50 23	OCT 12		OCT 13		BYR EP	22 45 15
E	51 06	H-16 53 33.6		H-08 28 34.6		OCT 14	
OCT 11		28.0S 70.6W		38.2S 175.9E		H-00 29 56.0	
H-06 22 45.9		h ABOUT 25KM		h ABOUT 184KM		33.4S 179.3W	
1.4S 80.6W		BYR IP	17 03 10	DRV EP	08 35 08	h ABOUT 33KM	
h ABOUT 33KM		EPP	05 14	SBA EP	08 35 53	DRV IP	00 37 39
BYR EP	06 34 57	SBA EP	17 04 39	BYR EP	08 37 01	I	37 43
OCT 11		MAW IP	17 05 36	MIR EP	08 37 30	SBA EP	00 38 14
MIR E	07 41 45	E>P	05 42	E	44 45	WIL IP	00 39 03
OCT 11		DRV I	17 05 56	SPA IP	08 37 36	BYR EP	00 39 09
BYR EP	11 08 22	OCT 12		OCT 13		E>P	39 21
OCT 11		MIR E	18 14 04	H-10 23 38.2		SPA IP	00 39 41
MIR E	11 40 59	OCT 12		35.5N 49.8E		MIR IP	00 39 54
OCT 12		H-19 03 54.4		h ABOUT 33KM		MAW IP	00 41 01
MIR E	00 08 51	28.9S 177.1W		SPA EP	10 42 35	I>P	41 17
OCT 12		h ABOUT 134KM		BYR EP	10 42 57	OCT 14	
H-00 10 04.8		MIR EP	19 14 23	EPP	46 22	WIL IP	00 39 41
4.1S 80.3W		MAW IP	19 15 17	OCT 13		OCT 14	
h ABOUT 195KM		I>P	15 29	SBA EP	10 46 08	BYR E	00 54 37
MIR E	00 24 42	OCT 12		OCT 13		OCT 14	
OCT 12		AIA E	20 23 59	H-11 25 58.9		BYR E	02 13 13
H-01 44 49.4		E	24 59	17.4S 167.5E		OCT 14	
33.1S 178.2W		OCT 12		h ABOUT 33KM		WIL E(P)	02 13 13
h ABOUT 37KM		H-20 38 58.0		BYR EP	11 37 09		
MIR E	01 54 52	27.2S 178.0W		SPA IP	11 37 24		
		h ABOUT 152KM					

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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
OCT 14 H-02 00 57.6 54.4N 159.8E h ABOUT 120KM		OCT 14 AIA E	21 50 41	OCT 15 H-13 59 54.9 33.1S 178.5W h ABOUT 89KM		MAW I	21 33 54
WIL EP	02 19 15	OCT 14 BYR EP	22 54 26	DRV EP	14 07 33	OCT 15 MIR E	21 42 59
SPA EP	02 19 15	OCT 15 MIR E	00 26 42	BYR EP	14 08 59	OCT 15 HLL P	23 32 38
OCT 14 WIL EP	02 39 58	OCT 15 H-00 25 21.3 22.1S 172.1E h ABOUT 40KM		WIL EP	14 09 33	OCT 15 H-23 36 35.0 43.5S 169.8E h ABOUT 33KM	
SPA EP	02 39 58	HLL EP	00 34 15	SPA EP	14 09 33	DRV IP	23 42 26
OCT 14 BYR IP	02 43 37	WIL EP	00 36 17	MIR EP	14 09 48	SBA IP	23 43 22
OCT 14 MIR EP	02 59 58	SPA EP	00 36 17	MAW EP	14 11 03	WIL IP	23 44 02
OCT 14 MAW IP	03 26 26	OCT 15 BYR EP	01 20 00	OCT 15 BYR EP	15 20 30	BYR EP	23 44 44
OCT 14 BYR IP	03 40 00	OCT 15 BYR EP	02 58 00	OCT 15 MIR E	16 45 26	MIR IP	23 44 55
WIL EP	03 40 29	OCT 15 BYR EP	03 00 50	OCT 15 H-17 30 20.8 28.8S 176.4W h ABOUT 40KM		ES	51 40
SPA EP	03 40 29	OCT 15 WIL IP	05 19 22	DRV EP	17 38 46	SPA IP	23 45 02
OCT 14 BYR EP	04 29 20	SPA IP	05 19 22	WIL EP	17 40 35	MAW IP	23 46 14
OCT 14 H-05 03 25.8 17.5S 167.7E h ABOUT 33KM		OCT 15 BYR EP	05 33 40	SPA EP	17 40 35	IP	46 23
BYR EP	05 14 36	OCT 15 AIA E	07 06 26	MIR EP	17 40 53	AIA I	23 47 05
OCT 14 WIL EP	05 24 53	OCT 15 BYR EP	07 43 00	OCT 15 BYR EP	18 21 49	OCT 15 BYR E	23 58 10
SPA EP	05 24 53	OCT 15 H-08 08 38.0 16.3S 173.5W h ABOUT 50KM		OCT 15 MIR E	18 31 20	OCT 16 H-01 08 47.1 17.0S 167.5E h ABOUT 33KM	
OCT 14 H-10 14 32.4 38.7N 124.0W h ABOUT 33KM		BYR E	08 19 35	OCT 15 BYR EP	18 31 20	WIL IP	01 20 16
MAW IP	10 34 22	WIL IP	08 20 09	OCT 15 H-20 17 16.4 17.7S 168.3E h ABOUT 65KM		SPA IP	01 20 16
OCT 14 WIL EP	11 17 24	SPA IP	08 20 09	MIR E	20 28 11	OCT 16 WIL EP	02 05 09
SPA EP	11 17 24	OCT 15 BYR EP	08 26 55	BYR IP	20 28 20	IP	05 29
OCT 14 H-14 08 11.3 1.0S 127.2E h ABOUT 33KM		OCT 15 BYR EP	08 27 08	SPA IP	20 28 30	AIA E	02 10 50
BYR EP	14 21 23	OCT 15 BYR EP	08 33 30	MAW IP	20 29 18	OCT 16 H-02 46 44.6 17.0S 167.7E h ABOUT 19KM	
OCT 14 H-15 08 59.5 31.8N 131.5E h ABOUT 33KM		WIL IP	08 33 53	I	21 33 54	SPA EP	02 58 15
BYR EP	15 27 57	SPA IP	08 33 53	OCT 15 H-21 26 20.7 65.0S 178.2E h ABOUT 33KM		OCT 16 H-02 49 37.0 17.1S 167.7E h ABOUT 33KM	
OCT 14 AIA E	15 31 44	OCT 15 WIL EP	11 59 23	HLL P	21 28 09	DRV EP	02 58 49
		SPA EP	11 59 23	SBA IP	21 29 28	HLL EP	02 59 09
				DRV IP	21 29 57	SBA EP	02 59 48
				BYR EP	21 31 16	MAW I	03 01 45
				E	36 24	OCT 16 MAW E(P)	03 17 34
				WIL EP	21 31 45		
				SPA EP	21 31 45		

## COAST AND GEODETIC SURVEY

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
OCT 16 MAW I(P) 03 45 54 I p P 45 59		SPA EP 18 21 56		OCT 18 DRV E 05 50 52		OCT 19 AIA I 04 39 42	
OCT 16 H-05 21 26.5 17.1S 167.6E h ABOUT 33KM		AIA E 18 22 02		OCT 18 AIA E 07 50 41		OCT 19 DRV E 04 50 44	
DRV EP 05 30 40		MAW IP 18 22 15 E p P 22 22 I 22 45		OCT 18 H-08 40 55.5 46.5N 149.6E h ABOUT 140KM		SPA E 04 52 10	
HLL EP 05 30 59		OCT 16 AIA E 22 58 44		BYR EP 08 59 50 IPP 09 03 24		OCT 19 MAW IP 05 27 52	
SBA EP 05 31 38		OCT 17 HLL E 23 28 12		MAW IP 08 59 51 I p P 59 55 IPP 09 02 58		OCT 19 MAW IP 07 17 53	
MAW I(P) 05 33 34		OCT 17 BYR EP 07 09 23		DRV EP 09 00 04		OCT 19 MAW IP 08 01 29	
OCT 16 WIL IP 05 42 36		OCT 17 H-09 44 05.5 17.2S 167.7E h ABOUT 33KM		OCT 18 H-11 22 40.2 46.5N 149.5E h ABOUT 128KM		OCT 19 BYR EP 09 43 22	
SPA IP 05 42 36		BYR EP 09 55 17		BYR EP 11 41 40 IPP 45 00		OCT 19 H-09 39 41.9 56.3S 26.2W h ABOUT 86KM	
OCT 16 H-07 15 32.7 28.3S 62.5E h ABOUT 33KM		OCT 17 BYR E 14 53 07		OCT 18 MAW IP 11 33 24		AIA I 09 44 11	
MAW IP 07 23 00 I p P 23 08		OCT 17 AIA E 21 24 02		OCT 18 MAW I 11 44 45		SPA IP 09 46 18	
WIL I 07 24 10 I 25 49		OCT 17 AIA I 23 09 37 E 09 57		OCT 18 WIL EP 18 49 27 I p P 49 41		BYR EP 09 46 34	
DRV EP 07 25 32		OCT 18 WIL E 01 49 57		OCT 18 BYR E 20 19 21		MAW IP 09 47 10	
SPA IP 07 25 49		OCT 18 H-02 00 04.5 28.4N 97.3E h ABOUT 77KM		OCT 19 AIA E 01 06 07		SBA EP 09 47 57	
HLL EP 07 26 33		AIA E 02 14 52 E 25 37 E 33 20		OCT 19 H-01 34 14.1 3.4S 129.1E h ABOUT 58KM		HLL EP 09 48 37	
OCT 16 MAW IP 07 30 06 I p P 30 22		OCT 18 AIA E 04 11 38		BYR EP 01 47 10		DRV EP 09 49 19	
OCT 16 WIL EP 08 56 32		OCT 18 H-04 06 00.4 8.9S 117.0E h ABOUT 33KM		OCT 19 AIA E 02 05 53		OCT 19 MAW EP 09 52 51	
SPA EP 08 56 32		WIL EP 04 15 53 ES 23 38		OCT 19 BYR EP 03 57 40		OCT 19 SBA EP 10 13 45	
OCT 16 H-09 50 47.3 18.9S 169.4E h ABOUT 261KM		HLL IP 04 16 39		OCT 19 H-04 13 03.6 31.0S 69.4W h ABOUT 120KM		DRV E 10 14 50 E 17 22	
SBA IP 10 00 20		MAW IP 04 17 01 I p P 17 08		BYR IP 04 22 11		OCT 19 HLL EP 10 21 22	
WIL IP 10 01 30		SBA EP 04 17 30		SPA IP 04 22 53		OCT 19 H-10 44 51.9 10.6N 125.2E h ABOUT 50KM	
SPA IP 10 01 30		BYR E 04 18 45		SBA IP 04 23 42		DRV IP 10 56 46	
MAW IP 10 02 22		OCT 18 MAW I 04 45 15		HLL EP 04 23 59		MAW I 10 57 45	
OCT 16 AIA E 10 40 38		OCT 18 DRV EP 05 06 03 I 16 12 E 28 10		MAW IP 04 24 36 E p P 24 47		SBA EP 10 57 54	
OCT 16 H-18 02 32.9 51.6N 175.8W h ABOUT 27KM				DRV IP 04 25 01		OCT 19 H-14 44 56.2 18.9S 66.0W h ABOUT 211KM	
HLL EP 18 21 29						BYR IP 14 55 14	
SBA EP 18 21 40						SPA IP 14 55 53	
WIL EP 18 21 56						OCT 19 BYR IP 14 55 42	



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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
OCT 19 H-17 14 07.1 32.9S 179.9E h ABOUT 192KM		OCT 20 MAW IP	12 07 28	MIR IP	23 19 43	BYR E	15 42 48
HLL IP	17 21 22	OCT 20 MAW IP	14 40 58	WIL IP	23 20 16	MAW E	15 42 49
DRV EP	17 21 30	OCT 20 SPA E	20 18 45	DRV IP	23 20 37	SPA EP	15 42 50
SBA EP	17 22 08	OCT 21 SPA IP	00 34 46	OCT 22 DRV EP	00 46 03	OCT 22 SPA E	15 29 16
BYR IP	17 23 05	OCT 21 MIR E	01 30 03	OCT 22 H-01 09 50.9 18.1S 177.9W h ABOUT 612KM		OCT 22 HLL EP	16 21 00
SPA IP	17 23 35	OCT 21 H-02 05 22.7 61.1N 149.7W h ABOUT 80KM		DRV IP	01 18 31	OCT 22 H-18 12 29.7 21.0S 168.5E h ABOUT 33KM	
MAW IP	17 24 52	SPA EP	02 25 05	BYR EP	01 19 47	SPA E	18 23 33
OCT 19 DRV EP	18 01 42	MIR E	02 25 14	SPA IP	01 20 15	OCT 23 H-00 26 00.3 15.2S 173.0W h ABOUT 33KM	
OCT 19 DRV EP	18 10 00	I	25 42	MIR EP	01 20 21	BYR IP	00 37 04
OCT 19 H-23 42 34.9 5.7S 130.3E h ABOUT 177KM		OCT 21 AIA E	10 17 20	MAW IP	01 21 19	SPA IP	00 37 39
DRV IP	23 52 31	OCT 21 AIA E	10 31 02	OCT 22 MIR E	03 57 46	MIR EP	00 37 54
EPP	54 43	OCT 21 MAW IP	10 40 12	MAW IP	03 58 46	MAW IP	00 38 48
IS	24 00 34	OCT 21 H-12 32 27.4 1.5N 127.2E h ABOUT 111KM		OCT 22 MIR EP	04 04 59	I P	38 58
HLL EP	23 53 34	MAW IP	12 44 36	MAW IP	04 05 54	OCT 23 H-06 46 49.9 15.1S 173.4W h ABOUT 33KM	
SBA IP	23 53 55	OCT 21 SPA E	12 36 10	OCT 22 H-04 34 38.9 3.4S 145.3E h ABOUT 36KM		BYR EP	06 57 56
SPA IP	23 54 47	MAW IP	12 36 32	DRV EP	04 45 04	SPA E	06 58 29
BYR IP	23 55 06	OCT 21 H-13 07 27.9 15.5S 172.3W h ABOUT 33KM		E	53 34	OCT 23 SPA E	09 28 55
OCT 20 BYR IP	03 43 09	MAW IP	13 20 15	WIL IP	04 45 31	OCT 23 AIA E	10 07 32
OCT 20 H-03 35 54.8 21.0S 178.8W h ABOUT 580KM		I P	20 26	MIR EP	04 46 05	OCT 23 AIA E	15 51 17
BYR EP	03 45 25	OCT 21 HLL EP	13 49 50	MAW IP	04 47 06	OCT 23 AIA E	16 32 29
OCT 20 H-05 30 42.2 6.7S 130.1E h ABOUT 167KM		OCT 21 SPA E	20 07 14	SPA IP	04 47 18	SPA IP	16 34 40
MCQ IP	05 39 44	OCT 21 H-23 10 52.2 55.9S 27.8W h ABOUT 33KM		BYR EP	04 47 25	BYR IP	16 34 54
DRV IP	05 40 33	AIA I	23 15 26	OCT 22 MIR I	05 00 35	MAW IP	16 35 32
I	40 39	SPA IP	23 17 37	OCT 22 HLL EP	05 03 35	I P	35 41
HLL EP	05 41 38	BYR IP	23 17 51	OCT 22 AIA E	12 17 45	OCT 23 MAW IP	23 37 48
MAW IP	05 42 07	E	22 47	OCT 22 MIR E	15 12 10	OCT 24 SPA EP	00 51 00
SPA IP	05 42 50	MAW EP	23 18 30	OCT 22 H-15 23 32.9 49.8N 155.8E h ABOUT 19KM		BYR EP	01 07 53
OCT 20 H-06 33 29.2 17.2S 69.7W h ABOUT 153KM				MIR E	15 42 31	WIL E(P)	01 08 01
BYR EP	06 44 05					I	08 15
MAW IP	06 46 05						

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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
OCT 24 H-01 50 06.2 19.4N 67.0W h ABOUT 33KM		DRV EP	03 47 59	AIA E	17 49 38	OCT 26	
		WIL EP	03 49 01	E	50 02	MAW IP	08 42 32
WIL E(P) 02 08 01		MIR IP	03 49 46	OCT 25		OCT 26	
I 08 15		SPA IP	03 50 14	MIR EP	19 28 40	MAW IP	09 45 22
OCT 24		MAW I(P) 03 50 51		OCT 25		I	45 29
H-05 03 21.4		OCT 25		H-20 06 10.0		OCT 26	
17.3S 167.6E		MAW IP	04 06 30	61.4S 154.9E		SPA IP	12 45 05
h ABOUT 33KM		OCT 25		h ABOUT 33KM		OCT 26	
BYR EP	05 14 23	MAW IP	04 06 30	MCQ EP	20 07 55	AIA EP	13 20 31
SPA EP	05 14 49	OCT 25		DRV IP	20 08 03	E	22 13
OCT 24		SPA E	07 47 25	HLL IP	20 08 58	OCT 26	
AIA E	11 19 26	OCT 25		WIL IP	20 10 37	AIA E	13 45 55
OCT 24		H-09 34 14.6		MIR IP	20 11 44	E	46 39
MAW I	11 26 52	3.0N 126.7E		IPP	12 31	SPA IP	13 49 48
OCT 24		h ABOUT 33KM		IS	16 20	HLL EP	13 53 08
MAW IP	13 55 33	DRV IP	09 45 17	SPA IP	20 12 04	OCT 26	
OCT 24		IPP	47 49	OCT 25		MAW IP	14 47 37
AIA E	15 59 34	IS	54 17	SPA EP	20 22 38	I	47 57
OCT 24		WIL IP	09 45 18	OCT 25		SPA E	14 49 56
WIL EP	16 23 41	EPP	45 35	MAW IP	20 43 12	OCT 26	
IPP	23 55	IS	54 21	IPP	44 46	AIA E	15 09 21
OCT 24		MIR IP	09 45 39	ES	48 57	E	09 55
MIR EP	17 48 35	HLL IP	09 46 16	OCT 25		OCT 26	
OCT 24		MAW I	09 46 32	SPA EP	21 29 07	AIA IP	15 10 46
MIR E	20 13 46	E(S)	56 42	OCT 26		OCT 26	
OCT 24		SPA IP	09 47 20	AIA E	00 25 57	H-15 58 34.8	
WIL I	21 10 29	IS	57 52	OCT 26		55.5S 26.5W	
OCT 24		OCT 25		AIA E	01 15 59	h ABOUT 33KM	
BYR EP	21 43 09	MAW IP	09 34 55	OCT 26		SPA EP	16 05 22
SPA EP	21 44 36	OCT 25		SPA E	02 23 41	MAW IP	16 06 10
OCT 24		MCQ IP	09 44 35	OCT 26		IS	12 17
AIA E	22 45 53	OCT 25		WIL EP	05 11 40	HLL IP	16 07 40
E	47 14	MIR EP	11 02 16	OCT 26		WIL EP	16 07 59
E	48 29	OCT 25		AIA E	06 54 21	ES	15 30
OCT 24		H-12 36 54.4		I	56 18	DRV EP	16 08 25
H-22 53 09.9		15.4S 179.0W		OCT 26		EPP	10 31
17.9S 168.4E		h ABOUT 392KM		AIA I	07 16 30	ES	16 26
h ABOUT 41KM		MIR IP	12 47 56	OCT 26		OCT 26	
SPA EP	23 04 33	MAW I(P) 12 48 50		H-20 22 58.6		H-20 22 58.6	
OCT 24		OCT 25		00.1N 124.1E		00.1N 124.1E	
MIR E	23 16 38	AIA I	15 48 56	h ABOUT 112KM		h ABOUT 112KM	
OCT 25		I	49 15	MIR E	20 33 59	MIR E	20 33 59
HLL EP	00 27 38	OCT 25		SPA E	20 35 46	SPA E	20 35 46
OCT 25		H-15 52 29.2		OCT 26		OCT 26	
WIL E	01 43 48	8.4N 82.6W		SPA E	21 41 51	SPA E	21 41 51
I	43 55	h ABOUT 51KM		OCT 26		OCT 26	
OCT 25		SPA EP	16 06 00	H-22 09 05.0		H-22 09 05.0	
H-03 38 48.9		OCT 25		55.7S 26.5W		55.7S 26.5W	
17.8S 167.7E		SPA IP	17 47 54	h ABOUT 33KM		h ABOUT 33KM	
h ABOUT 33KM		OCT 25		SPA IP	22 15 52	SPA IP	22 15 52
		SPA IP	17 47 54	MAW IP	22 16 39	MAW IP	22 16 39

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h m s		h m s		h m s		h m s			
MIR	IP	22 17 58	OCT 28	OCT 29		OCT 30			
DRV	IP	22 18 51	H-14 01 11.2	BYR	EP	09 30 41	H-08 31 51.8		
			32.3S 178.8W				12.5N 88.0W		
			h ABOUT 33KM				h ABOUT 80KM		
OCT 27			BYR	E	14 10 28	BYR	EP	08 45 02	
BYR	EP	01 13 44	SPA	IP	14 11 07	MAW	IP	08 50 38	
OCT 27			MAW	I(P)	14 12 32				
BYR	IP	06 06 27				OCT 30			
	E	10 54				DRV	EP	15 29 52	
HLL	EP	06 07 15	OCT 28				E	30 02	
SPA	IP	06 07 55	AIA	E	14 27 53	BYR	EP	15 31 00	
DRV	EP	06 09 03		E	28 14	SPA	IP	15 31 35	
			OCT 28						
OCT 27			H-15 00 17.0			OCT 30			
MIR	IP	08 24 23	00.1N 123.6E	BYR	EP	13 33 10	DRV	IP	15 50 33
			h ABOUT 61KM	SPA	I	13 33 14	HLL	IP	15 51 18
MAW	IP	08 27 10				MIR	EP	15 51 40	
	I	27 18					I	51 49	
OCT 27			WIL	IP	15 11 04				
AIA	EP	12 34 54	DRV	IP	15 11 08	OCT 29			
	I	35 27		I	11 32	BYR	EP	21 11 06	
MAW	I(P)	12 41 34		I	11 41	SPA	E	21 12 18	
			MIR	IP	15 11 24				
OCT 27			HLL	IP	15 12 10	OCT 29			
H-13 33 03.6			MAW	IP	15 12 17	AIA	E	23 48 16	
18.0S 167.4E			SPA	IP	15 13 12				
h ABOUT 33KM			BYR	EP	15 13 33	OCT 30			
BYR	EP	13 42 12		EPP	14 07	H-01 46 32.7			
SPA	E	13 44 27				54.2S 9.1E			
			MAW	I	16 48 56	h ABOUT 33KM			
OCT 27						MAW	IP	01 52 24	
MAW	IP	14 29 30	OCT 28			EPP		53 08	
	I	30 36	MAW	IP	17 05 42	ES		57 20	
OCT 27						SPA	IP	01 53 37	
BYR	EP	14 43 05	OCT 28			MIR	EP	01 54 10	
			MAW	IP	19 39 29		I	54 13	
OCT 27							I	54 39	
MAW	IP	16 34 16	OCT 28			WIL	IP	01 55 00	
			WIL	EP	21 42 47	IS		02 01 54	
OCT 27						HLL	IP	01 55 58	
DRV	EP	22 26 56	OCT 29			IS		02 03 30	
			H-00 19 39.7			DRV	IP	01 55 59	
OCT 28			7.1N 82.6W			ES		02 03 38	
SPA	EP	05 11 10	h ABOUT 21KM						
			BYR	EP	00 32 32	OCT 30			
OCT 28						BYR	EP	02 04 26	
BYR	EP	05 21 30	OCT 29						
			MIR	E	07 04 56	OCT 30			
OCT 28						BYR	IP	02 54 35	
MIR	E	07 59 39	OCT 29			ES		03 02 06	
			MAW	IP	07 29 00				
OCT 28						OCT 30			
MAW	IP	10 52 39	DRV	EP	07 30 32	BYR	E	04 51 32	
OCT 28			OCT 29			OCT 30			
SPA	IP	13 13 55	SPA	IP	07 41 55	BYR	E	04 51 32	
BYR	E	13 13 58	OCT 29			OCT 30			
			MIR	E	07 51 12	SPA	E	05 30 06	
						OCT 31			
						MAW	IP	09 35 25	
							I(P)	35 40	

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
OCT 31 MAW E	09 38 40	h ABOUT 181KM SPA IP	11 44 22	NOV 1 SPA E	19 05 26	BYR EP E EPP	14 59 16 59 30 15 00 38
OCT 31 SPA EP	10 07 55	NOV 1 H-13 51 37.0 17.6S 168.5E h ABOUT 21KM		NOV 1 DRV EP	23 05 43	NOV 2 H-15 12 37.2 10.2S 117.6E h ABOUT 33KM	
BYR EP	10 08 24	MIR EP	14 02 38	BYR EP	23 06 03	MAW IP IP	15 23 35 23 55
OCT 31 MAW IP	10 30 23	BYR EP	14 02 45	NOV 1 WIL EP EPP	23 18 26 18 45	SPA IP	15 24 46
OCT 31 MAW E	11 05 47	MAW E	14 03 44	NOV 2 HLL EP	04 38 56	BYR EP	15 25 16
OCT 31 MAW I	11 11 46	NOV 1 H-14 06 40.5 14.5S 167.6E h ABOUT 204KM		BYR EP	04 44 36	NOV 2 AIA E	17 18 55
OCT 31 H-11 32 29.0 5.6N 82.6W h ABOUT 33KM		MAW IP	14 18 40	NOV 2 SPA E	04 45 18	NOV 3 BYR EP	00 49 54
BYR EP	11 45 12	NOV 1 H-15 26 56.1 37.4N 70.0E h ABOUT 124KM		NOV 2 MAW IP E	07 02 26 06 22	NOV 3 H-01 00 24.9 7.9S 153.3E h ABOUT 86KM	
SPA EP	11 45 50	MAW IP	15 42 34	NOV 2 H-06 54 19.9 17.7S 167.5E h ABOUT 32KM		HLL IP	01 10 48
OCT 31 SPA E	13 39 04	DRV EP EPP ESS	15 44 20 46 53 53 26	DRV EP	07 03 47	WIL IP	01 11 09
BYR EP	13 39 58	WIL IP IS	15 44 29 53 30	HLL EP	07 03 48	SBA EP	01 11 31
OCT 31 AIA E	18 30 00	HLL IP	15 45 17	MIR EP	07 05 24	MIR IP	01 11 47
OCT 31 HLL EP	18 56 00	NOV 1 H-15 33 22.6 1.9N 133.0E h ABOUT 56KM		BYR EP ES	07 05 28 14 44	BYR EP	01 12 32
OCT 31 MIR EP	19 23 29	MAW IP E	15 45 49 48 29	SPA EP	07 05 44	SPA IP	01 12 38
OCT 31 SPA EP	21 39 32	SPA IP	15 46 27	MAW IP	07 09 32	MAW IP	01 12 52
DRV EP	21 45 08	BYR IP	15 46 42	NOV 2 AIA E	08 06 33	NOV 3 H-01 35 10.6 6.7S 104.7W h ABOUT 33KM	
OCT 31 SPA E	27 02 18	NOV 1 H-15 52 43.2 1.7N 132.9E h ABOUT 58KM		NOV 2 AIA E	09 56 14	BYR EP	01 46 42
NOV 1 MAW E(P) I	05 51 48 52 58	MAW I	16 05 08	NOV 2 MIR EP	14 42 47	SPA IP	01 47 35
NOV 1 AIA E E E	07 21 29 24 14 26 05	NOV 1 H-15 52 43.2 1.7N 132.9E h ABOUT 58KM		NOV 2 H-14 46 39.2 10.0S 117.8E h ABOUT 33KM		HLL EP	01 50 06
NOV 1 H-09 16 44.7 29.0N 128.7E h ABOUT 164KM		NOV 1 BYR E	16 19 18	NOV 2 MCO EP	14 56 11	NOV 3 BYR EP	01 52 34
AIA E	09 35 01	NOV 1 H-17 52 20.2 1.9N 132.8E h ABOUT 36KM		WIL IP ES	14 56 18 15 04 01	NOV 3 AIA E	03 22 50
NOV 1 H-09 47 15.6 23.7S 179.6W h ABOUT 525KM		NOV 1 H-17 52 20.2 1.9N 132.8E h ABOUT 36KM		DRV EP ES	14 56 33 15 04 29	NOV 3 H-03 12 37.8 10.3S 117.8E h ABOUT 33KM	
MAW IP	09 58 20	DRV IP	18 03 31	MIR IP	14 56 36	MAW IP IP	03 23 34 23 46
NOV 1 H-11 31 48.7		MIR IP IS	18 03 54 13 28	MAW IP IP	14 57 35 57 48	SPA EP	03 24 45
		HLL IP	18 04 17	HLL IP	14 57 48	BYR EP	03 25 11
		MAW IP	18 04 49	SPA IP	14 58 47	NOV 3 MAW IP	03 25 47

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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
NOV 3		NOV 4		NOV 5		NOV 6	
H-04 34 09.6		SBA EP	14 54 15	DRV EP	07 19 01	DRV EP	21 12 28
2.7S 147.4E							
h ABOUT 33KM		NOV 4		NOV 5		NOV 6	
BYR EP	04 46 45	SBA EP	15 26 31	AIA I	09 12 19	H-21 26 47.8	
SPA IP	04 47 15					4.9S 152.7E	
NOV 3		NOV 4		NOV 5		h ABOUT 68KM	
H-05 00 29.7		BYR EP	15 47 11	SPA E	12 06 15	DRV IP	21 37 05
10.3S 117.8E						HLL EP	21 37 44
h ABOUT 33KM		SPA E	15 47 28	NOV 5		MIR IP	21 38 16
MAW IP	05 11 27			AIA E	15 13 36	BYR E	21 39 18
BYR IP	05 13 07	NOV 4		NOV 5		MAW IP	21 39 19
NOV 3		BYR IP	16 28 21	AIA E	16 13 46	SPA IP	21 39 19
H-14 28 15.2		NOV 4		NOV 5		NOV 6	
15.0S 167.4E		DRV EP	16 45 26	H-20 54 41.1		DRV EP	21 56 52
h ABOUT 134KM				49.8S 114.9W		NOV 7	
DRV IP	14 37 50	NOV 4		h ABOUT 33KM		H-05 12 17.3	
SBA IP	14 38 29	SPA IP	20 02 04	BYR E	21 00 58	19.9S 178.5W	
BYR IP	14 39 28			HLL EP	21 02 07	h ABOUT 600KM	
SPA IP	14 39 43	NOV 4		SPA IP	21 02 17	SPA IP	05 22 32
NOV 3		H-22 53 34.2		DRV EP	21 03 39	NOV 7	
H-15 38 09.3		43.2S 75.6W		E	05 32	H-12 57 45.7	
2.6S 139.5E		h ABOUT 33KM		NOV 6		40.5N 29.4W	
h ABOUT 94KM		AIA I	22 58 38	HLL EP	00 28 45	h ABOUT 33KM	
DRV IP	15 48 35	DEC EP	22 58 59	NOV 6		DRV EP	13 17 33
NOV 3		IS	23 06 09	MIR E.	05 40 51	NOV 7	
AIA EP	17 15 34	BYR IP	23 01 08	NOV 6		AIA E	14 46 45
I	18 23	E	02 46	SBA EP	07 27 21	NOV 7	
E	26 11	SBA EP	23 02 53	NOV 6		H-16 03 04.1	
NOV 3		HLL IP	23 03 11	SPA E	07 44 54	7.8S 119.8E	
AIA EP	17 15 34	IS	11 05	NOV 6		h ABOUT 156KM	
I	18 23	MAW EP	23 04 13	H-12 23 24.6		MCQ IP	16 12 32
E	26 11	ES	12 57	4.0S 79.8W		MIR IP	16 13 06
NOV 3		DRV IP	23 04 24	h ABOUT 101KM		IS	22 22
H-18 05 06.2		EPP	06 54	SPA IP	12 35 55	DRV IP	16 13 56
37.6S 179.5E		ES	13 20	NOV 6		EPP	15 03
h ABOUT 33KM		MIR IP	23 04 44	WIL IP	14 18 31	IS	20 55
BYR EP	18 13 46			NOV 6		MAW IP	16 14 03
SPA IP	18 14 17	NOV 4		AIA E	15 17 51	HLL EP	16 14 07
NOV 3		BYR EP	23 07 26	NOV 6		IS	23 10
DRV E	18 26 23	NOV 4		MIR I	19 11 56	SPA IP	16 15 08
NOV 3		SBA EP	23 33 06	I	12 33	NOV 7	
AIA E	19 22 42	NOV 5		NOV 6		SPA EP	16 25 10
NOV 4		HLL EP	00 19 30	H-20 48 42.4		NOV 7	
MIR E	01 34 26	SPA IP	00 21 47	10.5N 121.9E		BYR EP	16 30 36
NOV 4		MIR EP	00 22 01	h ABOUT 33KM		NOV 7	
DRV EP	04 20 52	NOV 5		DRV EP	21 00 41	NOV 7	
NOV 4		DRV E	00 30 53	MIR E	21 00 48	NOV 7	
MIR EP	07 04 31	NOV 5		HLL EP	21 01 34	NOV 7	
NOV 4		SPA E	02 10 13			MAW IP	19 08 18
SPA IP	09 03 28						
BYR EP	09 04 45						
NOV 4							
SBA EP	14 07 43						

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
NOV 7 H-22 26 33.8 51.5N 176.1E h ABOUT 43KM		NOV 8 H-10 03 22.8 14.7S 167.1E h ABOUT 86KM		SPA IP 08 36 23		NOV 10 HLL EP 06 48 15	
MAW IP 22 46 04		DRV IP 10 12 46		NOV 9 SPA IP 09 09 28		NOV 10 HLL EP 09 22 02	
NOV 7 AIA E 23 35 43		WIL I 10 13 44		NOV 9 H-09 21 30.8 35.8N 140.3E h ABOUT 33KM		NOV 10 AIA I 11 50 10 E 53 42	
NOV 8 H-00 02 08.6 15.1S 75.6W h ABOUT 33KM		MIR I 10 14 29		MIR IP 09 38 12 I 38 15		BYR IP 11 52 27	
HLL EP 00 14 30		SPA IP 10 14 58		SPA IP 09 40 29		NOV 10 HLL EP 13 02 30	
MAW IP 00 15 16		MAW IP 10 15 34 IP 16 00		BYR EP 09 40 32		NOV 11 BYR EP 01 23 21	
NOV 8 H-00 33 13.8 4.4S 105.5W h ABOUT 33KM		NOV 8 SPA IP 12 27 41		NOV 9 WIL IP 13 17 23		NOV 11 H-07 39 15.4 23.9S 69.5E h ABOUT 33KM	
SPA EP 00 45 48		NOV 8 H-16 29 32.5 15.0S 179.2W h ABOUT 408KM		NOV 9 WIL EP 16 11 44		MAW IP 07 47 20 IP 47 35	
HLL EP 00 45 48		SPA IP 16 40 32		NOV 9 H-18 02 27.9 5.4S 132.5E h ABOUT 33KM		MIR IP 07 47 30 ES 54 11	
NOV 8 BYR EP 00 54 43		NOV 8 AIA E 17 50 55		SPA EP 18 15 00		WIL IP 07 48 05 ES 55 15	
SPA I 00 57 25		NOV 8 SPA E 18 09 59		NOV 9 H-18 08 47.9 40.3N 29.3W h ABOUT 33KM		SPA IP 07 49 01	
MAW IP 00 58 14		NOV 8 H-18 43 42.4 17.9S 167.9E h ABOUT 33KM		SPA EP 18 25 01		DRV IP 07 49 23 I 49 29 I 49 34	
NOV 8 BYR E 01 05 15		SPA E 18 55 07		NOV 9 WIL EP 18 40 29 IP 40 42		HLL IP 07 50 29	
NOV 8 HLL EP 01 30 13		NOV 8 DRV E 20 32 28		NOV 9 DRV EP 20 36 41		BYR IP 07 51 01	
NOV 8 SPA E 02 43 26		NOV 8 H-21 15 56.0 52.0N 174.9E h ABOUT 33KM		NOV 10 H-01 33 15.0 43.7N 147.7E h ABOUT 24KM		NOV 11 H-10 31 48.3 23.8S 69.4E h ABOUT 33KM	
NOV 8 AIA E 03 58 13		MAW IP 21 35 26 IP 35 37		DRV EP 01 52 22		MIR EP 10 40 03	
NOV 8 MIR E 05 09 49		NOV 9 H-01 11 02.1 33.4N 47.2E h ABOUT 33KM		AIA E 01 53 09 I 53 39		DRV IP 10 41 56	
NOV 8 H-07 48 44.7 20.1S 168.6E h ABOUT 33KM		BYR EP 01 30 18 EPP 32 42 ES' 33 46		HLL EP 01 53 19		SPA EP 10 42 34	
HLL EP 07 56 53		NOV 9 MIR I 02 48 20		MIR E 01 53 27		HLL EP 10 43 04	
SPA IP 07 59 54		NOV 9 SPA EP 08 30 59		NOV 10 DRV IP 02 02 46 E 02 54 E 07 45		BYR IP 10 43 35 E 43 57	
MAW EP 08 00 38		NOV 9 H-08 26 10.0 20.5S 178.8W h ABOUT 522KM		NOV 10 AIA E 03 57 28		NOV 11 H-11 31 44.5 55.8N 113.1E h ABOUT 33KM	
NOV 8 WIL EP 08 44 11 IP 44 28		NOV 9 H-08 26 10.0 20.5S 178.8W h ABOUT 522KM		NOV 10 DRV E 02 48 25 E 53 23		MAW IP 11 50 48 IP 50 57	
NOV 8 MAW IP 09 29 31		DRV IP 08 34 35		NOV 10 MAW IP 06 24 40		SPA IP 11 51 20	
		BYR EP 08 36 03				BYR I 11 51 33	
						NOV 11 MIR E 12 06 17	

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h m s		h m s		h m s		h m s	
NOV 11 H-11 57 47.9 19.3S 177.6W h ABOUT 547KM		NOV 11 MIR E 20 08 44		NOV 13 MIR EP 07 38 17		NOV 14 H-07 23 50.3 26.5S 176.2W h ABOUT 33KM	
BYR IP 12 07 40		NOV 11 MIR EP 20 21 40		NOV 13 H-09 58 13.4 52.9N 166.7W h ABOUT 69KM		HLL EP 07 32 16	
SPA IP 12 08 11		NOV 11 AIA E 20 55 13		MAW IP 10 16 02 IP 16 17		DRV IP 07 32 29	
NOV 11 HLL EP 13 38 46		NOV 11 AIA E 22 06 19		NOV 13 MIR E 14 54 37		MIR EP 07 34 35	
NOV 11 H-14 30 45.0 15.9S 167.8E h ABOUT 155KM		MIR E 22 07 15		NOV 13 MIR E 17 13 52		MAW IP 07 35 37	
BYR IP 14 41 50		SPA IP 22 07 47		NOV 13 HLL EP 21 40 02		NOV 14 H-07 48 05.5 35.7N 140.8E h ABOUT 61KM	
NOV 11 H-14 48 53.0 31.3S 178.5W h ABOUT 334KM		NOV 11 H-22 14 18.7 43.2S 76.0W h ABOUT 33KM		NOV 13 HLL EP 21 40 02		DRV EP 08 06 06	
SPA E 14 58 19		AIA I 22 19 23		NOV 13 H-21 47 50.3 56.9S 29.0W h ABOUT 33KM		MAW IP 08 06 46 IP 07 00	
NOV 11 H-15 15 33.6 17.2N 40.7E h ABOUT 34KM		NOV 11 MIR IP 22 22 57 ES 24 40		AIA IP 21 52 21		AIA E 08 07 42	
MAW E 15 28 12		DRV EP 22 23 08 I 25 18 I 25 39		BYR IP 21 54 44		NOV 14 HLL EP 12 11 05	
NOV 11 H-16 09 57.6 12.9S 166.5E h ABOUT 77KM		HLL EP 22 23 55		MAW IP 21 55 21		NOV 14 MIR EP 14 05 15	
MCO IP 16 17 43		MAW IP 22 24 57		WIL E 21 56 33 I 57 09		NOV 14 HLL EP 15 34 58	
DRV IP 16 19 33 IS 27 20		WIL I 22 25 32		MIR IP 21 56 37		NOV 14 MIR IP 16 36 17 I 36 37	
HLL IP 16 19 54		NOV 11 MIR E 22 43 53		HLL IP 21 56 49		NOV 14 MIR EP 18 55 16	
WIL IP 16 20 30 IS 29 08		NOV 11 MAW E 22 53 26		DRV IP 21 57 31 I 58 28		NOV 14 H-21 59 16.1 0.3S 123.0E h ABOUT 92KM	
MIR IP 16 21 13 IS 30 28		NOV 12 MAW I(P) 09 32 58		NOV 13 BYR IP 22 00 45		MCO EP 22 09 44	
BYR I 16 21 29		NOV 12 AIA E 10 19 22		NOV 13 MIR EP 22 14 09		WIL IP 22 09 57 IS 18 43	
SPA IP 16 21 45		NOV 12 H-19 32 38.0 51.5N 178.4W h ABOUT 57KM		NOV 13 AIA E 22 47 30		DRV IP 22 10 02 ES 18 53	
MAW IP 16 22 17		SPA E 19 52 00		NOV 13 MIR EP 23 42 53		MIR IP 22 10 17 IS 19 19	
AIA IP 16 23 06		MAW IP 19 52 14		NOV 14 MIR EP 00 08 09		SPA IP 22 12 06	
NOV 11 DRV IP 16 39 22		NOV 12 H-20 55 39.0 17.8S 13.6W h ABOUT 33KM		NOV 14 H-05 15 43.7 15.4S 168.0E h ABOUT 66KM		BYR EP 22 12 23	
NOV 11 MIR EP 17 50 44		SPA IP 21 07 03		SPA IP 05 27 20		NOV 14 MIR EP 23 43 36	
NOV 11 MIR EP 18 19 33		BYR IP 21 07 20		NOV 14 MIR EP 05 54 29		NOV 15 SPA E 07 53 51	
NOV 11 BYR IP 18 40 09		NOV 13 AIA E 05 59 55 I 06 00 09		NOV 14 MAW IP 06 39 04		NOV 15 AIA E 11 35 27	
NOV 11 HLL EP 19 16 52		NOV 13 MCO EP 07 06 30		MIR EP 06 39 20		NOV 15 AIA E 11 50 02 E 51 31	

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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
NOV 15 AIA IP F	11 53 55 56 34	HLL IP ES	23 38 02 48 35	MIR EP IS	21 22 07 32 06	NOV 17 MAW I	23 24 05
NOV 15 AIA EP	12 09 05	MAW I(P)	23 38 54	WIL EP IS	21 22 12 22 14	NOV 18 MAW IP	00 20 52
NOV 15 H-15 51 57.6 38.3S 73.2W h ABOUT 33KM		NOV 16 HLL EP	05 53 12	MAW I(P)	21 22 30 32 48	NOV 18 AIA E	02 39 40
AIA E	15 57 46	NOV 16 MAW IP	06 37 18	DRV EP	21 22 46	NOV 18 AIA E	04 48 00
BYR I	16 00 14	NOV 16 H-06 39 08.2 1.0S 78.6W h ABOUT 33KM		MCQ EP	21 22 50	NOV 18 WIL EP I>P	05 22 55 23 08
SPA IP	16 01 03	NOV 16 HLL EP	07 20 14	HLL EP	21 23 42	NOV 18 AIA IP IPP	05 37 55 38 22
HLL EP FS	16 02 08 10 33	NOV 16 HLL EP	07 20 14	NOV 17 H-00 00 21.5 19.6S 68.8W h ABOUT 209KM		NOV 18 AIA IP IPP	05 37 55 38 22
DRV IP IS	16 03 17 12 38	NOV 16 HLL EP	07 20 14	SPA E	00 09 52	NOV 18 H-06 43 08.3 0.2S 125.1E h ABOUT 56KM	
WIL IP IS	16 03 39 13 13	NOV 16 H-07 18 37.3 32.3S 111.1W h ABOUT 43KM		BYR I	00 10 22	NOV 18 WIL EP	06 53 56
NOV 15 H-16 09 26.9 38.4S 73.6W h ABOUT 33KM		AIA E	07 25 13	NOV 17 H-01 13 22.8 2.7N 126.9E h ABOUT 37KM		DRV E	06 54 02
AIA E	16 15 09	E	26 40	BYR IP	01 31 48	MIR IP	06 54 16
BYR I	16 17 40	ES	39 01	NOV 17 MAW IP	06 56 45	MAW IP	06 55 11
SPA IP	16 18 32	BYR EP ES	07 27 13 34 22	NOV 17 BYR IP	09 39 29	BYR IP	06 56 24
HLL IP	16 19 38	SPA IP	07 28 27	NOV 17 H-14 21 30.6 2.8N 121.7E h ABOUT 609KM		NOV 18 AIA E	07 32 25
MAW IP I>P	16 20 31 20 38	DRV IP IS	07 29 32 38 40	NOV 17 WIL IP	14 31 40	NOV 18 MAW IP	08 38 02
NOV 15 HLL IP	16 35 59	WIL IP IS	07 30 24 40 16	NOV 17 H-14 21 30.6 2.8N 121.7E h ABOUT 609KM		NOV 18 MAW I(P) I>P	11 10 31 10 41
MAW IP I>P	16 37 23 37 37	MAW IP ES	07 30 37 40 55	WIL IP	14 31 40	NOV 18 MIR EP	11 16 25
SPA IP	16 37 32	MIR IP EPP IS	07 30 41 33 44 40 45	DRV IP	14 31 46	NOV 18 AIA I E	12 35 43 37 46
BYR I	16 37 36	NOV 16 DRV EP	07 57 53	MAW IP I	14 32 45 34 55	NOV 18 WIL IP I>P	18 05 51 06 04
NOV 15 HLL EP	20 09 10	NOV 16 MIR EP	10 37 35	SPA IP	14 33 40	NOV 18 MIR EP	18 15 02
NOV 15 HLL EP	21 39 40	NOV 16 MIR IP	11 13 42	BYR IP	14 38 08	NOV 18 MCQ IP	18 15 02
NOV 15 WIL E	23 33 05	NOV 16 SPA IP	13 59 00	NOV 17 MAW IP I>P	15 01 38 20 04 18 04 32	NOV 18 AIA E	18 39 41
NOV 15 H-23 25 15.7 8.7S 79.8W h ABOUT 45KM		BYR IP I	13 59 14 14 05 11	NOV 17 H-22 28 29.3 63.3N 150.0W h ABOUT 125KM		NOV 18 MCQ E E	18 53 57 54 08
AIA I	23 35 02	NOV 16 MIR E	18 56 53	BYR IP	22 47 47	NOV 18 DRV EP	20 39 41
BYR IP	23 36 48	NOV 16 H-21 10 01.8 13.5N 93.2E h ABOUT 33KM		NOV 17 AIA E E	23 14 01 15 31	NOV 19 AIA E E E	01 09 36 11 21 12 12
SPA I(P)	23 37 30						



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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
NOV 19 MAW FP	05 06 01	NOV 19 MAW EP I <sub>DP</sub>	16 21 11 21 28	NOV 21 DRV E	11 00 43	MAW E(P)	07 49 28
NOV 19 MAW E	07 52 19	NOV 19 MAW EP	18 08 13	NOV 21 AIA E	12 27 58	NOV 22 SPA EP	10 40 30
NOV 19 MAW EP I <sub>DP</sub>	10 23 40 23 47	NOV 19 MAW EP	18 19 34	NOV 21 MAW EP	14 23 03	MAW E(P)	10 43 37
NOV 19 H-10 14 29.4 50.0S 114.3W h ABOUT 33KM		NOV 19 MAW EP	19 34 49	NOV 21 MAW EP	17 46 06	NOV 22 H-20 33 25.6 30.2S 178.6W h ABOUT 298KM	
HLL FP	10 21 56	NOV 19 DRV IP	21 22 56	NOV 21 H-19 40 25.7 21.1S 179.2W h ABOUT 626KM		BYR EP	20 42 33
SPA EP	10 22 03	NOV 20 SPA E	05 04 46	DRV IP	19 48 42	SPA IP	20 42 58
MAW EP ES	10 24 52 33 33	NOV 20 H-06 54 04.1 55.6N 158.8E h ABOUT 33KM		BYR E	19 50 03	MAW EP E <sub>DP</sub>	20 44 17 44 26
BYR E E	10 27 25 31 50	BYR E	07 13 34	SPA IP	19 50 32	NOV 23 MAW EP	00 06 48
NOV 19 DRV IP E	10 34 54 36 26	NOV 20 SPA IP	07 13 41	MIR IP	19 50 38	NOV 23 H-00 30 04.5 15.1S 75.3W h ABOUT 33KM	
SPA E	10 36 42	NOV 20 H-07 32 42.9 56.2N 159.3E h ABOUT 33KM		MAW EP	19 51 35	BYR I	00 41 03
DRV IP E E	10 38 14 42 45 42 59	NOV 20 H-10 11 11.2 6.1S 154.5E h ABOUT 69KM		I I <sub>DP</sub>	51 47 51 59	SPA IP	00 41 46
NOV 19 MAW EP	12 54 00	NOV 20 H-10 11 11.2 6.1S 154.5E h ABOUT 69KM		AIA E	19 51 37	HLL EP	00 42 35
NOV 19 MAW EP I <sub>DP</sub>	13 12 10 12 20	NOV 20 DRV EP	10 21 21	NOV 21 MAW EP	20 20 11	MAW EP E <sub>DP</sub>	00 43 12 43 22
NOV 19 MAW E	13 43 31	NOV 20 SPA IP	10 23 35	NOV 21 MAW EP	20 55 33	DRV EP	00 43 23
NOV 19 H-13 58 57.6 60.7S 152.9E h ABOUT 33KM		NOV 20 AIA E E	12 01 25 02 57	NOV 21 AIA E	22 09 09	NOV 23 H-00 44 51.2 15.0S 75.7W h ABOUT 40KM	
DRV IP E F	14 00 58 01 21 03 07	NOV 20 SPA E	12 52 16	NOV 21 MAW EP	22 36 41	BYR IP	00 55 48
HLL FP	14 02 52	NOV 20 DRV EP	13 10 55	NOV 22 AIA E	00 13 18	HLL EP	00 57 20
WIL EP IS	14 03 23 07 09	NOV 20 AIA E	14 54 30	NOV 22 AIA E	00 35 52	MAW E	00 57 57
BYR I	14 05 08	NOV 20 DRV EP	18 06 24	NOV 22 BYR E	05 54 32	NOV 23 AIA I	01 44 08
SPA E	14 05 32	NOV 20 SPA IP	18 08 34	NOV 22 H-06 53 34.5 1.6S 77.1W h ABOUT 147KM		NOV 23 H-10 41 57.6 4.0S 142.3E h ABOUT 100KM	
MAW EP	14 06 02	BYR EP	18 08 42	BYR I	07 05 33	BYR E	10 54 36
NOV 19 H-14 30 29.1 6.7N 73.0W h ABOUT 135KM		NOV 21 MIR EP	06 50 15	SPA IP	07 06 09	NOV 23 BYR I	14 37 34
BYR IP	14 43 12	NOV 21 H-07 07 42.3 49.8S 114.8W h ABOUT 33KM		NOV 22 H-07 37 25.8 18.2S 167.6E h ABOUT 33KM		MAW EP	14 38 11
NOV 19 MAW EP	16 06 39	NOV 21 H-07 07 42.3 49.8S 114.8W h ABOUT 33KM		BYR EP	07 48 32	NOV 23 AIA E	22 37 30
		SPA EP	07 15 18	SPA EP	07 48 48	NOV 23 H-23 05 47.4 21.5S 179.3W h ABOUT 609KM	

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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
SPA IP	23 15 52	NOV 24		NOV 26		MIR EP	17 03 20
AIA E	23 16 58	H-17 22 59.5		MAW E(P)	14 30 59	ES	13 38
NOV 24		2.5S 148.9E		EPP	31 25	NOV 27	
AIA EP	01 05 05	h ABOUT 32KM		NOV 26		AIA E	16 56 42
NOV 24		DRV EP	17 33 33	H-15 58 46.2		NOV 27	
BYR E	02 05 20	I	33 52	23.8S 175.8W		AIA E	19 26 50
NOV 24		HLL EP	17 34 16	h ABOUT 19KM		NOV 27	
MAW EP	04 10 24	MAW E	17 35 37	HLL EP	16 07 37	AIA E	20 32 28
NOV 24		BYR EP	17 35 48	DRV IP	16 07 49	NOV 27	
MIR E	06 48 35	NOV 24		I	07 56	MAW EP	22 01 25
NOV 24		AIA E	19 46 14	I	08 31	NOV 27	
H-08 10 10.3		NOV 24		BYR IP	16 09 01	MIR EP	22 13 38
18.5S 175.4W		MIR E	22 40 54	WIL E(P)	16 09 14	NOV 27	
h ABOUT 33KM		NOV 25		E	17 29	MIR E	23 45 59
DRV EP	08 19 48	AIA E	04 34 07	MIR IP	16 09 53	NOV 28	
MAW EP	08 22 41	NOV 25		I	09 59	MIR EP	02 11 31
EPP	22 51	MAW EP	06 58 50	ES	18 56	NOV 28	
NOV 24		NOV 25		MAW EP	16 10 52	AIA E	02 29 19
H-10 34 07.7		H-09 51 22.8		NOV 26		NOV 28	
24.8S 180.0E		10.6N 125.2E		AIA I	23 44 25	H-02 35 48.8	
h ABOUT 500KM		h ABOUT 47KM		NOV 27		12.1N 143.7E	
HLL FP	10 42 02	DRV IP	10 03 15	MIR I	03 55 51	h ABOUT 33KM	
DRV IP	10 42 06	HLL EP	10 04 09	NOV 27		DRV IP	02 47 49
BYR I	10 43 33	NOV 25		MIR EP	07 06 42	EPP	50 48
SPA IP	10 44 06	HLL EP	10 15 04	IS	16 16	WIL EP	02 48 08
MIR IP	10 44 06	DRV EP	10 17 02	I	16 57	ES	58 19
NOV 24		BYR EP	10 18 05	HLL EP	07 10 52	HLL EP	02 48 27
H-14 21 39.7		NOV 25		SPA E	07 11 28	MIR EP	02 48 32
54.8N 161.6E		MAW EP	10 33 09	BYR IP	07 12 51	ES	59 06
h ABOUT 33KM		NOV 25		NOV 27		NOV 28	
SPA IP	14 41 15	SPA IP	12 45 21	BYR IP	07 13 29	MAW EP	05 13 01
NOV 24		NOV 25		I	14 50	E	13 18
H-15 52 20.1		MAW EP	14 38 20	I	21 44	SPA IP	05 13 37
49.5N 155.8E		EPP	38 34	NOV 27		BYR IP	05 13 53
h ABOUT 85KM		NOV 25		MAW EP	07 22 37	MIR EP	05 14 14
AIA E	16 11 26	BYR IP	14 53 30	EPP	22 58	WIL EP	05 14 49
MAW EP	16 11 34	NOV 25		NOV 27		HLL IP	05 15 12
EPP	11 47	H-14 55 59.6		H-12 07 12.7		DRV IP	05 15 25
SPA E	16 11 36	5.9S 148.4E		14.9N 119.9E		NOV 28	
NOV 24		h ABOUT 33KM		h ABOUT 35KM		H-05 09 15.0	
MIR E	15 53 54	SPA IP	15 08 32	MIR EP	12 19 40	22.5S 10.7W	
NOV 24		NOV 26		MAW E(P)	12 20 32	h ABOUT 33KM	
H-16 19 44.9		MIR EP	04 55 43	NOV 27		MAW EP	05 19 40
9.8N 40.7W		NOV 26		AIA E	12 20 44	SPA IP	05 20 19
h ABOUT 33KM		MAW EP	06 22 35	NOV 27		BYR IP	05 20 33
AIA E	16 31 33	EPP	22 40	MIR EP	14 02 25	MIR IP	05 20 54
NOV 24		NOV 26		I	15 51	WIL E(P)	05 21 29
AIA E	16 53 40	DRV EP	07 06 33	NOV 27			
		EPP	09 33	H-16 50 27.7			
				12.2N 143.8E			
				h ABOUT 33KM			
				HLL EP	17 03 07		

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h m s		h m s		h m s		h m s	
DRV IP	05 22 05	HLL EP	09 12 50	NOV 30		DEC 1	
NOV 28		WIL I(P)	09 14 18	MAW EP	14 32 03	MAW EP	11 22 34
MIR I	09 09 10	BYR IP	09 14 34			IP	22 44
NOV 28		MIR EP	09 15 04	NOV 30		DEC 1	
AIA E	12 39 42	AIA E	09 15 55	H-16 53 24.6		H-13 32 24.8	
NOV 28		MAW EP	09 16 03	3.2N 127.1E		30.85 71.3W	
AIA E	12 56 13	MAW IP	16 17	h ABOUT 58KM		h ABOUT 68KM	
NOV 28		NOV 29		HLL EP	17 05 31	AIA E	13 39 10
H-15 25 58.7		MIR IP	10 17 39	MAW EP	17 05 45	BYR I	13 41 36
9.9N 93.4E		I	17 43	IP	06 00	MAW EP	13 44 06
h ABOUT 53KM		NOV 29		SPA E	17 06 42	DEC 1	
MIR IP	15 37 44	MIR E	10 30 55	NOV 30		H-21 02 51.8	
WIL FP	15 37 47	NOV 29		HLL EP	17 24 51	17.7S 178.7W	
DRV IP	15 38 21	MIR E	10 30 55	NOV 30		h ABOUT 620KM	
NOV 28		NOV 29		AIA EP	20 46 36	MAW EP	21 14 18
MAW EP	15 28 07	BYR I	13 21 37	NOV 30		IP	14 34
NOV 28		NOV 29		H-21 51 22.9		DEC 2	
SPA EP	17 55 22	AIA I	15 00 23	17.4N 99.6W		AIA E	01 19 26
NOV 28		E	00 47	h ABOUT 51KM		DEC 2	
NOV 28		NOV 29		BYR E	22 05 09	AIA I	03 22 02
SPA IP	18 41 05	MIR EP	16 15 14	NOV 30		SPA IP	03 24 11
AIA E	18 42 02	NOV 29		SPA IP	23 05 25	MAW EP	03 25 02
NOV 28		WIL EP	17 28 43	NOV 30		IP	25 15
AIA E	22 08 59	EIP	28 57	H-23 07 51.6		DEC 2	
NOV 29		NOV 29		5.5S 145.9E		H-05 30 53.8	
WIL FP	01 05 25	H-19 06 37.6		h ABOUT 79KM		9.9S 159.9E	
IP	05 39	17.3S 168.5E		DRV EP	23 18 00	h ABOUT 34KM	
HLL EP	01 11 15	h ABOUT 33KM		DEC 1		HLL EP	05 41 17
NOV 29		DRV IP	19 15 51	SPA EP	02 04 50	WIL IP	05 41 34
AIA E	02 59 02	IP	16 02	DEC 1		ES	50 17
NOV 29		ES	23 21	WIL E(P)	02 13 49	BYR IP	05 42 56
AIA E	03 03 21	HLL FP	19 16 07	AIA E	02 16 41	SPA IP	05 43 09
NOV 29		WIL IP	19 16 54	DEC 1		MAW EP	05 43 19
AIA E	03 03 21	ES	25 18	MAW E(P)	02 30 08	IP	43 29
NOV 29		BYR IP	19 17 48	IP	30 21	DEC 2	
H-03 58 32.1		I	24 37	SPA IP	04 22 14	AIA I	09 48 37
29.4S 177.9W		MAW E	19 18 26	E	30 32	DEC 2	
h ABOUT 140KM		NOV 29		DEC 1		AIA E	14 13 25
HLL EP	04 06 27	DRV IP	19 22 40	H-04 16 59.6		DEC 2	
DRV IP	04 06 36	E	22 54	29.7S 177.7W		H-16 12 53.4	
WIL IP	04 07 58	HLL EP	19 22 52	h ABOUT 52KM		18.9S 168.5E	
IP	08 55	NOV 29		HLL EP	04 24 58	h ABOUT 33KM	
NOV 29		BYR E	19 45 50	DRV IP	04 25 09	BYR E	16 23 00
HLL EP	07 39 05	NOV 30		I	25 40	DEC 2	
DRV EP	07 39 28	AIA EP	00 02 31	WIL IP	04 26 32	AIA E	17 14 38
BYR I	07 40 34	NOV 30		IP	27 02	DEC 3	
MAW EP	07 42 26	MIR E	03 14 29	BYR IP	04 26 44	BYR E	01 19 15
IP	42 31	NOV 30		MIR EP	04 27 20	DEC 3	
NOV 29		DRV EP	04 50 55	MAW EP	04 28 25	AIA E	04 10 20
H-09 03 51.1		NOV 30		IP	28 43		
22.3S 175.9W		AIA I	10 51 23				
h ABOUT 33KM							

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
DEC 3 AIA F	07 55 52	DEC 4 MIR IP	16 10 20	DEC 6 H-03 45 37.4 20.7S 71.9W h ABOUT 60KM		DEC 7 H-00 06 23.9 10.8S 164.0E h ABOUT 100KM	
DEC 3 AIA E	09 28 28	DEC 4 H-16 40 06.0 16.5S 172.8W h ABOUT 33KM		BYR I	03 55 02	BYR E	00 18 07
DEC 3 H-12 50 36.9 12.9S 169.2E h ABOUT 632KM		DRV IP	16 50 02	DEC 6 H-04 04 09.8 49.0N 154.3E h ABOUT 85KM		DEC 7 AIA E	06 23 02
SPA I	13 01 34	BYR I	16 51 03	SPA E	04 23 23	DEC 7 AIA E	07 45 25
DEC 3 AIA EP	13 24 17	MAW FP	16 52 48			E	49 43
DEC 3 AIA E	17 20 31	DEC 4 MIR I	17 01 39	DEC 6 H-06 44 17.0 45.6S 73.4W h ABOUT 33KM		DEC 7 H-09 36 01.5 38.0N 106.3E h ABOUT 33KM	
E	21 05	I	01 59	AIA E	06 48 57	SPA EP	09 55 11
DEC 3 AIA F	18 49 56	DEC 4 DEC IP	17 51 17	BYR I	06 51 36	DEC 7 AIA E	12 47 59
DEC 3 DRV IP	20 00 33	I	51 29	MAW E	06 54 40	E	50 23
BYR I	20 02 29	IS	52 35	DRV IP	06 54 56	DEC 7 H-12 55 34.6 30.7S 179.3W h ABOUT 368KM	
SPA IP	20 02 52	DEC 4 WIL IP	20 28 34	DEC 6 SPA IP	07 10 40	SPA IP	13 05 09
DEC 3 BYR I	22 00 30	IS	32 40	DEC 6 DRV E	07 24 11	DEC 7 DRV IP	14 16 18
SPA IP	22 01 26	MAW EP	20 29 28	MAW EP	11 51 50	IPP	20 15
DEC 4 DRV IP	02 41 53	SPA EP	20 31 55	DEC 6 MAW EP	13 21 52	IS	26 56
I	41 57	DEC 5 H-01 16 06.3 10.9S 161.6E h ABOUT 33KM		I	29 21	WIL EP	14 16 27
I	42 01	BYR I	01 28 00	DEC 6 MAW EP	14 40 43	ISKS	27 10
DEC 4 H-07 23 04.2 21.8S 65.6W h ABOUT 300KM		SPA E	01 28 15	EPP	40 54	MIR IP	14 16 45
AIA IP	07 30 41	DEC 5 MIR E	01 55 57	DEC 6 MAW EP	16 53 04	IPP	21 03
SPA IP	07 33 42	DEC 5 SPA IP	05 36 46	DEC 6 H-17 55 18.5 3.7S 131.4E h ABOUT 33KM		IS	27 42
E	42 12	DEC 5 SPA IP	06 46 48	DRV IP	18 05 46	MAW E(P)	14 17 30
DEC 4 MIR I	07 44 16	DEC 5 MAW EP	07 00 00	SPA E	18 08 06	IPP	21 24
DEC 4 AIA E	08 18 10	DEC 5 MAW EP	15 07 44	DEC 6 MAW E(P)	18 22 55	I(S)	29 10
DEC 4 H-10 34 27.8 6.1S 149.9E h ABOUT 83KM		DEC 5 DRV E	16 16 37	DEC 6 H-22 36 45.8 34.0S 71.1W h ABOUT 88KM		BYR I	14 21 42
DRV IP	10 44 34	DEC 5 BYR E	16 34 30	BYR E	22 45 30	E	23 19
I	44 47	DEC 6 AIA I	01 35 58	MAW EP	22 48 07	SPA IP	14 21 44
E	45 43	DEC 6 SPA IP	03 51 06	DEC 6 MAW EP	23 25 08	AIA E	14 22 15
MAW EP	10 46 14					E	25 15
EPP	46 48					DEC 7 SPA IP	14 32 02
SPA IP	10 46 58					DEC 7 MAW EP	18 34 12
DEC 4 AIA IP	12 28 23					DEC 7 AIA EP	19 21 16
I	28 40					DEC 7 AIA E	19 40 26
I	29 21					DEC 8 SPA E	02 03 50
						E	12 11

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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
DEC 8 WIL	E(P) E <sub>PP</sub>	11 13 11 13 24	MAW EP I I <sub>PP</sub>	21 38 23 38 27 38 30	DEC 9 H-17 37 46.9 7.1S 129.1E h ABOUT 194KM	DEC 10 MAW EP I <sub>PP</sub>	09 14 06 14 14
DEC 8 H-11 28 23.3 4.9S 154.0E h ABOUT 100KM		DEC 8 MIR IP IS	21 38 59 48 27	DEC 9 H-20 54 13.7 17.7S 173.6W h ABOUT 60KM	SPA E	DEC 10 MIR IP	17 50 00 11 07 56
DEC 8 H-18 00 41.1 23.6S 69.4W h ABOUT 100KM		DEC 8 WIL IP	21 39 10	BYR I	21 05 01	DEC 10 MIR IP	15 06 16
AIA E	18 08 20	DEC 8 SPA I	21 44 56	SPA IP I	21 05 43 05 57	DEC 10 H-16 56 04.5 27.2S 176.8W h ABOUT 88KM	
BYR I	18 10 40	DEC 8 SPA I	22 05 08	AIA E	21 06 29	DRV IP I I	17 04 32 04 48 04 57
SPA IP IS	18 11 28 11 51	DEC 8 SPA I	22 39 01	DEC 9 SPA E	21 25 25	BYR I	17 05 50
MAW EP I <sub>PP</sub>	18 12 53 13 18	DEC 8 SPA E	22 52 23	DEC 10 AIA E	02 47 35	MIR IP	17 06 40
MIR EP	18 13 25	DEC 8 AIA E F	23 05 43 14 31	DEC 10 H-04 56 19.4 28.3S 62.7E h ABOUT 33KM		MAW EP I <sub>PP</sub>	17 07 42 07 57
WIL IP I <sub>PP</sub>	18 13 32 13 57	DEC 8 WIL I	23 14 11	WIL E I I(S)	05 04 59 05 05 11 55	DEC 10 AIA E	18 05 52
DRV IP	18 13 41	BYR I	23 14 15	DEC 10 AIA E	02 47 35	DEC 10 AIA I	19 15 27
DEC 8 H-18 18 29.1 15.2S 173.7W h ABOUT 33KM		MIR EP	23 14 17	DEC 10 H-04 56 19.4 28.3S 62.7E h ABOUT 33KM		DEC 10 H-23 04 42.0 8.0S 108.6E h ABOUT 193KM	
DRV IP I I	18 28 32 28 44 29 46	SPA I	23 14 27	DRV IP	05 06 20	MAW EP I <sub>PP</sub>	23 15 15 15 25
BYR I	18 29 33	MAW EP	23 14 40	SPA IP	05 06 43	SPA I	23 16 51
WIL IP IS	18 29 42 38 50	DEC 9 AIA E	06 14 15	BYR I	05 07 41	DEC 10 MAW EP	23 43 23
AIA E	18 30 01	DEC 9 AIA E	07 37 02	AIA E	05 08 18	DEC 11 H-02 34 09.7 48.9S 124.6E h ABOUT 33KM	
MIR IP IS	18 30 12 40 09	DEC 9 AIA E	11 02 51	DEC 10 BYR E	05 35 24	DRV EP EPP	02 38 33 40 21
MAW EP	18 31 18	DEC 9 AIA F	12 32 40	SPA E	05 35 50	MIR IP	02 39 22
SPA I	18 34 52	DEC 9 H-14 16 05.2 22.4S 177.0W h ABOUT 204KM		DEC 10 MAW EP	05 53 46	DEC 11 WIL IP	03 38 26
DEC 8 SPA IP	18 50 26	BYR I	14 26 11	DEC 10 H-06 11 56.2 8.4S 157.4E h ABOUT 39KM		DEC 11 MAW EP	06 22 38
DEC 8 WIL I(P) I <sub>PP</sub>	21 03 03 03 16	SPA IP	14 26 50	BYR E	06 24 17	DEC 11 BYR E	06 43 31
DEC 8 H-21 27 22.2 25.8S 63.4W h ABOUT 620KM		DEC 9 H-14 27 04.1 4.7S 153.7E h ABOUT 117KM		DEC 10 SPA E	06 34 19	DEC 11 AIA I	07 07 01
AIA IP IPP	21 34 04 39 25	MIR IP	14 38 31	DEC 10 SPA I	07 00 26 01 26	DEC 11 MAW EP	11 22 23
BYR I	21 36 26	MAW EP	14 39 33	DEC 10 SPA IP	07 07 32		
		SPA E	14 40 02	DEC 10 AIA E	08 39 57		
		DEC 9 AIA E	16 57 39				

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
DEC 11 MAW EP	13 01 48	DEC 12 H-13 56 32.4 60.3S 25.9W h ABOUT 33KM		DEC 13 BYR I	11 23 28	DEC 15 H-15 28 12.1 18.9S 177.3W h ABOUT 602KM	
DEC 11 H-13 54 36.3 19.7S 178.4W h ABOUT 630KM		AIA IP	14 00 40	DEC 13 AIA E	13 30 15	BYR E	15 38 02
BYR E	14 04 20	BYR I	14 02 54	DEC 13 DRV EP	14 28 00	SPA I	15 38 33
SPA IP	14 04 51	MAW EP	14 03 35	DEC 13 MAW EP	15 10 23	DEC 16 H-05 25 26.6 3.1S 139.5E h ABOUT 43KM	
DEC 11 DRV EP	15 14 20	E	04 10	I	10 33	SPA E	05 38 24
DEC 11 AIA E	16 31 43	WIL EP	14 05 23	DEC 13 AIA E	16 19 54	DEC 16 AIA I	16 06 12
DEC 11 H-17 51 58.9 24.8S 177.6W h ABOUT 98KM		ES	12 34	DEC 13 AIA E	17 52 38	E	12 12
DRV IP	18 00 33	DRV IP	14 05 45	DEC 13 AIA E	22 02 07	DEC 16 AIA E	18 04 29
BYR E	18 01 53	EPP	08 24	I	00 02 29	DEC 16 SPA E	22 06 44
SPA IP	18 02 35	ES	13 15	DEC 14 AIA E	03 39 36	DEC 17 H-02 15 49.7 4.2S 127.6E h ABOUT 33KM	
DEC 11 H-18 09 58.6 3.9S 143.6E h ABOUT 33KM		DEC 12 MIR IP	14 34 51	DEC 14 MAW E(P)	04 36 02	SPA E	02 28 26
SPA E	18 22 38	DEC 12 AIA E	15 55 23	DEC 14 MAW EP	06 21 29	BYR E	02 28 47
E	26 02	DEC 12 AIA E	18 34 57	DEC 14 MAW EP	07 16 12	DEC 17 AIA E	09 55 26
DEC 11 AIA E	21 55 15	I	37 24	DEC 14 MAW EP	08 14 08	DEC 17 H-11 00 16.0 2.1N 122.9E h ABOUT 393KM	
DEC 11 H-23 32 57.0 3.5N 126.9E h ABOUT 63KM		DEC 12 H-22 56 45.8 4.6N 96.5E h ABOUT 138KM		DEC 14 MAW EP	08 14 08	WIL E(P)	11 10 40
DRV EP	23 44 18	MIR IP	23 07 42	DEC 14 MAW EP	09 06 17	E(S)	19 09
DEC 11 MIR IP	28 02 30	WIL IP	23 07 44	SPA E	09 06 38	MAW EP	11 11 48
DEC 12 MAW E(P)	10 08 16	MAW EP	23 08 11	DEC 14 AIA E	14 39 47	IPP	13 24
DEC 12 BYR E	10 11 40	I	08 24	DEC 14 SPA E	18 03 09	IS	21 22
I	21 40	DEC 13 MAW EP	06 29 12	E	04 07	SPA IP	11 12 44
DEC 12 H-10 08 48.5 4.8S 153.8E h ABOUT 94KM		DEC 13 MAW EP	07 10 29	DEC 14 SPA E	20 35 12	E	22 32
DRV IP	10 19 03	I	10 38	DEC 14 MAW EP	21 09 36	DEC 17 AIA E	11 09 50
IS	27 29	DEC 13 H-08 13 34.4 4.7S 153.8E h ABOUT 112KM		DEC 15 AIA E	00 57 19	DEC 17 AIA EP	11 19 22
WIL IP	10 19 42	MAW EP	08 26 03	DEC 15 SPA E	04 43 44	DEC 17 H-17 25 40.8 38.0N 106.1E h ABOUT 33KM	
MIR IP	10 20 16	DEC 13 MAW EP	08 34 43	DEC 15 H-14 22 35.2 4.6S 152.1E h ABOUT 53KM		BYR E	17 42 44
EPP	23 15	DEC 13 MAW EP	09 48 36	SPA E	14 35 09	SPA E	17 44 49
ES	29 46	DEC 13 MAW EP	09 48 36			DEC 17 MAW EP	19 25 03
MAW EP	10 21 18					SPA IP	19 26 45
ES	31 44					BYR E	19 27 51

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Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
DEC 17 SPA E	19 45 59	DEC 19 H-11 01 39.8 31.2S 178.1W h ABOUT 28KM		DEC 20 AIA EP	13 50 20	WIL E	09 01 43 02 08
DEC 17 MAW E	20 14 28	SPA IP	11 11 39	DEC 20 MAW EP	17 43 37	SPA IP	09 02 11
SPA IP	20 16 10	E	19 39	DEC 20 H-18 20 55.8 61.8S 161.2E h ABOUT 29KM		MAW IP	09 02 38
BYR E	20 17 16	MAW EP	11 12 59	DEC 21 SPA IP			09 06 00
DEC 17 SPA E	20 32 03	DEC 19 H-12 56 19.7 4.7S 154.0E h ABOUT 98KM		DRV IP	18 23 25	DEC 21 H-09 10 01.6 52.5N 168.5W h ABOUT 33KM	
DEC 17 H-22 02 45.2 8.2S 120.5E h ABOUT 151KM		DRV IP	13 06 34	ES	25 21	SPA EP	09 29 21
SPA I	22 14 49	WIL EP	13 07 06	HLL EP	18 23 30	MAW I(P)	09 29 50
DEC 17 SPA I	22 54 49	ES	16 06	WIL IP	18 25 50	DEC 21 SPA E	09 13 14
DEC 18 H-02 54 47.1 21.6N 143.1E h ABOUT 306KM		WIL EP	13 07 06	IS	29 58	MAW I(P)	09 29 50
SPA IP	03 12 46	ES	16 06	BYR E	18 26 47	DEC 21 SPA E	09 13 14
DEC 18 DRV I	07 17 00	BYR E	13 08 46	DEC 20 MAW IP	18 22 24	DEC 21 MAW IP	09 20 31
DEC 18 DRV E	07 22 38	SPA IP	13 08 46	1PP	28 14	I	20 39
E	24 26	MAW EP	13 08 50	IS	29 40	DEC 21 BYR E	09 23 27
E	25 20	DEC 19 AIA I	18 31 53	DEC 20 AIA EP	22 27 45	E	32 48
WIL IP	07 23 17	DEC 19 MAW EP	20 16 59	DEC 20 AIA E	22 47 21	DEC 21 DRV E	09 30 55
ES	27 03	E	17 36	DEC 21 H-00 44 19.7 9.0S 112.4E h ABOUT 64KM		DEC 21 SPA IP	09 39 24
SPA IP	07 24 50	DEC 19 MAW EP	22 20 14	h ABOUT 64KM		DEC 21 MAW IP	09 52 11
DEC 18 SPA E	07 34 52	DEC 20 MAW IP	07 42 43	WIL IP	00 53 59	I	54 42
DEC 18 H-10 33 58.4 28.3S 178.2W h ABOUT 214KM		DEC 20 H-08 32 37.3 20.0S 174.1W h ABOUT 33KM		1PP	54 12	DEC 21 H-09 42 46.0 22.8S 66.5W h ABOUT 200KM	
BYR E	10 43 24	DRV EP	08 42 07	IS	01 01 47	BYR I	09 52 27
SPA IP	10 43 56	BYR E	08 43 11	DRV IP	00 54 22	HLL EP	09 54 18
AIA I	10 45 11	MAW IP	08 45 01	IS	01 02 31	DRV IP	09 55 13
MAW EP	10 45 12	I	45 13	MAW IP	00 55 04	E	56 16
DEC 18 H-12 37 16.1 2.7N 129.1E h ABOUT 96KM		DEC 20 H-08 47 23.3 23.4S 179.3E h ABOUT 512KM		HLL EP	00 55 37	WIL EP	09 55 26
SPA E	12 50 16	DRV IP	08 54 28	BYR E	00 57 01	1PP	56 21
DEC 18 MAW EP	12 46 54	BYR I	08 56 56	DEC 21 MAW E	01 23 34	DEC 21 SPA E	10 04 41
DEC 18 WIL E	22 07 49	MAW I(P)	08 58 29	DEC 21 H-03 28 35.3 15.4N 121.8E h ABOUT 46KM		DEC 21 DRV IP	11 13 59
DEC 19 AIA E	01 31 47	AIA I	08 58 47	AIA E	03 47 25	DEC 21 DRV IP	17 24 00
		DEC 20 WIL IP	08 53 32	DEC 21 AIA EP	03 48 18	DEC 21 H-18 20 44.7 15.3N 121.7E h ABOUT 55KM	
		I	56 41	DEC 21 MAW EP	05 20 46	WIL I(P)	18 32 59
		MAW IP	08 56 07	DEC 21 SPA EP	06 47 13	1PP	33 08
		DEC 20 AIA E	13 48 21	MAW I(P)	06 47 39	DRV IP	18 33 04
				DEC 21 DRV EP	09 01 41		
				E	03 04		

Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)	Date and Station	Phase (GCT)
h m s		h m s		h m s		h m s	
DEC 21 AIA E	20 39 03	DEC 22 WIL IP' ISKS	15 43 07 49 09	DEC 25 MAW IP	04 47 09	DEC 26 SPA IP	22 44 44
DEC 21 SPA IP	21 04 42	DEC 22 SPA E	15 50 45	DEC 25 MAW IP	06 04 17	MAW IP I	22 44 46 45 46
DEC 21 WIL F	21 42 53	DEC 23 AIA E	01 36 24	DEC 25 H-12 09 45.6 36.2S 100.2W h ABOUT 33KM		AIA E	22 45 08
DEC 21 AIA E	23 15 25	DEC 23 MAW IP	02 15 02	BYR E	12 18 05	WIL E	22 47 26
DEC 22 H-00 52 23.4 22.0S 170.1E h ABOUT 33KM		DEC 23 SPA IP	02 28 04	SPA IP	12 19 08	BYR E	22 48 16
DRV IP IS	01 01 05 08 03	DEC 23 MAW IP	03 03 30	DEC 25 MAW I	17 17 06	DRV E E	22 52 34 55 44
WIL IP I IS	01 02 14 02 16 10 11	DEC 23 BYR E	03 56 42	DEC 25 BYR E	21 59 31	DEC 26 DRV I	23 02 24
AIA I	01 02 45	SPA E	03 57 01	DEC 26 AIA E	00 48 30	DEC 26 H-23 46 14.7 54.0N 168.8E h ABOUT 33KM	
SPA IP	01 03 20	DEC 23 MAW IP	04 44 04	DEC 26 MAW IP	04 01 52	MAW IP	00 05 45
DEC 22 H-01 13 02.6 22.0S 170.1E h ABOUT 33KM		DEC 23 AIA E	05 37 53	DEC 26 SPA EP	04 15 24	AIA E	00 06 07
SPA E	01 24 01	DEC 23 BYR E	18 59 46	DEC 26 SPA E	04 54 56	DEC 26 SPA E	23 55 32
DEC 22 SPA E	01 31 39	DEC 23 SPA IP	19 14 28	DEC 26 SPA E	04 56 52	DEC 27 SPA E	01 08 10
DEC 22 H-01 28 48.9 21.9S 170.1E h ABOUT 33KM		DEC 24 H-00 23 53.1 59.1S 26.0W h ABOUT 33KM		DEC 26 MAW IP	05 03 14	DEC 27 AIA I I	01 23 11 23 40
DRV IP	01 37 30	SPA IP E	00 30 07 36 25	DEC 26 SPA E E I	08 55 18 58 45 09 02 46	DEC 27 H-01 37 57.1 23.7S 65.4W h ABOUT 227KM	
SPA IP	01 39 47	DEC 24 H-11 40 46.7 22.0S 170.1E h ABOUT 33KM		DEC 26 SPA E	09 17 23	SPA I	01 48 23
DEC 22 H-01 59 50.3 9.2S 112.4E h ABOUT 69KM		SPA E	11 51 44	DEC 26 SPA E	10 58 20	DEC 27 H-04 13 54.7 14.8S 173.2W h ABOUT 54KM	
WIL IP IS	02 09 30 17 19	DEC 24 SPA E	16 35 50	DEC 26 SPA E	11 19 16 20 19 25 03	BYR E	04 24 53
DRV IP E	02 09 52 10 07	DEC 24 BYR E	17 51 25	DEC 26 SPA IP I E	11 46 33 47 23	DEC 27 MAW IP	05 05 19
SPA IP	02 11 58	DEC 24 H-17 43 05.3 8.4S 78.7W h ABOUT 80KM		DEC 26 SPA IP I	11 46 33 47 23	AIA E E	05 08 30 09 13
DEC 22 WIL E	10 53 36	BYR E	17 54 33	DEC 26 SPA I	12 33 41	DEC 27 H-11 13 38.2 28.6S 67.4W h ABOUT 33KM	
DEC 22 DRV EP I E	15 39 07 39 41 41 11	SPA IP	17 55 14	DEC 26 SPA I	12 07 28	BYR E	11 23 14
SPA EP	15 39 57	DEC 24 BYR E	20 35 38	DEC 26 SPA I	12 33 41	DEC 27 AIA E	13 17 17
WIL E(P)	15 40 09	DEC 24 SPA E	22 38 25	DEC 26 SPA I	14 57 18	DEC 27 H-14 02 02.1 4.9S 145.1E h ABOUT 35KM	
DEC 22 WIL IP'	15 42 29	DEC 25 MAW IP	03 49 21	DEC 26 AIA E	22 14 22	DRV IP I	14 12 19 12 32



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h m s		h m s		h m s		h m s	
MAW IP	14 14 22	BYR E	11 20 30	DEC 30		DEC 31	
DEC 27		DEC 29		SPA E	17 53 14	H-11 00 59.5	
AIA I	20 02 30	DRV I	11 29 13	DEC 30		0.15 99.3E	
E	23 41	DEC 29		HLL EP	18 23 30	h ABOUT 33KM	
DEC 28		SPA E	13 49 11	DEC 30		SPA IP	11 14 04
AIA F	02 57 27	DEC 29		H-18 16 21.4		DEC 31	
DEC 28		H-14 47 41.4		4.75 153.7E		MAW IP	12 07 54
MAW I(P)	06 23 43	31.25 177.9W		h ABOUT 116KM		DEC 31	
DEC 28		h ABOUT 43KM		DRV IP	18 26 35	SPA I	14 28 42
AIA E	20 22 08	DRV IP	14 55 42	IS	34 58	DEC 31	
DEC 28		ES	15 02 11	I	35 36	SPA E	15 47 46
H-21 39 07.9		BYR IP	14 57 05	BYR E	18 28 45	DEC 31	
17.15 14.1W		IS	15 04 36	SPA IP	18 28 47	SPA E	16 02 06
h ABOUT 33KM		BYR IP	14 57 05	MAW IP	18 28 48	DEC 31	
MAW IP	21 50 14	SPA IP	14 57 46	DEC 30		SPA E	17 31 40
BYR I	21 50 53	MAW IP	14 58 58	WIL IP	18 37 11	DEC 31	
DEC 28		I	59 14	IS	36 01	BYR I	18 50 42
BYR F	23 05 49	AIA E	14 58 59	DEC 30		DEC 31	
DEC 28		DEC 29		SPA E	21 01 50	H-19 40 10.5	
BYR E	23 18 07	H-15 20 42.3		DEC 30		22.75 171.4E	
DEC 29		31.45 177.6W		SPA E	21 14 42	h ABOUT 39KM	
H-04 12 09.0		h ABOUT 41KM		DEC 30		SPA IP	19 51 02
2.4N 127.1E		SPA I	15 30 38	H-22 50 25.9		DEC 31	
h ABOUT 33KM		DEC 29		27.15 176.5W		SPA E	20 19 27
HLL EP	04 24 14	SPA E	15 49 44	h ABOUT 49KM		DEC 31	
MAW IP	04 24 16	DEC 29		SPA IP	23 00 50	SPA E	21 08 56
SPA IP	04 25 17	AIA E	16 09 06	DEC 31		DEC 31	
BYR E	04 25 36	DEC 29		H-02 48 35.5		H-21 45 04.7	
DEC 29		H-18 13 59.3		8.15 120.9E		28.35 178.4W	
MAW IP	07 33 54	31.65 177.8W		h ABOUT 33KM		h ABOUT 239KM	
DEC 29		h ABOUT 33KM		SPA E	03 00 52	SPA I	21 55 59
AIA E	10 44 56	SPA E	18 23 53	E	10 40	DEC 31	
DEC 29		I	29 36	BYR E	03 01 20	H-23 37 18.9	
H-10 41 04.1		I	33 16	DEC 31		21.65 176.8W	
20.05 69.9W		DEC 29		MAW IP	06 14 11	h ABOUT 33KM	
h ABOUT 46KM		SPA E	23 13 08	DEC 31		SPA I	23 48 18
AIA E	10 49 20	DEC 30		MAW IP	06 17 23		
BYR IP	10 51 33	BYR E	02 09 08	I	17 36		
SPA IP	10 52 12	SPA IP	02 09 23	DEC 31			
HLL EP	10 53 13	DEC 30		SPA E	06 42 34		
MAW IP	10 53 40	SPA E	04 03 23	DEC 31			
E(S)	11 04 09	DEC 30		MAW IP	07 12 19		
DRV IP	10 54 03	SPA E	06 17 17	DEC 31			
E	11 04 57	DEC 30		MAW IP	07 49 28		
WIL IP	10 54 19	SPA E	09 35 09	DEC 31			
ES	11 05 22	DEC 30		H-08 00 23.4			
DEC 29		H-13 23 09.8		52.5N 160.8E			
SPA E	11 20 11	28.25 175.8W		h ABOUT 47KM			
		h ABOUT 47KM		SPA E	08 19 55		
		SPA IP	13 32 26	DEC 31			
				MAW IP	08 01 41		