

*China*

July - Sept. COPIED ✓  
OCT - DEC COPIED ✓

1957, January

1

Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s
1	*Epc: 53° <sup>1</sup> / <sub>2</sub> N, 159°E 0: 00-56-40, h: 150km ca			2	LC	eP	02 27 58 ✓
	✓CC	P	01 01 45 ✓		WW	eP	50 ✓
	✓PK	i	06 55 ✓		CY	eP	57 ✓
		eP	02 53 ✓		YM	eP	59 ✓
					SN	eP	28 03 ✓
					CT	P	18 ✓
						P	20 ✓
						S	37 04 ✓
2	Epc: 53° <sup>1</sup> / <sub>2</sub> N, 166°W 0: 00-39-15, M: 6 <sup>3</sup> / <sub>4</sub>			2	Epc: 52°N, 167°W 0: 03-12-48, *M: 6 <sup>3</sup> / <sub>4</sub>		
	✓CC	eP	00 47 29 ✓		✓CC	eP	03 21 00 ✓
	✓PK	eP	48 32 ✓		✓TU	eP	22 16 ✓
		eS	55 58 ✓		✓ZS	P	24 ✓
	✓ZS	eP	48 53 ✓			i	39 ✓
		PP	50 53 ✓			S	30 06 ✓
		S	56 38 ✓		✓NK	eP	22 28 ✓
		ScS	58 45 ✓		✓PT	eP	27 ✓
	✓NK	eP	48 58 ✓		✓TY	eP	30 ✓
		eS	56 46 ✓		✓LF	P	45 ✓
		ScS	58 49 ✓		✓SA	P	23 07 ✓
	✓CT	eP	50 07 ✓			S	31 26 ✓
		S	58 55 ✓				
2	Epc: 52°N, 167°W 0: 02-17-30, M: 7 <sup>1</sup> / <sub>4</sub>			2	Epc: 52°N, 167°W 0: 03-48-40, *M: 7		
	✓CC	P	02 25 44 ✓		✓SW	eP	03 56 39 ✓
	✓PK	iP	26 44 ✓		✓CC	P	55 ✓
		i	27 15 ✓		✓KT	eP	58 00 ✓
		PP	28 41 ✓		✓TU	eP	11 ✓
		eS	34 08 ✓		✓ZS	eP	17 ✓
	✓KT	eP	26 48 ✓			i	20 ✓
	✓TU	P	27 02 ✓			S	04 06 01 ✓
	✓ZS	iP	07 ✓			ScS	08 05 ✓
		PPP	30 27 ✓		✓PT	eP	03 58 20 ✓
		iS	34 49 ✓			eS	04 06 04 ✓
		ScS	36 53 ✓		✓NK	eP	03 58 21 ✓
	✓NK	iP	27 13 ✓		✓TY	eP	25 ✓
		S	34 56 ✓		✓LF	eP	39 ✓
	✓PT	eP	27 09 ✓		✓FL	eP	40 ✓
	✓TY	P	12 ✓		✓YC	eP	48 ✓
	✓YC	eP	36 ✓		✓SA	P	57 ✓
	✓SA	eP	43 ✓			S	04 07 14 ✓
		PPP	31 25 ✓		✓WW	eP	03 59 05 ✓
		S	35 58 ✓		✓LC	eP	08 ✓
		SS	40 07 ✓				

P, S, Epc, M, etc, with asterisk are from foreign reports. (mostly of Pasadena and Moskva.)

2

1957 January

Date	Sta.	Phase	h	m	s		Date	Sta.	Phase	h	m	s	
2	✓AS	eP	03	59	09	✓	3	✓TU	P	12	51	23	
	✓YM	eP		11		✓			iS		53	47	
	✓SN	eP		13		✓		✓NK	-iP		51	38	
	✓CT	iP		35		✓			i		53	37	
									S		54	07	
								✓ZS	iP		51	35	
									i		52	04	
2	Epc: 53° <sup>1</sup> / <sub>2</sub> N, 167°W									iS		54	07
	O: 04-03-26, *M: 6.7									ScS	13	02	20
									i		06	29	
	✓CC	iP	04	11	35	✓			iP	12	51	38	
	✓TU	eP		12	51	✓	✓TY		S		54	13	
	✓ZS	P			58	✓			ScS	13	02	22	
		S		20	38	✓		✓PT	iP	12	51	44	
		iS			39	✓			iS		54	26	
	✓PT	eP		12	59	✓	✓FL		iP		51	56	
	✓NK	P		13	03	✓			S		54	38	
	✓TY	eP			03	✓			ScS	13	02	26	
	✓SA	eP			39	✓	✓LF		P	12	51	54	
	✓WW	eP			48	✓			S		54	38	
								✓YC	P		52	18	
								✓SA	iP			19	
2	Epc: 52°N, 167°W									iS		55	25
	O: 10-49-29, *M: 6 <sup>1</sup> / <sub>2</sub>									iP		52	37
								✓TS	iP		52	42	
	✓CC	eP	10	57	39	✓	✓WW		iP		52	42	
	✓PK	eP		58	38	✓			iS		56	01	
		ePP	11	00	42	✓	✓LC		iP		52	43	
		eS			06	✓			iS		56	05	
	✓ZS	P	10	59	03	✓	✓CY		iP		52	54	
		S		11	06	✓			iS		56	24	
	✓NK	P	10	59	07	✓	✓SN		iP		52	54	
		eS		11	06	✓			iS		56	25	
	✓CT	eP			00	✓			ScS	13	02	50	
		eS			09	✓	✓CT		-iP	12	53	10	
									i		55	53	
									iS		56	52	
3	Epc: 43° <sup>3</sup> / <sub>4</sub> N, 131° <sup>1</sup> / <sub>4</sub> E								✓YM	iP		53	11
	O: 12-48-28, h: 540km ca, M: 7									iS		56	55
									ScS	13	02	59	
	✓CC	iP	12	49	51	✓							
		iS			50	✓							
	✓SW	iP			49	✓	3	Epc: 43° <sup>3</sup> / <sub>4</sub> N, 131° <sup>1</sup> / <sub>4</sub> E					
	✓DR	iP			50	✓		O: 13-43-30, h: 540km ca, M: 5					
		iS			52	✓							
	✓TT	iP			51	✓		✓CC	iP	13	44	54	
		iS			53	✓		✓SW	eP			56	
	✓PK	iP			51	✓		✓TT	P		46	02	
		iS			53	✓		✓PK	P			03	
	✓KT	iP			51	✓			iS		48	08	
		iS			53	✓		✓TU	eP		46	29	

1957 January 31

Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s
3	<del>NK</del>	P	13 46 40 ✓	10	<del>CT</del>	iS	04 24 30 ✓
		S	49 14 ✓		<del>SA</del>	S	26 12 ✓
	<del>ZS</del>	P	46 37 ✓		<del>NK</del>	eP	21 31 ✓
		S	49 11 ✓			S	26 59 ✓
	<del>TY</del>	eP	46 39 ✓		<del>ZS</del>	eS	27 12 ✓
	<del>PT</del>	eP	48 ✓		<del>TU</del>	eP	22 07 ✓
	<del>YC</del>	eP	47 19 ✓		<del>PK</del>	P	13 ✓
	<del>SA</del>	eP	33 ✓			PP	23 34 ✓
	<del>LC</del>	eP	44 ✓			S	28 14 ✓
	<del>LC</del>	eP	46 ✓		<del>CC</del>	iP	23 11 ✓
	<del>YM</del>	eP	48 14 ✓				

6 Epc: 26°N, 127°E  
O: 01-36-54

<del>ZS</del>	eP	01 38 45
	e	39 16
	eS	40 18
	i	51
<del>PK</del>	P	52
<del>CC</del>	iP	41 10

14 Epc: 22°S, 178°W  
O: 14-20-21  
h: 650km ca, M: 6 $\frac{1}{4}$

<del>CT</del>	iP	14 31 29 ✓
	S	40 44 ✓
<del>NK</del>	e(P)	31 31 ✓
<del>PK</del>	iP	32 01 ✓
	SKS	41 28 ✓
	S	49 ✓

6 Epc: 40° $\frac{1}{4}$ N, 115° $\frac{1}{4}$ E  
O: 15-27-43, M: 3 $\frac{1}{2}$

<del>KT</del>	$\bar{P}$	15 27 50
	i $\bar{S}$	54
<del>PK</del>	iP	58
	i $\bar{S}$	28 08
<del>TU</del>	e $\bar{P}$	16
	e $\bar{S}$	36
<del>TY</del>	e $\bar{S}$	29 30
<del>PT</del>	e $\bar{S}$	52
<del>LF</del>	e	30 30
<del>SA</del>	e	31 57

17 Epc: 40° $\frac{1}{2}$ N, 98° $\frac{1}{2}$ E  
O: 05-38-37, M: 3 $\frac{3}{4}$

<del>YM</del>	$\bar{P}$	05 38 49
	$\bar{S}$	56
<del>CY</del>	ePn	39 21
	$\bar{P}$	28
	Sn	53
	$\bar{S}$	40 00
<del>WW</del>	e	01
	e(S)	41 00
<del>LC</del>	e	42 05
<del>YC</del>	e	41 19
	e $\bar{S}$	42 14
<del>SA</del>	e	44 16
<del>PK</del>	e	46 00

9 After shock of 2. Jan.  
O: 07-52-54, \*M: 6 $\frac{1}{2}$

<del>CC</del>	iP	08 01 03 ✓
<del>PK</del>	P	02 06 ✓
	eS	09 27 ✓
<del>ZS</del>	eP	02 30 ✓
	eS	10 14 ✓
<del>CT</del>	eP	03 43 ✓
	S	12 30 ✓

17 Epc: 36° $\frac{1}{2}$ N, 106° $\frac{1}{2}$ E  
O: 17-04-52, M: 3 $\frac{1}{2}$

<del>TS</del>	$\bar{P}$	17 05 29
	Sn	49
	$\bar{S}$	53
<del>LC</del>	$\bar{P}$	32
	$\bar{S}$	58
<del>YC</del>	e $\bar{P}$	41
	$\bar{S}$	06 14

10 Epc: 6°N, 95°E  
O: 04-14-41

4

1957 January

Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
17	SA	iS	17	06	31	20	PK	P	13	56	28
	WW	eS			39			eS		59	35
	SN	eS			46		TY	eP		56	44
	LF	eS	07	10			SA	e(P)		57	27
	PT	eS			43						
	TY	eS			44						
	CY	eS			49	24	Epc: 5°S, 148°E				
	PK	e			36		O: 01-11-15				
							h: 100km ca., M: 6 $\frac{1}{4}$				

17 Epc: 33°N, 138°E  
O: 22-26-45, h: 350km ca.

✓ZS	P	22	29	52	✓
	eS		32	23	✓
✓CC	P	29	59		✓
	eS		32	33	✓
✓NK	iP	30	14		✓
	eS		32	00	✓
✓SW	eP	30	14		✓
	eS		33	05	✓
✓PK	iP	30	42		✓
	i		31	48	✓
	iS		33	53	✓
✓KT	P	30	48		✓
	eS		34	07	✓
✓TU	eP	31	05		✓
	eS		34	35	✓
✓TY	eP	31	06		✓
	eS		34	38	✓
✓LF	eP	31	13		✓
✓YC	eP		52		✓
✓TS	eP		56		✓
✓WW	eP	32	17		✓

✓CT	iP	01	19	12	✓
	sP			56	✓
	iS	25	34		✓
✓ZS	P	19	16		✓
	sP			57	✓
	i	20	59		✓
	PPP	21	39		✓
	S	25	39		✓
	sS	26	32		✓
	ScS	29	05		✓
✓NK	iP	19	33		✓
	sP	20	14		✓
	S	26	11		✓
✓CC	P	20	25		✓
	iP			28	✓
	sP	21	09		✓
	S	27	52		✓
✓SA	eP	20	37		✓
✓PT	eP			56	✓

25 Epc: 52°N, 175°W  
O: 03-36-52  
h: 60km ca., M: 6 $\frac{1}{2}$

✓CC	P	03	44	14	✓
	eS		50	06	✓
	eScS		54	19	✓
✓PK	iP	45	19		✓
	pP			33	✓
	iS	52	03		✓
	ScS	55	06		✓
✓LF	eP	45	20		✓
✓ZS	iP			40	✓
	pP			55	✓
	PP	47	27		✓
	PcS	50	59		✓
	iS	52	44		✓
	ScS	55	25		✓
✓NK	iP	45	46		✓
	PP	48	53		✓

19 \* Epc: 21°S, 179°W  
O: 05-16-37  
h: 650km, M: 6 $\frac{1}{2}$

✓NK	P	05	27	46	✓
✓PK	-R	28	16		✓

20 Epc: 28°N, 131°E  
O: 13-52-28, M: 4 $\frac{3}{4}$

✓ZS	eP	13	54	41	✓
	eS		56	24	✓
✓NK	eP	55	10		✓
	eS		57	16	✓

1957 February

5

Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s
25	✓ NK	iS	03 52 54	28	✓ PK	PPP	05 28 00
		sS	53 16			S	31 54
		eScS	55 30			i	32 01
	✓ SA	eP	46 14		✓ TY	eP	27 46
		iS	53 49		✓ SA	eP	28 03
	✓ TC	eP	46 14		✓ ZS	eP	28
	✓ NW	eP	31				
	✓ TS	eP	33				
	✓ CT	iP	56				
		pP	47 14				
		S	55 04				
		ScS	56 43				

February

27

✓ ZS	iP	11 09 57
	S	13 57
✓ NK	P	10 13
	S	14 19
✓ PK	eP	11 27

27 Epc: 11°N, 128°E  
O: 14-03-25, M: 5½

✓ ZS	iP	14 08 14
	S	12 06
✓ NK	iP	08 29
	iS	12 37
✓ SA	eP	09 27
✓ PK	iP	45
	iS	14 46
✓ CC	eP	10 06

28 Epc: 27°N, 131°E  
O: 05-23-21, M: 5

✓ ZS	P	05 25 39
	eS	27 23
✓ NK	P	26 10
	PP	20
	i	38
	S	28 19
	SS	30
	SSS	42
✓ CT	eP	27 18
	e	28
	eS	30 23
✓ CC	eP	27 30
✓ PK	P	33
	PP	48

2 Epc: 20°S, 171°E  
O: 11-45-37, \*M: 6

✓ CT	P	11 56 57
	eS	12 06 12
✓ CC	iP	11 57 31
✓ PK	eP	43
	eS	12 07 44

3

✓ CC	P	10 38 28
✓ PK	eP	39 39

3

✓ SW	P	17 06 41
	S	10 47
✓ CC	eP	07 03
✓ NK	eP	08 48

3 Epc: 52°N, 160°E  
O: 17-24-41, M: 6

✓ SW	eP	17 29 45
✓ CC	eP	30 05
	S	34 25
✓ PK	eP	31 16
	PP	32 28
	eS	36 32
	SS	38 43
	ScS	41 45
✓ XT	eP	31 20
✓ TJ	eP	37
✓ ZS	eP	48
	PP	33 02
	ePPP	24
	eS	37 24
	eSS	39 50
	ScS	41 52

✓ PT eP 36

✓ NK -P 39 17  
eS 46 39  
✓ CT -P 40 28  
S 48 51

14 \* Epc: 20°N, 120°E  
O: 23-01-19

✓ ZS	e	23 05 24
✓ NK	e	06 39
✓ PK	eP	05 44
✓ CC	eP	06 24

23 Epc: 23°N, 121°E  
O: 20-26-04, \*M: 7.3

✓ ZS	+P	20 27 57
✓ CT	P	28 04
✓ NK	P	16
✓ TT	eP	29 12
✓ SA	P	47
✓ DR	P	48

20 Epc: 2°N, 96°E  
O: 21-58-27  
h: 70km ca. M: 6½

6 1957 February

Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s
3	NK	eP	17 31 50	10	CT	+P	22 36 27
		PP	33 22		ZS	P	37 07
		eS	37 32			iS	40 59
		SSS	40 20		NK	+P	37 22
	TY	eP	31 50			S	41 29
	YC	eP	32 20		FL	P	37 23
	NW	eP	38		TY	P	38 29
	TS	eP	40			S	43 26
	YM	eP	55		PK	P	38 36
	CT	eP	33 14			S	43 38

8 1957 March

Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s
23	LF	eP	20 29 49	8	* Epc: 39° 5N, 22° 8E O: 12-21-14, M: 6¼		
	TY	eP	30 00		YM	eP	12 30 53 ✓
	PK	+iP	09		CY	eP	31 16 ✓
		iS	33 21		NW	eP	27 ✓
	FL	eP	30 14		SN	eP	27 ✓
	TS	P	18		YC	eP	44 ✓
	TU	eP	22		PT	P	51 ✓
	PT	eP	40		TS	eP	53 ✓
	IC	P	43		TU	eP	32 08 ✓
	YC	eP	44		SA	iP	10 ✓
	CC	+P	30 46			S	41 07 ✓
	NW	P	31 01		LF	eP	32 13 ✓
	SN	eP	02		PK	-iP	18 ✓
	YM	eP	49			S	41 24 ✓

27 Epc: 24° 1/2N, 121° 1/2E  
O: 15-01-28, M: 4 3/4

ZS	eP	15 03 07
CT	eP	19
	iS	05 02
NK	eP	05 27
PK	eP	05 24
TS	eP	31
TU	eP	48
CC	eP	58

March

2 \* Epc: 6°S, 151°E  
O: 08-10-24

ZS	P	08 18 59 ✓
	S	26 02 ✓
CT	P	19 02 ✓
CC	iP	20 00 ✓
PK	P	10 ✓

8 \* Epc: 39° 5N, 22° 8E  
O: 12-14-14, M: 6 1/2

PK	P	12 25 19 ✓
	S	3 26 ✓
SA	P	2 22 ✓
CC	+iP	38 ✓
CT	P	2 07 ✓
	S	3 59 ✓

9 After shock.  
O: 23-35-15

PK	-P	23 46 13 ✓
	S	55 07 ✓
CC	-iP	46 34 ✓
CT	P	47 01 ✓
ZS	-P	05 ✓

9 \* Epc: 51° 3N, 175° 8W  
O: 14-22-27.5, M: 8 1/4

SW	eP	14 29 57 ✓
CC	+iP	58 ✓
DR	eP	30 45 ✓
PK	+iP	31 02 ✓
KT	P	06 ✓
LU	eP	20 ✓
PT	eP	22 ✓
ZS	+iP	24 ✓
	S	38 56 ✓
NK	eP	31 29 ✓
PT	P	31 ✓
TY	P	32 ✓
LF	eP	43 ✓
YC	eP	58 ✓
SA	iP	32 09 ✓

1957 February

Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
25	✓ NK	iS	03	52	54	28	✓ PK	PPP	05	28	00
		sS		53	16			S		31	54
		eScS		55	30			i		32	01
	✓ SA	eP		46	14		✓ TY	eP		27	46
		iS		53	49		✓ SA	eP		28	03
	✓ TC	eP		46	14		✓ ZS	eP			28
	✓ NW	eP			31						
	✓ ES	eP			33						
	✓ CT	iP			56						
		pP		47	14						
		S		55	04						
		ScS		56	43						

February

27 Epc: 20°S, 171°E  
O: 11-45-37, \*M: 6

✓ ZS	iP	11	09	57
	S		13	57
✓ NK	P		10	13
	S		14	19
✓ PK	eP		11	27

✓ CT	P	11	56	57
	eS	12	06	12
✓ CC	iP	11	57	31
✓ PK	eP			43
	eS	12	07	44

27 Epc: 11°N, 128°E  
O: 14-03-25, M: 5½

✓ ZS	iP	14	08	14
	S		12	06
✓ NK	iP		08	29
	iS		12	37
✓ SA	eP		09	27
✓ PK	iP			45
	iS		14	46
✓ CC	eP		10	06

3 Epc: 52°N, 160°E  
O: 17-24-41, M: 6

✓ CC	P	10	38	28
✓ PK	eP		39	39
3 ✓ SW	P	17	06	41
	S		10	47
✓ CC	eP		07	03
✓ NK	eP		08	48

28 Epc: 27°N, 131°E  
O: 05-23-21, M: 5

✓ ZS	P	05	25	39
	eS		27	23
✓ NK	P		26	10
	PP			20
	i			38
	S		28	19
	SS			30
	SSS			42
✓ CT	eP		27	18
	e			28
	eS		30	23
✓ CC	eP		27	30
✓ PK	P			33
	PP			48

✓ SW	eP	17	29	45
✓ CC	eP		30	05
	S		34	25
✓ PK	eP		31	16
	PP		32	28
	eS		36	32
	SS		38	43
	ScS		41	45
✓ XT	eP		31	20
✓ TJ	eP			37
✓ ZS	eP			48
	PP		33	02
	ePPP			24
	eS		37	24
	eSS		39	50
	ScS		41	52







Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
23	LF	eP	20	29	49	8	* Epc: 39° 5N, 22° 8E O: 12-21-14, M: 6 $\frac{1}{4}$				
	TY	eP		30	00						
	PK	+iP			09						
		iS		33	21		YM	eP	12	30	53
	FL	eP		30	14		CY	eP		31	16
	TS	P			18		WW	eP			27
	TU	eP			22		SN	eP			27
	PT	eP			40		YC	eP			44
	IC	P			43		PT	P			51
	YC	eP			44		TS	eP			53
	CC	+P		30	46		TU	eP		32	08
	WW	P		31	01		SA	iP			10
	SN	eP			02			S		41	07
	YM	eP			49		LF	eP		32	13
							PK	-iP			18
								S		41	24
							CC	+iP		32	37
								eS		42	03
							NK	eP		32	56
							CT	-iP		33	05
								S		42	55
							ZS	S			56
27	Epc: 24° 1/2N, 121° 0E O: 15-01-28, M: 4 $\frac{3}{4}$										
	ZS	eP	15	03	07						
	CT	eP			19						
		iS		05	02						
	NK	eP		05	27						
	PK	eP		05	24						
	TS	eP			31						
	TU	eP			48						
	CC	eP			58						
	March										
2	* Epc: 6°S, 151°E O: 08-10-24										
	ZS	P	08	18	59						
		S		26	02						
	CT	P		19	02						
	CC	iP		20	00						
	PK	P			10						
8	* Epc: 39° 5N, 22° 8E O: 12-14-14, M: 6 $\frac{1}{2}$										
	PK	P	12	25	19						
		S		3	26						
	SA	P		2	22						
	CC	+iP			38						
	CT	P		2	07						
		S		3	59						
9	* Epc: 51° 3N, 175° 8W O: 14-22-27.5, M: 8 $\frac{1}{4}$										
	SW	eP	14	29	57						
	CC	+iP			58						
	DR	eP		30	45						
	PK	+iP		31	02						
	KT	P			06						
	TU	eP			20						
	TT	eP			22						
	ZS	+iP			24						
		S			38	56					
		eP			31	29					
	PT	P			31						
	TY	P			32						
	LF	eP			43						
	YC	eP			58						
	SA	iP			32	09					

Date Sta. Phase h m s | Date Sta. Phase h m s

9 ✓LC eP 14 32 09 ✓  
 ✓NW eP 14 ✓  
 ✓TS eP 18 ✓  
 ✓OY eP 22 ✓  
 ✓SN eP 28 ✓  
 ✓YM eP 29 ✓  
 ✓CT +iP 40 ✓

9 Epc: 50°<sup>1</sup>/<sub>2</sub>N, 176°W  
 O: 15-41-51

✓SW eP 15 49 09 ✓  
 ✓CC P 20 ✓  
 S 55 23 ✓  
 ✓DR P 50 07 ✓  
 ✓KT P 31 ✓  
 ✓BU P 46 ✓  
 ✓ZS P 47 ✓  
 ✓NK eP 50 50 ✓  
 ✓PT eP 54 ✓  
 ✓TY P 55 ✓  
 ✓LE eP 51 09 ✓  
 ✓YC P 20 ✓  
 ✓NW P 39 ✓  
 ✓TS eP 42 ✓  
 ✓LC P 43 ✓  
 ✓SN eP 50 ✓  
 S 59 53 ✓  
 ✓CY eP 51 52 ✓

9 Epc: 51°<sup>1</sup>/<sub>2</sub>N, 173°<sup>1</sup>/<sub>2</sub>W  
 O: 19-37-28

✓CC +iP 19 45 12  
 ✓PK P 46 15  
 ✓ZS P 37  
 S 53 57  
 ✓NK eP 46 42  
 ✓CT P 47 53

9 Epc: 52°<sup>1</sup>/<sub>2</sub>N, 169°W  
 O: 20-22-03

✓CC P 20 30 03  
 ✓ZS +iP 31 30  
 S 39 04  
 ✓CT P 32 44  
 S 41 23

9 Epc: 52°<sup>1</sup>/<sub>2</sub>N, 170°<sup>1</sup>/<sub>2</sub>W  
 O: 20-39-16, \*M: 6<sup>1</sup>/<sub>2</sub>-7

✓CC P 20 47 16 ✓  
 eS 53 39 ✓  
 ✓PK P 48 19 ✓  
 S 55 35 ✓  
 ✓KT eP 48 24 ✓  
 ✓ZS +iP 41 ✓  
 iS 56 15 ✓  
 ✓NK eP 48 48 ✓  
 eS 56 27 ✓  
 ✓TY eP 48 50 ✓  
 ✓SA iP 49 20 ✓  
 iS 57 27 ✓  
 ✓NW eP 49 28 ✓  
 ✓IS eP 31 ✓  
 ✓OT iP 49 54 ✓

9 Epc: 51°<sup>1</sup>/<sub>2</sub>N, 171°W  
 O: 22-59-26

✓CC +iP 23 07 23  
 ✓PK eP 08 27  
 S 15 40  
 ✓ZS P 08 49  
 S 16 20  
 ✓CT eP 10 02  
 iS 18 38

9 \* Epc: 52°<sup>1</sup>/<sub>2</sub>N, 174°W  
 O: 23-20-58

✓ZS P 23 31 31  
 ✓CT eP 32 45

10 Epc: 41°<sup>1</sup>/<sub>2</sub>N, 143°<sup>1</sup>/<sub>2</sub>E  
 O: 02-55-07, h: 60km ca.

✓CC +P 02 58 22  
 ✓PK P 59 45  
 ✓ZS eP 50

10 Epc: 52°N, 176°W  
 O: 03-06-02, M: 6<sup>1</sup>/<sub>2</sub>-6<sup>3</sup>/<sub>4</sub>

✓CC P 03 13 52

10

1957 March

Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
10	✓PK	P	03	14	56	11	✓PT	eP	03	21	41
		S		21	59		✓ZS	P			33
	✓KT	eP		15	00			PP		23	34
	✓TU	eP			11			iS		28	48
	✓ZS	P			15		✓NK	eP		21	38
		PPP		18	06		✓YC	eP		22	10
		S		22	35			eS		29	56
	✓SA	eP		16	01		✓LC	eP		22	24
	✓CT	P			56		✓NW	eP			26
							✓TS	eP			31
							✓CY	eP			36
							✓SN	eP			37
							✓YM	eP			37
							✓CT	+P			50
10	Epc: 52° <sup>1</sup> / <sub>2</sub> N, 171°W O: 11-20-43, *M: 6							PoP		23	26
	✓CC	+P	11	28	42		S			31	11
		S		35	06						
	✓PK	+P		29	44						
		eS		36	59						
	✓TU	e(P)		30	02						
	✓ZS	+P			06						
		S		37	37						
	✓CT	+P		31	20						
		S		39	56						
10	Epc: 51° <sup>1</sup> / <sub>2</sub> N, 173°W O: 15-26-20, *M: 6 <sup>3</sup> / <sub>4</sub>					11	Epc: 53° <sup>1</sup> / <sub>2</sub> N, 168°W O: 09-58-42, M: 7				
	✓CC	+iP	15	34	08		✓CC	P	10	06	47
	✓PK	+iP		35	11			PP		08	39
	✓ZS	+iP			32			ScS		16	42
		S		42	53			SSS		17	27
	✓SA	eP		36	12		✓PK	+iP		07	46
	✓NW	P			19			PP		09	45
	✓CT	+iP			47			PoS		13	03
		iS		45	15			iS		15	00
							✓TU	eP		08	05
							✓ZS	+iP			10
								PP		10	14
								iS		15	46
							✓NK	eP		08	15
							✓PT	eP			14
							✓TY	eP			17
								eS		15	57
							✓LF	eP		08	31
							✓YC	P			41
							✓SA	iP			51
								S		16	56
11	*Epc: 51°N, 177°W O: 03-12-41, M: 6 <sup>3</sup> / <sub>4</sub>							SoS		18	30
	✓CC	eP	03	20	08			eP		08	53
		PPP		22	06		✓NW	eP		09	02
		eS		26	11		✓CY	eP			03
		SS		29	06		✓LC	eP			04
	✓PK	P		21	12		✓YM	eP			07
		PP		22	07		✓SN	eP			22
		iS		28	12		✓CT	+P			11
								PP			50
	✓KT	P		21	24			PPP		13	21
	✓TU	eP			31			iS		18	02
		S		28	34						



12 1957 March

Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s
12	PT	eP	11 53 47	13	SW	eP	15 49 00
		PP	55 43			S	54 36
		eS	12 00 59		CC	iP	49 25
	TY	eP	11 53 52			PP	50 53
	SA	eP	54 30			S	55 10
		iS	12 02 05		PK	iP	50 29
	WW	eP	11 54 32			PP	52 18
	LC	eP	39			iS	57 08
	SN	eP	51			iScS	16 00 19
	CT	-iP	55 05		KT	eP	15 50 31
		iS	12 03 17		TU	eP	45
					ZS	-P	50

12 Epc: 53°N, 168°W  
O: 12-46-12, \*M: 7

CC	iP	12 54 16
	i	33
TU	eP	55 36
ZS	eP	48
NK	eP	53
SA	eP	56 40

13 Epc: 51°N, 170°W  
O: 02-48-21, \*M: 5 3/4

CC	P	02 56 15
PK	eP	57 17
	iS	03 04 25
	eScS	07 05
ZS	-P	02 57 38
	iS	03 05 06
	ScS	07 25
CT	P	02 58 53
	S	03 07 26
	eScS	08 40

NK	-iP	15 50 55
	PP	52 52
	iS	57 57
	iScS	16 00 45
PT	eP	15 50 57
TY	P	59
LF	eP	51 14
YC	eP	26
SA	eP	33
	S	59 04
	iScS	16 01 19
WW	P	15 51 42
TS	eP	45
LC	eP	46
SN	eP	52
YM	eP	54
CT	P	52 06
	S	16 00 05
	ScS	01 54
	ScS	56
	SS	04 01

13 Epc: 52°N, 170°W  
O: 09-09-34

CC	iP	09 17 34
PK	P	18 35
	eS	25 48
ZS	+iP	18 59
	e	19 18
	eS	26 31
CT	iP	20 12

13 Epc: 54°N, 165°W  
O: 19-59-26, \*M: 5 3/4

CC	P	20 07 40
PK	P	08 39
	eS	16 04
	ScS	18 25
ZS	+P	09 05
	S	16 50
	eScS	18 48
NK	P	09 09
CT	P	10 16

13 Epc: 51°N, 179°W  
O: 15-42-11, M: 7

14 Epc: 51°N, 176°W  
O: 14-47-44, M: 7

1957 March

Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s	
14	✓SW	eP	14	54	53	16	Epc: 52°N, 178° <sup>0.1</sup> W					
	✓CC	+iP		55	11		0: 02-34-10, *M: 7.2					
		PP		56	49			✓CC	iP	02	41	27
		iS	15	01	10				S		47	14
		ScS		06	19				SSS		50	12
	✓DR	eP	14	55	57			✓PK	+iP		42	33
	✓KT	eP		56	19				iPP		44	18
		S	15	03	10				S		49	10
		ScS		06	10			✓KT	eP		42	33
	✓TU	eP	14	56	32			✓TU	eP			49
	✓ZS	-iP			37			✓ZS	+P			52
		PP		58	33				iPP		44	42
		PPP		59	28				iS		49	51
		iS	15	03	44			✓NK	+P		42	59
	✓NK	ScS		06	27			✓PT	eP		43	01
		-P	14	56	42			✓TY	eP			01
		S	15	03	53			✓LF	P			20
		eScS		06	27			✓YC	eP			31
	✓PT	eP		56	44			✓SA	P			36
	✓TY	P			47				S		51	10
	✓LF	eP	14	57	00			✓WW	eP		43	46
	✓YC	eP			12			✓TS	eP			49
	✓SA	P			20			✓CY	eP			54
		S	15	04	59			✓SN	eP			57
	✓WW	P	14	57	29			✓YM	eP			58
	✓TS	eP			31			✓CT	P	02	44	11
	✓CY	eP			34				i			38
	✓LC	eP			36				PPP		47	48
	✓SN	eP			39				S		52	16
	✓YM	eP			40							
	✓CT	-iP			53							

15	Epc: 24° <sup>0.1</sup> N, 122° <sup>0.1</sup> E					17	Epc: 51°N, 178°W					
	0: 02-57-10, M: 5 <sup>1</sup> / <sub>2</sub>						0: 07-53-51, M: 5 <sup>3</sup> / <sub>4</sub>					
	✓ZS	+iP	02	58	53			✓CC	-iP	08	01	05
	✓CT	(S)	03	00	48				PP		02	34
	✓NK	P	02	59	13			✓PK	eS		06	53
	✓FL	eP			21				-P		02	09
	✓CC	P	03	00	22			✓TU	S		08	46
	✓LF	eP			48			✓ZS	eP		02	27
	✓SA	iP			53				-P			31
	✓TY	eP			58				S		09	29
	✓KT	eP		01	10			✓NK	ScS		12	24
	✓TU	eP			21				-P		02	37
	✓TS	eP			21				S		09	39
	✓PT	eP			38			✓SA	ScS		12	28
	✓LC	eP			45			✓CT	eP		03	27
	✓SN	eP		02	02				eP			49
	✓WW	eP		02	03				S		11	50
	✓CY	eP		02	23				ScS		13	41

Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s
17	Epc: 53°N, 166°W O: 15-11-39, M: 5½			18	✓ZS	i	02 35 01
						ePP	36 47
						S	42 13
	✓CC	iP	15 19 55		✓NK	+iP	34 50
	✓PK	eP	20 55			i	35 05
	✓ZS	+P	21 19			S	42 19
		S	29 04		✓TU	eP	34 51
	✓NK	+P	21 22		✓PT	eP	48
	✓CT	eP	22 30		✓SA	eP	35 24
		S	31 17		✓CT	+iP	39
						S	44 18
17	Epc: 53°N, 165°W O: 16-17-11, *M: 6.4			18	Epc: 51°N, 179°W O: 05-08-34		
	✓CC	-iP	16 25 32		✓CC	P	05 15 48
		S	32 12		✓PK	eP	16 52
	✓PK	P	26 31			S	22 33
		ePP	28 29		✓ZS	eP	17 12
		S	34 00			S	24 08
	✓TU	eP	26 44		✓NK	eP	17 18
	✓ZS	-P	54			eS	24 16
		S	34 44				
	✓NK	-P	26 58				
		S	34 50				
	✓SA	iS	35 51				
	✓CT	P	28 05				
		eS	36 57				
17	Epc: 54°N, 165°W O: 22-44-47, M: 6¼			18	Epc: 5°S, 153°E O: 21-14-26 h: 100km ca., M: 7¼		
	✓CC	+iP	22 53 02		✓ZS	+P	21 22 57
	✓PK	+P	54 01			pP	23 22
		PP	56 01			PP	24 47
		S	23 01 27			S	29 45
	✓TU	eP	22 54 16		✓CT	i	32 54
	✓ZS	+P	27			P	23 00
		PP	56 36			pP	24 28
		S	23 02 14		✓NK	S	29 55
	✓NK	+iP	22 54 31			+iP	23 14
		eS	23 02 25			pP	39
	✓SA	P	22 54 59			S	30 16
	✓W	eP	55 08		✓CC	P	23 54
	✓TS	eP	13		✓PK	P	24 03
	✓CT	+iP	38			ipP	28
	✓SI	S	23 04 28		✓TU	eP	24 13
18	Epc: 52°N, 171°W O: 02-25-29, M: 6¼			19	Epc: 53°N, 168°W O: 02-14-10		
	✓CC	+iP	02 33 20		✓CC	-P	08 22 19
	✓PK	+iP	34 22		✓PK	eP	23 19
		S	41 30		✓ZS	-P	42
	✓ZS	+iP	34 45			S	31 25
					✓NK	-P	23 48
						eS	31 35





Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
21	*Epc: 3°S,	144° $\frac{1}{2}$ E				22	✓PK	+P	17	18	47
	O: 16-35-34,	M: 6 $\frac{1}{4}$					✓ZS	iP		19	09
	✓CT	-P	16	43	15			S		26	38
	✓ZS	eP		49	25		✓NK	+iP		19	14
	✓NK	-P		43	18		✓CT	eS		26	45
	✓PK	S		49	30			+P		20	23
		S		50	02						
		eP		44	33						
22	Epc: 55°N,	166°W				23	Epc: 38°N,	98° $\frac{1}{2}$ E			
	O: 14-21-14,	M: 7.4					O: 00-12-25,	M: 4 $\frac{1}{2}$			
	✓SW	eP	14	29	02		✓CY	eP	00	13	03
	✓CC	iP			22			S <sub>n</sub>			22
		PP		31	09		✓YM	iS			27
	✓PK	eS		35	50			e			18
		+iP		30	22		✓SN	eS <sub>n</sub>			45
		PcP		31	34		✓WW	iS			56
		PP		32	34			eP			24
		iS		37	44			eP <sub>n</sub>			26
	✓KT	P		30	22			eP			33
	✓TU	eS		37	44			eS <sub>n</sub>	14	08	
	✓ZS	iP		30	35			S			20
		PP		32	52		✓LC	e			13
		PPP		34	05		✓JC	e			14
		iS		38	25			eS			15
	✓TY	eP		30	49		✓TS	e			14
	✓NK	+iP		30	52		✓PK	eS			16
		iPP		32	59			e			19
		PPP		33	15						
		iS		38	34		23	Epc: 5° $\frac{1}{2}$ S,	131°E		
	✓LF	eP		31	00			O: 05-12-42			
	✓FL	eP			05			h: 170km ca.,	M: 7 $\frac{1}{4}$		
	✓JC	eP			10			✓CT	+iP	05	19
	✓SA	iP			18				i		17
		iS		39	29				PPP		20
	✓WW	eP		31	25				iS		24
	✓TS	P			31			✓ZS	-iP		19
	✓LC	eP			31				i		54
	✓CT	+iP		33	00				ipP		20
		iPP		34	31				i		25
		PPP		36	03				iS		23
		iS		40	47				i		27
								✓NK	-iP		19
									i		20
									ipP		21
									iS		25
									iS		28
									iS		29
									iScS		53
								✓FL	eP		20
22	Epc: 51°N,	171°W									
	O: 17-09-50										
	✓GC	P	17	17	44						

Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s
23	SA	P	05 20 40	24	CC	+P	11 44 42
	LF	eP	50		PK	+iP	45 44
	TS	eP	58		TU	eP	58
	TY	P	58		ZS	+iP	46 08
	PK	-iP	21 03			eS	53 34
		i	11		PT	eP	46 11
		ipP	22 42			eS	53 38
		iS	27 45		NK	+iP	46 11
		iScS	31 45			S	53 38
		iSS	32 26		SA	eP	46 44
	KT	P	21 07		CT	+iP	47 22
	TU	eP	13			iS	55 51
	LC	P	15				
	CC	iP	18				
		i	28	25	*Epc: 53°N, 167°W		
		iS	28 12		O: 00-39-29		
		iScS	30 54		CC	+iP	00 47 41
	YC	eP	21 21		PK	+P	48 40
	PT	P	23		ZS	+iP	49 05
	SN	eP	27			eS	56 51
	WW	P	29		NK	eP	49 08
	CY	P	45			eS	56 57
	YM	eP	22 05				

24 \*Epc: 51°N, 130°W  
O: 08-22-23, M: 6¼

CC	iP	08 33 05
	i	35 31
PK	eP	33 53
ZS	eP	34 19
	S	44 07
NK	eP	34 20
	eS	41 58

28 Epc: 51½°N, 170°W  
O: 20-08-21

CC	P	20 16 15
PK	+P	17 20
	S	24 32
ZS	+P	17 38
	eS	25 09
NK	-eP	17 46
	eS	25 15
	ScS	27 28
CT	S	25

24 \*Epc: 52½°N, 169½°W  
O: 11-06-10, M: 5½

CC	+iP	11 14 13
	+iP	15 13
	S	22 45
TU	eP	15 21
ZS	+iP	37
	iS	23 28
NK	+iP	15 40
	(S)	23 31
SA	eP	16 16
CT	eP	49

29 Epc: 54°N, 166½°W  
O: 05-10-32, \*M: 6¾

CC	+iP	05 18 40
PK	+iP	19 40
	PP	21 41
	PPP	22 46
	S	27 00
	SS	30 35
KT	eP	19 42
TU	eP	55
PT	eP	20 04
ZS	+iP	05
	PP	22 11

24 Epc: 52½°N, 171°W  
O: 11-36-51, M: 5½

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1957 April

Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
29	✓ZS	S	05	27	45	31	✓ZS	+P	10	17	12
		SS		31	36			PP		19	09
	✓NK	P		20	09			S		24	23
		S		27	53		✓NK	+iP		17	17
	✓TY	eP		20	09		✓CT	iP		18	30
	✓LF	eP			20						
	✓YC	eP			23						
	✓CT	+iP		21	18						
		S		30	03						

31 Epc: 25°N, 121°E  
O: 13-05-13

29 \* Epc: 53°N, 169°W  
O: 22-49-51, M: 6-6 $\frac{1}{4}$

✓CC	iP	22	57	57
✓PK	-P		58	58
	PP	23	01	01
	S		03	20
	ScS		08	47
✓ZS	P	22	59	22
	PP	23	01	25
	iS		07	03
	ScS		09	10
✓NK	+iP	22	59	26
	PP	23	01	31
	eS		07	11
	ScS		09	13
✓CT	-P		00	33
	S		09	18

✓ZS	P	13	06	48
	i			57
	(S)		08	03
	i			40
✓CT	P		07	02
	i			10
	i			46
	(S)		08	22
✓NK	eP		07	06
	(S)		08	34
	e			57
	i		09	20
✓FL	e		08	47
✓PK	e		09	00
✓CC	i			44
✓SA	i		13	32
✓LF	e		12	34
✓YZ	e		09	40
✓VW	e		16	38

30 Epc: 52°N, 175°W  
O: 09-17-06, \*M: 6.2

✓CC	-iP	09	24	36
✓PK	P		25	40
	eS		32	31
✓ZS	P		26	01
	iP			02
	S		33	09
✓NK	P		26	05
	eS		33	18
✓CT	P		27	17
	S		35	33

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1 Epc: 5°N, 129°E  
O: 07-54-20

✓CT	P	07	59	27
	S		08	03
✓ZS	eP		00	02
✓PK	P		01	26
✓CC	P			43

31 \* Epc: 51°N, 178°W  
O: 10-08-28, M: 6.1

✓CC	iP	10	13	45
✓PK	+iP		13	52

1 Epc: 52°N, 172°W  
O: 11-35-26, \*M: 5 $\frac{3}{4}$

✓CC	P	11	43	20
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Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s
1	PK	P	11 44 19	2	CT	P	21 38 22
		S	51 26			S	46 52
	ZS	P	44 39				
		S	52 03				
	CT	P	45 56	4	* Epc: 58°N, 155° $\frac{1}{2}$ W		
		S	54 25		O: 00-13-08, M: 6		
2	Epc: 52°N, 172°W				SW	eP	00 21 24
	O: 00-39-39, *M: 6.3				PK	+iP	22 39
	CC	iP	00 47 28			S	30 25
		S	53 46		TU	eP	22 50
	TU	P	48 50		ZS	P	23 10
	ZS	P	52		XC	P	22
		S	56 16		CT	+iP	24 17
	PT	P	49 00	4	* Epc: 48°N, 155°E		
	WW	P	48		O: 06-52-18		
	CT	P	50 07		CC	iP	06 57 03
		S	58 35		PK	P	58 20
2	Epc: 52° $\frac{1}{2}$ N, 172° $\frac{1}{2}$ W					S	07 03 24
	O: 20-16-58, M: 6				TU	P	06 58 36
	CC	iP	20 24 46		ZS	P	40
		S	30 59		NK	eP	47
	PK	P	25 47			e(S)	07 03 54
		S	32 42	5	Epc: 51° $\frac{1}{2}$ N, 173°W		
	TU	P	26 04		O: 02-49-42, *M: 6 $\frac{1}{2}$		
	ZS	P	29 09		CC	iP	02 57 30
		S	33 30		PK	P	58 33
		SS	36 02			PcP	59 50
	NK	eP	26 14			PP	03 00 27
		S	33 39		TU	eP	02 58 46
	CT	eP	27 24		ZS	P	54
		e(S)	35 51			S	03 06 16
						SS	08 51
2	Epc: 52° $\frac{1}{2}$ N, 172° $\frac{1}{2}$ W					P	02 58 59
	O: 21-27-52, *M: 6.3					S	03 06 27
	CC	P	21 35 42	5	* Epc: 26° $\frac{1}{2}$ S, 177°W		
		S	41 56		O: 07-30-22		
	PK	P	36 46		h: 100km ca., M: 6 $\frac{3}{4}$		
		S	43 53		ZS	P	07 42 40
	TU	P	37 04			S	52 43
	ZS	P	44 05		CT	P	42 47
		S	44 30			pP	43 14
	NK	eP	37 10				
		S	44 38				

Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s
5	✓ NK	P	07 42 53	5	✓ TS	e	23 19 42
	✓ CC	iP	43 07		✓ SA	e	44
		PP	32			e	22 42
	✓ PK	iP	22		✓ TU	e	19 57
		i	30			S	22 28
		pP	46		✓ CC	P	20 08
		SKS	53 42		✓ YC	eP	30
	✓ LF	eP	43 29		✓ WW	e	39
	✓ TY	eP	30		✓ PT	e	24 10
	✓ TU	P	35				

5 \* Epc: 45°N, 148°E  
O: 15-04-09

✓ CC	eP	15 08 04
✓ PK	P	09 26
✓ ZS	eP	39
✓ NK	eP	47

5 Epc: 38° 5N, 104° 0E  
O: 18-12-50

✓ WW	eP	18 13 16
	S	33
✓ YC	P	21
	S	44
✓ LC	eP	35
	S	14 07
✓ SN	e	07
✓ CY	e	13 43
	(S)	14 24
✓ TS	e	41
	(S)	57
✓ PT	e	15 03
✓ SA	e	45
✓ LF	e	12
✓ TY	e	16 15
✓ TU	e	32
✓ PK	e	17 23

5 Epc: 23° 1/2N, 123°E  
O: 23-15-25, M: 4 1/2

✓ ZS	eP	23 17 28
	S	19 04
✓ CT	S	32
✓ NK	P	17 49
	S	19 41
✓ FL	e	20 48
✓ LF	e	19 34
✓ TY	e	39

7 Epc: 1/2°S, 137°E  
O: 10-14-17, M: 6

✓ CT	+eP	10 20 49
	ePP	22 05
	ePcP	23 39
	eS	26 03
✓ ZS	+P	21 08
	PP	22 28
	S	26 36
✓ NK	eP	21 23
	PP	22 54
	iS	27 11
	.SS	29 41
✓ SA	eP	22 22
✓ LF	eP	23
✓ PK	eP	29
	iS	29 04

9 Epc: 30° 1/2N, 139°E  
O: 00-24-40  
h: 460km ca., M: 5 3/4

✓ ZS	P	00 27 49
	-iP	50
	sP	29 37
	S	30 24
	iS	25
	eP	28 07
✓ DR	.P	12
✓ NK	i	31 01
	iS	05
	PcP	32 25
✓ CC	P	28 14
	iP	15
	sP	30 13
	iS	31 09
✓ SW	P	28 30
	iP	31
	iS	31 40
✓ FL	eP	28 36
✓ PK	P	46

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Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
9	PK	-iP	00	28	48	9	PK	eP	11	10	38
		sP		30	49			S		17	22
		iS		32	05		ZS	P		10	55
		i			16			S		17	54
		PcP			40		NK	eP		11	01
	KT	eP		28	53		CT	eP		12	13
	TU	P		29	10			i			19
	LF	P			12			eS		20	18
	CT	P			15						
		-iP			17						
		isP		31	23	9	Epc: $52^{\circ}\frac{1}{2}N$ , $168^{\circ}W$				
		iS		32	57		O: 20-23-53, *M: $5\frac{1}{4}$				
		P		29	29		CC	+iP		20	31 57
	PT	P			31		ZS	P		33	23
	SA	P			52			S		41	01
	TS	P			53			sS			18
	YC	P			53		NK	+P		33	27
	LC	eP		30	09			eS		41	14
	WW	P			17		CT	eP		34	38
	YM	eP			55			eS		43	16
9	Epc: $21^{\circ}N$ , $145^{\circ}\frac{1}{2}E$					10	Epc: $52^{\circ}\frac{1}{2}N$ , $168^{\circ}W$				
	O: 02-17-03, *M: $5\frac{1}{4}$						O: 03-25-25, *M: 5.7				
	ZS	eP	02	22	11		CC	-P	03	33	26
		S		26	17		PK	eP		34	30
		S			22		ZS	+iP			53
	NK	eP		22	33		NK	+P			56
		eS		26	57		CT	+iP		36	05
	CC	eP		22	43			eS		44	44
9	* Epc: $30^{\circ}\frac{3}{4}N$ , $138^{\circ}\frac{1}{2}E$					10	Epc: $50^{\circ}\frac{1}{2}N$ , $177^{\circ}W$				
	O: 10-35-35, h: 450km						O: 09-09-18, *M: $5\frac{3}{4}$				
	ZS	-P	10	38	39		PK	eP	09	17	54
		S		41	15			S		24	46
		i		42	37		TU	eP		18	10
	NK	-P		39	00		ZS	eP			11
		iS		41	54		NK	-P			15
	CC	-iP		39	04		SA	eS		26	44
		eS		41	59		CT	-P		19	27
	PK	P		39	38			eS		27	38
		eS		42	59						
	CT	eP		40	04						
9	Epc: $50^{\circ}\frac{1}{2}N$ , $177^{\circ}\frac{1}{2}W$					10	Epc: $56^{\circ}N$ , $153^{\circ}W$				
	O: 11-02-11, *M: $5\frac{3}{4}$						O: 11-29-57, M: $7\frac{1}{4}$				
	CC	P	11	09	23		SW	eP	11	38	39

Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
10	SW	S	11	45	39	13	ZS	P	10	16	26
	CC	+iP		38	58			S		20	54
		S		46	12		NK	P		16	37
		iS			14			eS		21	14
	PK	+iP		39	53		PK	P		17	48
		PP		42	06		CC	eP		18	13
		iS		47	52						
	KT	eP		39	57						
	TU	eP		40	05	14	Epc: 30° 2N, 84° 5E				
	PT	eP			13		O: 07-11-52, M: 6 $\frac{1}{2}$ -6 $\frac{1}{2}$				
	TY	eP			20		YM	P	07	15	16
	ZS	+iP			22		CY	eP			38
		PP		42	43		SN	eP			39
		iS		48	50		WW	P			52
	NK	+iP		40	24		LC	P			57
		PP		42	43		TS	P		16	14
		PPP		44	15		YC	P			30
		iS		48	52		SA	P			42
		iS			56		PT	eP		17	01
	LF	eP		40	34		LF	P			05
	YC	eP			37		TY	eP			15
	FL	eP			38		TU	eP			27
	SA	P			49		CT	eP			35
		i		41	29			S		22	09
		PP		43	18		EL	eP		17	42
		S		49	39		PK	P			43
	WW	eP		40	49			S		22	22
	YM	eP			54		NK	P		18	00
	LC	eP			57			S		22	54
	TS	eP			58		ZS	P		18	20
	SN	eP		41	01			S		23	29
	CT	+iP			29		CC	P		18	46
		iS		50	55						

11 Epc: Tonga Is.  
O: 01-10-09

ZS	P	01	22	22
NK	P			35
CT	P			39
PK	P	23	02	
	eSKS	33	26	
	S			45

13 \* Epc: 5° 1/4 N, 126° 1/4 E  
O: 10-10-55,  
h: 100km ca., M: 6

CT	eP	10	15	33
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14 Epc: 15° S, 173° W  
O: 19-18-04, M: 7.5

ZS	+iP	19	30	02
	S			39 52
NK	+iP			30 13
	S			40 15
CC	eS			23
CT	P	30	18	
	eS			40 25
SW	eP	30	22	
PK	iP			41
	SKS	40	53	
TU	eP	30	55	
SA	eP			59
PT	eP	31	04	



Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
14	*Epc: 50° $\frac{1}{2}$ N,		179°W			16	✓NK	pP	04	12	18
	0: 20-59-00							PP			26
	✓CC	-iP	21	06	18			sP			13 25
	✓PK	-P		07	23			S			15 50
	✓ZS	-P			42		✓SA	ScS			19 40
		S		14	48			iP			10 44
	✓NK	-P		07	47			iP			46
	✓CT	-P		08	58			ipP			12 25
								iS			15 59
								iS			16 01
							✓TS	iP			10 47
								S			16 03
15	*Epc: 51° $\frac{1}{2}$ N,		179°W				✓IC	iP	11	00	
	0: 10-38-37,		M: 5 $\frac{3}{4}$				✓LF	P		02	
	✓CC	+iP	10	45	53		✓SN	iP		07	
	✓PK	P		46	37		✓WW	iP		15	
	✓ZS	+P		47	19		✓TY	P		16	
		S		54	18		✓YC	P		19	
	✓NK	+iP		47	23		✓CY	P		26	
		S		54	25		✓TU	eP		34	
	✓CT	+P		48	35		✓BR	eP		36	
		eS		56	38		✓PK	iP		36	
								+iP		37	
								iPcP		13	04
								ipP		21	
								PP		33	
								isP		14	26
								i		16	08
								iS		17	34
								i		18	04
								ScS		20	26
								sS		40	
								SS		22	08
							✓PT	P		11	35
							✓KT	eP		37	
							✓YM	iP		38	
							✓CC	iP		12	18
								S		18	45
							✓SW	eP		12	40
16	Epc: 4°S,		107° $\frac{1}{2}$ E								
	0: 04-04-11										
	h: 600km ca.,		*M: 7.5								
	✓CT	+iP	04	09	16						
		isP		11	57						
		PcP		12	07						
		iS		13	21						
	✓ZS	+iP		10	38						
		ipP		12	18						
		iPP			24						
		iPcP			33						
		iS		15	44						
		sS			45						
	✓NK	+iP		10	39						
17	*Epc: 20°S,		176°W								
	0: 08-07-58,		h: 200km ca.,								
	✓ZS	P		08	19	47					
	✓CT	iP		20	01						
	✓NK	-iP			01						
	✓PK	P			29						
17	*Epc: 52° $\frac{1}{2}$ N,		171°W								
	0: 09-27-54										
	✓PK	P		09	36	52					

Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s	
17	✓ ZS	P	09	37	12	19	✓ NK	-P	15	54	30	
		eS		44	41			PcP		55	30	
	✓ NK	eP		37	18			ePP		56	41	
	✓ CT	eP		38	27			S		16	02	14
							✓ CT	-P		15	55	37
								P			40	
								S		16	04	22
17	* Epc: 52° $\frac{1}{2}$ N, 169°W					19	Epc: 50° $\frac{1}{2}$ N, 165°W					
	O: 13-24-58, M: 5 $\frac{1}{3}$						O: 22-19-31, M: 7					
	✓ CC	P	13	33	03		✓ CC	-iP	22	27	45	
	✓ PK	+eP		34	04			S		34	20	
	✓ ZS	+P			27		✓ PK	-P		28	44	
		S		42	05			P			45	
	✓ NK	+P		34	32			PP		30	47	
		eS		42	16			S		36	07	
	✓ CT	eP		35	40		✓ CT	eP		28	46	
		eS		44	25		✓ TU	P		29	01	
							✓ ZS	-iP			08	
18	Epc: 51° $\frac{1}{2}$ N, 176°W							PP		31	11	
	O: 07-00-09							iS		36	54	
	✓ CC	eP	07	07	35			S S		38	46	
	✓ PK	+P		08	39		✓ PT	P		29	11	
	✓ ZS	+P		09	01		✓ NK	-iP			12	
		eS		16	07			iS		37	00	
	✓ NK	+P		09	06		✓ TY	P		29	14	
	✓ CT	P		10	17		✓ LF	eP			25	
							✓ YC	P			35	
18	Epc: 31°N, 143°E						✓ SA	-iP			43	
	O: 22-12-58							iS		38	03	
	✓ ZS	eP	22	17	21		✓ WW	P		29	50	
		eS		20	49		✓ CY	P			54	
	✓ CC	eP		17	23		✓ TS	eP			56	
	NK	eP			40		✓ LC	P			57	
		eS		21	26		✓ TM	eP			59	
	✓ PK	P		18	11		✓ SN	eP		30	01	
							✓ CT	-iP			20	
								iS		39	11	
19	Epc: 51° $\frac{1}{2}$ N, 168°W					20	* Epc: 6°S, 147° $\frac{1}{2}$ E					
	O: 15-44-53, *M: 6.7						O: 12-30-37, M: 5 $\frac{3}{4}$					
	✓ CC	-iP	15	53	03		✓ CT	eP	12	38	52	
		eS		59	34			S		45	28	
	✓ PK	-P		54	03		✓ ZS	P		38	57	
		S		16	01	23		eS		45	35	
	✓ TU	eP		15	54	19		✓ NK	+P		39	14
	✓ ZS	-iP			25			S		46	08	
		S		16	02	06						



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Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
25	✓ NK	PcP	02	37	19	26	✓ ZS	+P	06	45	12
		iS		46	17			S		54	39
		ScS		47	07						
	✓ CT	-iP		37	06						
		iS		46	28						
		i			44						
	✓ ZS	-P		37	14						
		PcP			34						
		PPP		41	49						
		S		46	41						

26 Epc:  $44^{\circ}\frac{1}{2}N$ ,  $148^{\circ}E$   
 O: 15-08-29, h: 100km ca.

✓ CC	+iP	15	12	12
	(sP)			40
✓ PK	-iP		13	36
	+iP			38
	pP		14	00
	sP			10
	PP			20
	S		17	43
	i		18	01
✓ ZS	eP		13	47
	+iP			49
	i		14	04
	ipP			12
	S		18	04
	i			18
✓ NK	eP		13	55
	+iP			57
	ipP		14	20
	PP			35
	PPP			54
	S		18	17
✓ TU	eP		14	03
✓ TY	eP			11

25 Epc:  $46^{\circ}N$ ,  $99^{\circ}\frac{1}{2}E$   
 O: 07-09-18

✓ YM	ePn	07	10	39
	e			53
	P		11	04
	eSn			40
	e			59
	S		12	09
✓ CY	ePn		10	59
	e			11 13
	eP			27
	e		12	09
	e			20
	e			30
✓ WW	eP <sub>n</sub>		11	17
	S <sub>n</sub>			12 49
✓ NK	eP		13	56

25 \*Epc:  $1^{\circ}\frac{1}{2}N$ ,  $126^{\circ}E$   
 O: 11-06-02, M:  $5\frac{1}{4}$

✓ CT	-P	11	11	32
	S			15 46
	i			58
✓ ZS	eP		12	17
	S			17 06
✓ NK	P		12	29
	eS			17 30

26 \*Epc:  $36^{\circ}3N$ ,  $29^{\circ}1E$   
 O: 06-33-43, M:  $6\frac{1}{4}-6\frac{1}{2}$

✓ PK	+P	06	44	22
✓ CC	eP			47
✓ NK	+P			58
	eS		54	13
✓ CT	eP		45	03
	eS		54	24

27 \*Epc:  $0^{\circ}Lat$ ,  $121^{\circ}\frac{1}{2}E$   
 O: 00-09-47, h: 60km ca.

✓ CT	+iP	00	15	07
	(pP)			16
	S		19	27
	(sS)			44
✓ ZS	iP		16	07
	S			21 11
✓ SA	iP		16	53
✓ TS	eP		17	05
✓ PK	+iP			24
✓ TU	eP			30
✓ YC	eP			33
✓ WW	eP			38

28 Epc:  $7^{\circ}N$ ,  $127^{\circ}E$   
 O: 01-23-46, M: 6

✓ CT	iP	01	28	26
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27

Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s	
28	CT	iS	01	32	06	29	ZS	eP	21	03	52	
	ZS	+iP		29	04			S		10	14	
		iS		33	22		NK	+P		03	54	
	LF	eP		30	15			S		10	20	
	PK	+iP			31		PK	+P		04	50	
		i			31			eS		11	57	
		PeP			33							
		e			35							
		iS			55							
	KT	eP		30	33							
	TU	eP			41							
	LC	eP			47							
	PT	eP			52							
	CC	iP			53							
		S			37							
	SN	eP			30							
	WW	eP			31							
	CV	eP			32							
28	* Epc: 6°S, 155°E O: 10-36-41, h: 60km ca.					1	* Epc: 52° $\frac{1}{2}$ N, 171°W O: 23-28-09, M: 5 $\frac{3}{4}$					
	CT	eP	10	45	32		ZS	+P	23	37	28	
		eS		52	35			S		44	58	
	ZS	eP		45	24		NK	+iP		37	32	
	NK	eP			41			eS		45	06	
							CT	+iP		38	42	
								eS		47	16	
28	* Epc: 52° $\frac{1}{2}$ N, 168° $\frac{1}{2}$ W O: 14-48-52, M: 5 $\frac{3}{4}$					2	* Epc: 4° $\frac{1}{2}$ S, 153°E O: 01-50-09, h: 60km ca.					
	CC	eP	14	57	01		ZS	+P	01	58	40	
	PK	+P		58	01		NK	+P			55	
	ZS	+iP			24		CT	+P			56	
		eS		15	06		PK	+P		59	46	
	NK	+iP		14	58		2	* Epc: 72°N, 67° $\frac{1}{2}$ W O: 03-55-34, M: 6 $\frac{1}{4}$				
	SA	eP		59	11		CC	eP	04	06	09	
29	* Epc: 52° $\frac{1}{2}$ N, 168° $\frac{1}{2}$ W O: 04-30-04, M: 5 $\frac{1}{2}$						PK	+P			37	
	CC	eP	04	38	09		NK	+iP		07	23	
	PK	eP		39	09			S		17	07	
	ZS	+iP			33		ZS	+iP		07	29	
		eS			47			S		17	18	
	NK	+P		39	38		CT	+P		08	13	
29	* Epc: 9°S, 107°E O: 20-55-57, M: 5 $\frac{3}{4}$					2	* Epc: 53° $\frac{1}{2}$ N, 168° $\frac{1}{2}$ W O: 11-29-08, *M: 6.3					
							PK	P	11	38	19	
							ZS	+P			42	

Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s
2	ZS	i	11 38 45	3	CT	+P	14 46 44
		S	46 22			PP	47 00
	NK	+P	38 46			S	30 02
		eS	46 30		ZS	P	47 26
	CT	+P	39 55			PP	45
		S	48 37			S	50 58
						SS	51 12
					NK	P	47 41
						S	51 57
2	Epc: 52° <sup>1</sup> / <sub>2</sub> N, 168° <sup>0</sup> / <sub>2</sub> W				SA	eS	53 14
	O: 11-38-58, *M: 6.4				PK	P	49 00
	PK	P	11 47 59			PP	53
	ZS	+P	48 23			S	53 48
		S	56 01				
	NK	+iP	48 27	4	Epc: 3° <sup>1</sup> / <sub>3</sub> S, 137° <sup>0</sup> / <sub>2</sub> E		
		eS	56 08		O: 10-05-45, *M: 6.4		
	SA	P	49 02		CT	+iP	10 12 42
		S	57 11			iPP	14 07
	CT	+iP	49 37			iS	18 12
		S	58 18			i	19 15
					ZS	eP	13 03
2	Epc: 7°S, 120° <sup>1</sup> / <sub>2</sub> E					iP	06
	O: 21-36-32, h: 600km ca.					PP	14 33
	CT	+P	21 42 02			PPP	54
		S	46 26			S	18 52
	ZS	+iP	43 02			SSS	21 48
		pP	44 51				
		iS	48 15		NK	eP	13 18
	NK	+iP	43 10			P	20
		S	48 27			PP	14 51
	SA	P	43 38			S	19 19
		iS	49 00		SA	P	14 14
	TS	eP	43 48			S	20 55
	LF	eR	48		LF	eP	14 15
	TY	P	44 00		PK	eP	22
	LC	eP	02			iP	24
	PK	+iP	12			PP	48
		pP	45 59			S	21 16
		S	50 21			SS	23 51
		ScS	53 01		TS	P	14 28
	KT	eP	44 13		CC	eP	32
	YC	eP	14		LC	P	14 36
	TU	eP	16		BT	P	48
	WW	eP	18		YC	P	49
	BT	P	22		WW	P	15 01
	CC	P	39				
		pP	46 35	4	Epc: 36° <sup>0</sup> / <sub>2</sub> ON, 94° <sup>0</sup> / <sub>2</sub> E		
		eS	51 10		O: 14-52-10, M: 5 <sup>1</sup> / <sub>4</sub>		
3	Epc: 12°N, 125° <sup>0</sup> / <sub>2</sub> E				SYM	P	14 53 21
	O: 14-43-00, *M: 5						

Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
4	YM	S	14	54	16	11	YM	eP	19	47	47
	SN	eP		53	34		CY	eP			53
	CY	P			34			S		48	29
		S		54	31		SN	eP			01
	LC	eP		53	56			S			49
	YC	eP		54	24		WW	eP <sub>n</sub>			13
	TS	eP			28			S		49	21
	PT	eP		55	08		LC	e(P <sub>n</sub> )		48	31
	LF	eP			29		TS	e(P)		49	12
	TY	eP			31			e(S)		50	48
	TU	eP			37		YC	eP <sub>n</sub>		49	13
	PK	P		56	11			eS		50	51
		i			17		SA	S		52	05
		S		59	21		LF	e			12
	CT	P		56	57			e		53	15
		S		15	00	46	PT	e		52	26
	NK	eP		14	56	49	PK	eL		54	58
	ZS	S		15	01	13	CT	eL		57	36
	CC	eP		14	57	30					

12 \* Epc: 60°<sup>1</sup>/<sub>2</sub>S, 26°W  
0: 04-47-44

4 After shock.  
0: 16-35-16, M: 4<sup>1</sup>/<sub>4</sub>

YM	eP	16	36	13
	eS			57
SN	e			24
CY	eP			32
	S		37	28
WW	eP		36	55
LC	eP		37	10
YC	e(P)			43
TS	eP			46
PK	e(P)		39	03
	i		43	52
LF	e(P)		41	19

CT	PKP	05	07	03
	ePP		09	28
	PKS		10	33
NK	ePKP		07	16
ZS	PKP			17
TY	ePKP			26
PT	PKP			28
PK	PKP			29
TU	ePKP			30
CC	PKP			40

12 \* Epc: 53°N, 142°E  
0: 06-48-27, M: 5<sup>1</sup>/<sub>2</sub>

7 Epc: 51°<sup>1</sup>/<sub>2</sub>N, 179°<sup>1</sup>/<sub>2</sub>E  
0: 05-36-30, \*M: 5

CC	eP	05	43	41
PK	P		44	46
	S		51	23
ZS	eP		45	07
	S		52	00
NK	eP		45	12
	S		52	10

CC	eP	06	52	06
	eS		55	00
PK	eP		53	26
	eS		57	26
	i			38
ZS	e(P)		54	20
	eS		58	59

12 \* Epc: 8°<sup>1</sup>/<sub>2</sub>S, 107°<sup>1</sup>/<sub>2</sub>E  
0: 11-29-07, M: 6

11 Epc: 37°<sup>1</sup>/<sub>2</sub>N, 97°<sup>1</sup>/<sub>2</sub>E  
0: 19-46-53, M: 4

ZS	P	11	37	00
	S		43	21

Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
12	NK	P	11	37	02	13	PK	P	15	23	32
		S		43	24			eS		26	46
		SS		46	30						
		SSS		47	28						
	SN	eP		37	32	18	*Epc: 51°N, 171°W				
	LF	eP			28		O: 05-24-01, M: 5½				
	TY	eP			39						
	WW	eP			41						
	CY	eP			50						
	PK	iP			58						
		S		45	07						
	PT	eP		37	59						
	KT	eP		38	00						
	TU	eP		38	01						
	CC	P			40						
		eS		46	23						

18	*Epc: 51°N, 171°W										
	O: 05-24-01, M: 5½										
		CC	-P	05	31	58					
		PK	-P		33	00					
			S		40	02					
		ZS	eP		33	23					
			S		40	55					
		NK	eS		41	00					

20	*Epc: 51°N, 180°										
	O: 01-50-54, M: 6										
		PK	+P	01	59	07					
		ZS	eP			28					
		NK	eP			34					
		CT	eP	02	00	45					

12	Epc: 37° 6'N, 112° 8'E										
	O: 18-12-31, M: 4										
		TY	iP	18	12	35					
			iS			38					
		LF	P	13	08						
			e			31					
			S			33					
		TU	eP <sub>n</sub>			14					
			e			47					
			S			51					
		KT	eS	14	16						
		PK	P	13	42						
			i	14	25						
			S			28					
		PT	e	13	37						
			S <sub>n</sub>	14	15						
		SA	S			58					
		YC	e	15	46						
		TS	e			46					
		LC	e	16	18						
		NK	e			38					
		WW	e			40					
		ZS	e	17	46						

21	Epc: 21° 1/2°N, 143°E										
	O: 01-12-09										
	h: 100km, M: 6¼										
		ZS	+iP	01	16	56					
			ipP			17	18				
			sP			30					
			S			20	44				
			sS			21	18				
		NK	+iP	17	16						
			ipP			39					
			sP			49					
		TT	P			22					
		DR	eP			29					
		CC	P			37					
		CT	+iP			50					
			pP			18	15				
		PK	-P			04					
			pP			25					
			sP			36					
			PP			58					
			iS			22	47				
			iS			50					
			SS			24	16				
			SoS			28	29				
		LF	eP	18	21						
		TU	eP			23					
		SA	eP			33					
		PT	eP			44					

13	*Epc: 32° 1/2°N, 137°E										
	O: 15-19-35, h: 400km ca.										
		CC	eP	15	22	52					
			eS			25	32				
		ZS	eP	22	40						
			S			25	12				
		NK	P	23	01						
			eS			25	49				



Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
21	TS	P	01	18	56	26	PT	eP	06	43	30
	LC	eP		19	12		SA	eP			45
	WW	P		23			TU	eP			46
	SN	P		27			TY	eP			48
	CY	eP		39			LF	eP			53
	YM	eP	20	01			KT	eP			55
							PK	+iP			56
21	*Epc: $36^{\circ}\frac{1}{2}N$ , $141^{\circ}\frac{1}{2}E$ O: 11-36-06						CC	+iP	44	21	
	CC	P	11	39	30		SW	eP			21
	ZS	eP		40	11		DR	eP			29
	NK	eP		28			EL	eP			29
	PK	eP		38			TT	eP			34
							NK	+iP			36
22	*Epc: $50^{\circ}N$ , $177^{\circ}W$ O: 13-29-44, M: $6\frac{1}{2}$						CT	+iP	44	44	
	CC	iP	13	37	11		ZS	+iP	44	48	
		eS		43	18			S	53	35	
	PK	-P		38	15						
		eS		45	11						
	ZS	-P		38	33						
		PP		40	32						
		S		45	45						
	NK	-P		38	40						
		ePP		40	40						
		eS		45	59						
24	*Epc: $3^{\circ}N$ , $76^{\circ}\frac{1}{2}W$ O: 02-37-37, M: $6\frac{3}{4}$					26	*Epc: $3^{\circ}S$ , $131^{\circ}E$ O: 15-53-30				
	PK	ePKP	02	57	04		ZS	eS	16	06	11
		i			23		NK	eP		00	47
		e	03	00	45			eS		06	37
	NK	ePKP	02	57	08		PK	eP		01	53
		i			26			eS		08	35
	ZS	e(PKP)			14						
26	*Epc: $40^{\circ}\frac{1}{2}N$ , $31^{\circ}E$ O: 06-33-29, M: 7					27	Epc: $41^{\circ}N$ , $30^{\circ}E$ O: 11-01-27, *M: $5\frac{1}{2}$				
	YM	eP	06	42	24		PK	eP	11	11	53
	CY	eP			47			eS		20	19
	WW	eP		43	00		CC	P		12	17
	SN	eP			00		NK	eP			34
	LC	eP			13			eS		21	36
	YC	eP			18		ZS	eP		12	47
	TS	eP			28			eS		22	00
						28	Epc: $26^{\circ}N$ , $94^{\circ}E$ O: 05-51-35, M: $5\frac{3}{4}$				
							SN	e(S)	05	58	13
							LC	e(S)			13
							TS	e(S)			43
							WW	e(S)		59	18
							SA	eP		55	04
							YC	e(P)			24
							CT	eP			34

Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
28	CT	iP	05	55	36	31	ZS	e(P)	22	25	50
		iS		58	47			S		32	47
		i		59	20		NK	eP		25	55
	LF	e(P)		55	44			e(S)		32	56
	TY	e		56	06		CT	eP		27	06
		e			27						
	PT	e(P)		55	07						
	TU	(P)		56	20						
		e			55						
		e(S)	06	00	05						
	EL	e(P)	05	56	22						
	NK	eP			25						
		S	06	00	21						
	ZS	eP	05	56	44						
		eS	06	00	51						
	CC	-P	05	57	46						

30 \* Epc: 20°S, 175°W  
O: 00-18-52

ZS	-P	00	31	11
	i			23
	eS	41		28
	i			41
NK	-P	31		24
	i			36
PK	-P			52
	S	42		48

31 \* Epc: 27° $\frac{1}{2}$ S, 65°W  
O: 02-16-27  
h: 600km, M: 6 $\frac{1}{4}$

PK	-iPKP1	02	35	32
	ePKP2		36	40
	iPP		40	30
NK	-iPKP1	35		36
	+iPKP2	37		15
	iPP	41		05
ZS	-iPKP1	35		36
	+iPKP2	37		14
	iPP	41		08

31 Epc: 50° $\frac{1}{2}$ N, 179°W  
O: 22-17-08, \*M: 5 $\frac{3}{4}$

CC	P	22	24	24
	i			36
PK	eP	25		29
	S	32		09

June

3 Epc: 39°N, 113°E  
O: 14-11-20, M: 3 $\frac{1}{2}$

TY	eP	14	11	41
	iS			56
TU	e(P)			43
	S	12		03
KT	S			37
PT	S			46
PK	Pn			09
	P			13
	iS			47
LF	e			44
	e(S)			53
YC	e	13		59
SA	(S)	14		16
CC	e	16		40
	i			57

4 Epc: 10° $\frac{1}{2}$ S, 167°E  
O: 11-15-00  
h: 100km.ca., \*M: 5

ZS	eP	11	24	59	
	pP		25	23	
	S		33	03	
	sS			49	
NK	+P	25		16	
	pP			41	
	S	23		35	
CC	+iP			40	
PK	+iP	25		57	
	pP			26	22
	S			34	52
	+P	26		15	
	S	35		27	

4 \* Epc: 17° $\frac{1}{2}$ S, 178°W  
O: 17-06-02  
h: 550km.ca., M: 6 $\frac{1}{2}$ -6 $\frac{1}{2}$





Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
10	✓ KM	e	20	08	22	11	✓ PK	+iP	18	54	28
		eL		10	24			pP			50
	✓ YM	e		08	33			PP			58
								sP		55	00
11	* Epc: 30°S, 178°W						✓ KT	iS	58	31	
	O: 14-49-47						✓ TU	P	54	30	
	h: 100km ca., M: 7						✓ LU	P	36		
							✓ LC	P	40		
	✓ ZS	+P	15	02	11		✓ YC	P	44		
		P			16		✓ PT	P	47		
		pP			37		✓ SN	P	55		
		eSKS	12	32			✓ WW	eP	58		
		S			53		✓ CC	+iP	55	04	
	✓ CT	i	13	15			✓ CY	eP	16		
		+iP	02	15			✓ YM	eP	40		
		iP			21						
		pP			41		11	Epc: 51°N, 175°W			
		iSKS	12	37				O: 23-53-55, *M: 6			
		S			58		✓ CC	eP	24	01	27
	✓ NK	+iP	02	23			✓ TU	eP	02	45	
		+iP			29		✓ ZS	P	51		
		pP			49			S	10	00	
		SKS	12	48			✓ NK	P	02	56	
		S			13	14		S	10	10	
	✓ CC	P	02	41			✓ PT	eP	02	59	
	✓ PK	P			53		✓ YC	eP	03	27	
		P			59		✓ SA	eP	34		
		pP			20		✓ WW	eP	40		
		SKS	13	44			✓ CT	+P	04	07	
		S			14	00		S	12	23	
	✓ KM	P	02	59			✓ KM	+P	04	41	
		P			03	04		PP	07	07	
		pP			26			S	13	23	
		SKS	13	31							
		S			14	09					
		PS			42						

11 Epc: 17°<sup>1</sup>/<sub>2</sub>N, 121°E  
O: 18-49-25, M: 6<sup>1</sup>/<sub>2</sub>

✓ CT	+iP	18	51	29
✓ ZS	+P		52	36
	S		55	03
✓ NK	+iP		52	51
	S		55	30
✓ FL	iP		52	48
✓ KM	+iP		53	38
	iS		56	50
✓ PT	iP		53	43
✓ SA	iP		56	
✓ LF	P		54	02
✓ TY	P		15	

12 Epc: 41°N, 143°E  
O: 08-28-34, \*M: 6

✓ CC	P	08	31	45
	PPP		32	05
	PcP		36	48
✓ PK	iP		33	09
	S		36	51
✓ ZS	P		33	09
	PP		31	
	PPP		38	
	S		36	52
	SS		37	22
	SSS		36	
✓ NK	eP		33	19
	sP		28	
	S		37	08

Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
12	<del>TJ</del>	eP	08	33	27	14	<del>ZS</del>	+iP	06	33	14
	<del>YC</del>	eP		34	19		<del>CT</del>	eP		35	12
	<del>LF</del>	eP			09		<del>CT</del>	S		40	19
	<del>SA</del>	P			26		<del>NK</del>	+iP		33	20
	<del>CT</del>	P			50		<del>CT</del>	+P		34	31
		sP			57		<del>KM</del>	+iP		35	05
		S		39	51			S		43	45
	<del>NW</del>	eP		34	54						
	<del>KM</del>	+iP		35	43						
		iS		41	27						
13	Epc: 51° <sup>1</sup> / <sub>2</sub> N, 175°W O: 10-40-39, M: 6 <sup>3</sup> / <sub>4</sub>					15	Epc: 35°S, 56°E O: 00-44-10, M: 5 <sup>3</sup> / <sub>4</sub>				
	<del>CC</del>	P	10	48	24		<del>KM</del>	P	00	55	49
	<del>PK</del>	+iP		49	19		<del>CT</del>	P		56	16
		S		56	11		<del>NK</del>	eP		57	08
	<del>KT</del>	eP		49	19		<del>ZS</del>	P			12
	<del>TU</del>	eP			31			(SKS)	01	07	47
	<del>ES</del>	iP			38			S		08	03
		S		56	49		<del>PK</del>	P	00	57	27
		i		57	08		<del>CC</del>	eP		58	02
		PcP		50	59	15	Epc: 51° <sup>1</sup> / <sub>2</sub> N, 170°W O: 18-18-21, *M: 5 <sup>3</sup> / <sub>4</sub>				
		PP		51	33		<del>CC</del>	+iP	18	26	12
		SS	11	00	23		<del>PK</del>	+iP		27	14
	<del>NK</del>	+iP	10	49	43			S		34	21
	<del>CT</del>	eP			44		<del>TU</del>	P		27	30
	<del>TY</del>	eP			47		<del>ZS</del>	+iP			37
	<del>LF</del>	eP		50	02			S		35	04
	<del>YC</del>	eP			13		<del>NK</del>	+iP		27	41
	<del>SA</del>	eP			19		<del>SA</del>	eP		28	18
	<del>NW</del>	eP			27		<del>CT</del>	P			52
	<del>TS</del>	eP			31			S		37	23
	<del>LC</del>	eP			33		<del>KM</del>	+iP		29	23
	<del>CY</del>	eP			37			iS		38	22
	<del>SN</del>	eP			39						
	<del>CT</del>	iP			53	18	Epc: 14°N, 96°E O: 02-12-11, *M: 5 <sup>3</sup> / <sub>4</sub>				
		S		59	10		<del>KM</del>	+iP	02	15	22
	<del>KM</del>	+iP		51	27			i			26
		iPP		54	27			iPP			34
		PcP		56	05		<del>CT</del>	P		16	35
		iS	11	00	17			i			42
		PS			42		<del>LC</del>	eP		17	22
							<del>SA</del>	eP			24
14	Epc: 52° <sup>1</sup> / <sub>2</sub> N, 176°W O: 06-24-23, M: 6						<del>NW</del>	eP			34
	<del>CC</del>	+iP	06	31	48		<del>CY</del>	eP			43
	<del>PK</del>	+iP		32	51		<del>YM</del>	eP			51
		S		39	50						

Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s
18	YC	eP	02 17 52	18	Epc: 13° <sup>01</sup> / <sub>2</sub> N, 96° <sup>01</sup> / <sub>2</sub> E		
	NK	P	18 06		O: 14-48-15, *M: 6		
		i	46		KM	+iP.	14 51 27
		S	22 50			PP	39
		SS	24 12			PPP	47
	ZS	-P	18 13			i(S)	54 00
		i	19		CT	+P	52 42
		e(S)	23 04			PP	53 02
		i	18			PPP	12
		SS	24 32			S	56 12
	PK	+P	18 37			SS	37
		i	42		SN	eP	53 29
		eS	23 45		SA	P	30
		SS	25 29		LC	P	53 29
	CC	+iP	19 41		WW	eP	41
		i	45		YM	eP	56
		S	25 40		YC	eP	58
					LF	eP	54 02
18	Epc: 17° <sup>01</sup> / <sub>2</sub> N, 121°E				NK	P	08
	O: 11-18-48, *M: 5-5 <sup>1</sup> / <sub>2</sub>					iPP	55
	CT	P	11 20 55			S	58 51
		i	21 01			i	59 23
		iS	22 35			SS	15 00 12
	ZS	+iP	02		ZS	SSS	29
		i	19			P	14 54 21
	NK	+iP	15			i	26
	KM	+iP	23 06			PP	55 14
		i	15			eS	59 13
		iS	26 30		TU	eP	54 37
	SA	P	23 23		PK	-P	42
	LF	eP	29			S	59 52
	TY	eP	40		CC	eP	55 47
	PK	+iP	52			PP	57 21
		iP	55			PPP	43
		iS	27 57			eS	15 01 48
		iS	59				
	KT	eP	23 56	18	*Epc: 25°S, 170°E		
	TU	eP	24 02		O: 17-56-03, M: 6 <sup>1</sup> / <sub>2</sub>		
	LC	eP	04		ZS	+P	18 07 39
	WW	eP	23		CT	+P	41
	CC	P	28		NK	eP	53
		i	25 04			PP	10 48
		PP	16			PPP	12 27
						eS	17 38
18	CT	i(P)	11 22 21		CC	+iP	08 19
	ZS	+iP	24 35			eS	18 30
	NK	+iP	49		PK	P	08 31
	PK	+iP	26 26			iS	18 50
	CC	eP	27 01			SS	24 14

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Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s
18	✓ KM	+iP	18 08 33	21	Epc: 12°N, 123°E		
		S	18 51		O: 21-59-45, M: 5½		
19	* Epc: 24°S, 175°W			✓ ZS	eP	22 04 08	
	O: 01-29-48, M: 6½-6½				eS	07 33	
✓	ZS	+P	01 42 09	✓ NK	eP	04 26	
✓	CT	+iP	19		eS	08 08	
✓	CC	+iP	35	✓ KM	eS	09 22	
✓	PK	+iP	53	✓ SA	eS	59	
✓	KM	eP	43 07	✓ PK	eP	05 46	
				✓ CC	eP	06 18	
19	* Epc: 16°S, 176°E			21	Epc: 22°S, 100°E		
	O: 08-01-30, M: 6½				O: 23-20-30, M: 5½		
✓	ZS	eP	08 12 53	✓ KM	eP <sub>n</sub>	23 21 23	
✓	CT	eP	13 06		i	29	
		S	22 45		iP	35	
		i	23 12		eS <sub>n</sub>	22 02	
✓	CC	-iP	13 21		i	08	
		eS	23 15		iS	13	
✓	PK	+P	13 42		eS <sub>n</sub>	25 41	
		S	23 52	✓ NK	e(P)	00	
✓	KM	eP	14 00		eS	28 30	
		SKS	24 22	✓ ZS	eS	29 00	
		PK	31	✓ TU	e(P)	25 11	
				✓ PK	eP	27	
					e(S)	29 32	
20	Epc: 20°N, 145°E			22	Epc: ½°S, 138°E		
	O: 01-06-41, *M: 6				O: 23-50-31		
✓	ZS	eP	01 11 55		h: 70km ca., M: 7		
✓	CT	-P	12 45	✓ CT	+P	23 57 07	
		eS	17 36		i	10	
✓	PK	iP	13 04		iPP	58 21	
		iS	18 09	✓ ZS	iS	24 02 32	
✓	KM	eP	14 08		+P	23 57 26	
		eS	20 05		i	29	
					isP	49	
					iPP	58 53	
					iS	24 03 01	
21	Epc: 49°N, 156°E			✓ NK	+iP	23 57 42	
	O: 18-38-05, M: 5½				i	45	
✓	CC	eP	18 43 01		iPP	58	
✓	PK	eP	44 16		isP	58 02	
✓	ZS	eP	38		iPP	59 12	
✓	NK	+P	44				
✓	KM	+iP	16 49				



Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
22	NK	iPPP	23	59	34	25	CT	eP	10	16	26
		iPcP			58		PK	eP		18	22
		iS	24	03	28		CC	P		19	23
	FL	eP	23	57	51						
	TT	eP		58	11						
	KM	eP			22	26	* Epc: $7^{\circ}\frac{1}{2}S$ , $85^{\circ}\frac{1}{2}E$				
		i			25		O: 02-47-36, M: $5\frac{1}{4}$				
		pP			39		KM	P	02	54	53
		iPP	24	00	07			eS	03	00	27
		iPPP			32		CT	eP	02	55	21
		iS		04	41		PK	eP		57	19
	DR	eP	23	58	24			eS	03	04	53
	LF	eP			38						
	SA	iP			40						
	TY	eP			45						
	PK	+P			47						
		i			50	27	* Epc: $57^{\circ}N$ , $117^{\circ}E$				
		ipP		59	05		O: 00-09-22, *M: 7.9				
		isP			11		SW	eP	00	12	19
	KT	eP		58	53		CC	eP			45
	CC	eP			54			S		15	25
		i			57		PK	+P		13	16
		S	24	05	34		KT	eP			18
	TU	eP	23	59	02		PT	eP			19
	SW	eP			15		TU	eP			20
	PT	eP			15		DR	eP			39
	YC	eP			18		TY	iP			52
	SN	eP			27		YC	eP			58
	WW	eP			28		TT	eP	14	08	
	CY	eP			41		WW	eP			11
	YM	eP	24	00	03		CY	eP			12
							YM	eP			12
							LF	eP			14
							SN	eP			29
							SA	P			38
23	* Epc: $58^{\circ}\frac{1}{2}N$ , $137^{\circ}W$							iS		18	52
	O: 03-27-02, M: 6						NK	eP		14	49
	CC	P	03	36	52			S		19	12
	PK	eP		37	42		EL	eP		14	55
		eS		46	26		ZS	+iP			59
	ZS	eP		38	13			S		19	30
		eS		47	29		KM	P		16	03
	NK	P		38	17			i			07
	CT	eP		39	12			S		21	31
	KM	eP			29		CT	+P		16	09
25	* Epc: $10^{\circ}N$ , $94^{\circ}E$										
	O: 10-11-17					29	* Epc: $51^{\circ}\frac{1}{2}N$ , $166^{\circ}W$				
	KM	eP	10	15	24		O: 07-48-18, M: 6.3				
		S		18	43		CC	+iP	07	53	32



Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s
2	✓ TY	P	00 50 59	7	✓ ZS	+P	16 20 12
	✓ TU	eP	51 02		✓ <del>TU</del>	eP	27 18
	✓ PK	+P	13		✓ CT	+iP	20 20
	✓ S	S	58 15		✓ <del>CT</del>	iS	27 33
	✓ KT	eP	51 14		✓ NK	+iP	20 30
	✓ CT	+iP	46		✓ <del>NK</del>	S	27 50
	✓ S	S	59 16		✓ <del>CU</del>	+iP	21 06
	✓ CC	eP	51 52		✓ PK	+iP	18
	✓ S	S	59 30		✓ <del>PK</del>	eS	29 20
	✓ ZS	+iP	52 04		✓ KM	+iP	21 29
	✓ S	S	59 48		✓ <del>KM</del>	eS	29 39
					✓ CU	+iP	21 37
					✓ <del>CU</del>	iS	29 55
					✓ LC	+iP	21 57
					✓ <del>LC</del>	S	30 32
					✓ LS	+iP	22 41
					✓ <del>LS</del>	S	31 58

3 \* Epc:  $50^{\circ}\frac{1}{2}N$ ,  $179^{\circ}W$   
 O: 12-24-37, M:  $6-6\frac{1}{4}$

✓	✓ SC	P	12 31 54
✓	✓ PK	eP	33 00
	✓ S	S	39 46
✓	✓ ZS	-iP	33 20
	✓ S	S	40 19
✓	✓ NK	-P	33 26
✓	✓ <del>NK</del>	eS	40 32
✓	✓ LC	P	34 16
✓	✓ CU	P	39
✓	✓ CT	-P	39
	✓ S	S	42 45
✓	✓ KM	-P	35 13
	✓ eS	eS	43 46
✓	✓ LS	eP	35 40
	✓ S	S	44 40

8 Epc:  $25^{\circ}N$ ,  $94^{\circ}\frac{1}{2}E$   
 O: 00-33-17, M:  $4\frac{1}{2}$

✓	✓ LS	+iP	00 34 39
✓	✓ KM	+iP	35 17
	✓ iS	iS	36 50
✓	✓ <del>CU</del>	eP	35 51
✓	✓ <del>LC</del>	-iP	36 36
✓	✓ SA	S	40 07
✓	✓ CT	eP	37 23
✓	✓ TU	eP	38 19
✓	✓ NK	eS	42 28
✓	✓ PK	eS	48

4 \* Epc:  $4^{\circ}S$ ,  $102^{\circ}E$   
 O: 08-29-01  
 h: 100km, M:  $5\frac{1}{3}$

✓	✓ KM	+iP	08 34 56
✓	✓ CU	+iP	35 40
✓	✓ LS	+iP	50
✓	✓ TS	eP	36 16
✓	✓ NK	eP	23
✓	✓ eS	eS	42 21
✓	✓ LC	+iP	36 31
✓	✓ iS	iS	42 32
✓	✓ YC	eP	36 50
✓	✓ LF	eP	37 02
✓	✓ TU	eP	09
✓	✓ PK	+iP	16
✓	✓ CC	+iP	38 02

9 Epc:  $5^{\circ}S$ ,  $104^{\circ}E$   
 O: 09-58-10, M: 6

✓	✓ CT	+P	10 04 21
	✓ ePP	ePP	06 17
✓	✓ KM	+P	04 28
	✓ S	S	09 33
✓	✓ CU	eP	05 13
✓	✓ eS	eS	10 50
✓	✓ LS	+iP	05 25
✓	✓ iS	iS	11 11
✓	✓ TS	+iP	05 49
✓	✓ SA	iP	51
✓	✓ S	S	11 59
✓	✓ LC	+iP	06 01
✓	✓ eS	eS	12 16
✓	✓ TU	eP	06 39
✓	✓ PK	+iP	42
✓	✓ eS	eS	13 31

7 Epc:  $6^{\circ}\frac{1}{2}S$ ,  $155^{\circ}\frac{1}{2}E$   
 O: 16-11-20, M:  $5\frac{1}{2}$

Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
10 * Epc: 8°N, 82° $\frac{1}{2}$ W O: 09-04-08, M: 6 $\frac{1}{2}$ -6 $\frac{3}{4}$						13 ✓ ZS +iP 01 08 54					
✓	PK	ePKP	09	23	21	✓	NK	+P		09	09
✓	NK	ePKP			33	✓	LC	+P			45
✓	ZS	ePP			26 13	✓	CU	eP		10	08
✓	ZS	ePKP			23 34	✓	CT	eP			09
✓	ZS	ePP			26 15	✓	KM	+iP			40
✓	LC	e(PKP)			23 36	✓	LS	P		11	02
✓	LC	PP			26 14	14 Epc: 47°N, 151° $\frac{1}{2}$ E O: 02-26-58 h: 60km, M: 5 $\frac{1}{2}$					
✓	CU	PKP			23 41	✓	CC	P		02	31 15
✓	LS	e(PKP)			44	✓	PK	+P			32 32
12 Epc: 3°S, 149°E O: 20-56-18, M: 5						✓	ZS	+iP			46
✓	NK	eP	21	04	41	✓	ZS	pP		33	00
✓	PK	eP			05 35	✓	ZS	sP			07
✓	KM	eP			41	✓	NK	eS		37	27
✓	CU	eS			13 10	✓	NK	+P		32	54
✓	CU	eP			05 49	✓	NK	epP		33	08
✓	LC	eP			06 14	✓	NK	sP			19
✓	LC	eS			14 13	✓	LC	eS		37	40
12 * Epc: 3°S, 148° $\frac{1}{2}$ E O: 21-58-45, M: 6						✓	LC	(P)		34	06
✓	ZS	eP	22	06	49	✓	CU	+iP			29
✓	CT	eP			52	✓	CU	pP			42
✓	NK	eP			07 06	✓	CU	sP			48
✓	LC	eP			08 39	✓	KM	+iP		35	04
12 Epc: 22° $\frac{1}{2}$ N, 122° $\frac{1}{2}$ E O: 22-12-54, M: 4 $\frac{1}{2}$						✓	KM	pP			16
✓	CT	eP	22	14	59	✓	KM	S		41	33
✓	ZS	e(P)			15 03	14 Epc: 27° $\frac{1}{2}$ S, 177° $\frac{1}{2}$ W O: 06-24-00 h: 200km, M: 7 $\frac{1}{2}$					
✓	NK	e(P)			20	✓	ZS	-iP		06	36 00
✓	PK	+iP			17 12	✓	ZS	ipP			53
✓	CU	eS			20 35	✓	ZS	sP		37	09
✓	CU	eP			17 12	✓	ZS	S		45	54
✓	KM	eP			12	✓	CT	-iP		36	06
✓	CC	eP			44	✓	CT	pP			56
✓	LC	eP			45	✓	CT	sP		37	15
✓	LC	S			21 39	✓	CT	iS		46	06
13 * Epc: 52°N, 169° $\frac{1}{2}$ W O: 00-59-28, M: 5						✓	NK	-iP		36	11
✓	CC	P	01	07	30	✓	NK	sP		37	18
✓	PK	+P			08 32	✓	NK	eS		46	16
						✓	CC	-iP		36	28
						✓	CC	iS		46	54
						✓	PK	-iP		36	43
						✓	PK	pP		37	38
						✓	PK	sP			52
						✓	PK	SKS		46	52



Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s					
17	LS	pP	11 23 11	19	PK	eP	13 06 01					
		eSKS	32 48			sP	31					
		iS	51			S	09 06					
	Epc: 35° $\frac{1}{2}$ N, 104° $\frac{1}{2}$ E O: 16-24-31	LC	P		16 24 45	CU	+P	06 12				
			iS		25 54		sP	45				
			eP		01		S	09 28				
		TS	iS		21	TS	eP	06 16				
			eS		46		KM	+iP	20			
			eS		59			sP	50			
		BN	eS		26 20	CC	S	09 42				
			eS		39		-iP	06 33				
			eS		27 02		sP	07 04				
18		Epc: 29° $\frac{1}{2}$ N, 139°E O: 12-06-40 h: 400km ca., M: 5 $\frac{1}{2}$	ZS	-iP	12 10 00	20	Epc: 42°N, 145°E O: 14-08-16, M: 4 $\frac{3}{4}$	CC	P	14 11 42		
				S	12 40				PK	+iP	13 08	
				iS	13 22					PP	34	
	iP	10 25	eS	17 05								
	OC	S	13 27	ZS	+P		13 14					
		eP	10 34		NK		+P	25				
		-iP	59		eS		17 35					
	SW	sP	12 55	PT	eP		13 55					
		iS	14 30		LC		+iP	14 48				
		-iP	12 18				PP	15 55				
	LC	S	16 49	eS	eS		20 01					
		-iP	12 19		+iP		14 53					
-iP		39	+iP		15 08							
CU	-iP	13 55	eS	eS	20 35							
	-iP			+iP	15 42							
	P			PP	17 13							
19	Epc: 24° $\frac{1}{2}$ N, 123°E O: 13-02-08 h: 100km ca., M: 5 $\frac{1}{4}$	ZS	-iP	13 03 50	21	Epc: 28° S, 175° W O: 19-37-10 h: 150km ca., M: 6 $\frac{1}{2}$	LS	eP	19 49 33			
			sP	04 19								
			S	05 06								
	NK	-iP	04 10									
		S	05 46									
		+iP	04 16									
	CT	i	38									
		S	05 58									
		eP	54									
	SA	S	08 50									
		eP	05 55									
		eP										

Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s		
21	CT	eP	19 49 41	24	LS	+iPKP1	02 17 40		
	NK	eP	44			PKP2	18 35		
	CC	eP	57			PP	22 22		
	PK	eP	50 13			PK	+PKP1 17 41		
*Epc: 34° <sup>1</sup> / <sub>2</sub> N, 136°E 0: 10-16-31, h: 350km ca.									
22	CC	eP	10 19 24	24	LS	+PKP1	17 42		
	ZS	eS	21 39			PKP2	19 09		
	ZS	eP	19 31			PP	22 43		
	NK	eS	21 53			NK	+PKP1 17 42		
	NK	-iP	19 49			ePKP2	19 12		
	PK	eP	20 09			PP	23 02		
		S	23 03			CT	+PKP1 17 41		
	CT	-iP	21 14			PKP2	19 02		
	LC	P	43			CU	+iPKP1 17 43		
	CU	P	50			PKP2	19 24		
	KM	-iP	22 18			iPP	23 15		
	LS	eP	23 28		*Epc: 20°S, 139°E 0: 11-02-30, M: 6½				
	Epc: 52°N, 176°W 0: 00-45-10, M: 6½								
	23	SW	eP		00 52 27	24	ZS	eP	11 13 30
CC		eP	35		eS		22 26		
PK		+iP	53 40		NK		eP	13 42	
KT		eS	01 00 28		CC		eP	14 04	
TU		eP	00 53 43		PK		eP	20	
TU		eP	56		eS		24 01		
ZS		+iP	54 00		CU		eP	14 38	
		PP	55 52		eS		24 42		
		S	01 01 05		TU		eP	14 40	
NK		+iP	00 54 06		LC		eP	55	
PT		eP	08		eS		25 11		
LF		eP	22	*Epc: 50° <sup>1</sup> / <sub>2</sub> N, 176° <sup>1</sup> / <sub>2</sub> W 0: 07-42-23, M: 5½					
YC		eP	36	25	CC		P	07 49 49	
SA		eP	45				PK	eP	50 54
WW		eP	52				eS	57 43	
LC		+iP	55				TU	eP	51 12
TS		eP	55				ZS	eP	15
YM		eP	55 02				eS	58 22	
CT	+iP	17			NK	eP	51 51		
	S	01 03 27			CT	eS	58 32		
KM	+iP	00 55 52			LC	P	52 11		
	S	01 04 32			eS	08 00 02			
LS	+iP	00 56 18			CT	eP	07 52 33		
	S	01 05 21			eS	08 00 43			
						CU	eP	07 52 33	
						KM	eP	53 07	
						eS	08 02 51		
						LS	+iP	07 53 32	
						eS	08 02 57		
*Epc: 30°S, 70° <sup>1</sup> / <sub>2</sub> W 0: 01-57-25, M: 6½									

1957 August

Date Sta. Phase h m s Date Sta. Phase h m s

28 Epc: 16°N, 98°W  
 O: 08-40-02, M: 7

✓ PK e 08 59 52  
 ✓ NK ePKP 00  
 PP 09 00 28  
 ✓ CU PKP 08 59 02  
 ✓ LC ePKP 03  
 ✓ CT PKP 16  
 PP 09 01 37  
 ✓ LS PKP 08 59 22  
 PP 09 01 58  
 ✓ KM ePKP 59 23

29 \*Epc: 23°<sup>1</sup>/<sub>2</sub>S, 71°<sup>1</sup>/<sub>2</sub>W  
 O: 17-15-14, M: 7

✓ CC PKP<sub>1</sub> 17 35 13  
 iPKP<sub>2</sub> 39  
 PP 39 17  
 ✓ PK +iPKP<sub>1</sub> 35 21  
 PKP<sub>2</sub> 36 06  
 ePP 39 50  
 ✓ LS +PKP<sub>1</sub> 35 26  
 PKP<sub>2</sub> 36 14  
 PP 39 58  
 ✓ LC +iPKP<sub>1</sub> 35 26  
 iPKP<sub>2</sub> 36 28  
 PP 40 13  
 ✓ ZS +iPKP<sub>1</sub> 35 27  
 PKP<sub>2</sub> 36 30  
 PP 40 16  
 ✓ NK +iPKP 35 27  
 PP 40 19  
 ✓ CU +iPKP 35 29  
 iPP 40 37  
 ✓ KM +PKP 35 31  
 PP 40 54  
 ✓ CT +iPKP 35 32  
 PP 41 03

August

1 \*Epc: 52°N, 170°W  
 O: 16-18-48, M: 5<sup>1</sup>/<sub>2</sub>-5<sup>3</sup>/<sub>4</sub>

✓ CC +iP 16 26 45

1 ✓ PK eP 16 27 46  
 ✓ ZS +P 28 08  
 ✓ LC +P 58  
 ✓ CU +P 29 21  
 ✓ KM eP 54  
 ✓ LS +P 30 16

1 \*Epc: 29°<sup>8</sup>/<sub>10</sub>N, 139°<sup>8</sup>/<sub>10</sub>E  
 O: 17-53-14, h: 400km

✓ NK -P 17 56 55  
 eS 59 56  
 ✓ CC -P 56 58  
 eS 18 00 01  
 ✓ PK eP 17 57 32  
 ✓ CU -P 58 48  
 ✓ LC -P 50  
 ✓ KM eP 59 12

2 \*Epc: 5°N, 126°<sup>1</sup>/<sub>2</sub>E  
 O: 09-40-00, h: 150km

✓ CT eP 09 44 49  
 eS 48 58  
 ✓ ZS eP 45 27  
 ✓ PK eP 46 50  
 eS 52 31  
 ✓ LC eP 47 01  
 ✓ LS eP 37  
 eS 53 51

3 Epc: 7°S, 103°E  
 O: 06-43-42, M: 5<sup>1</sup>/<sub>2</sub>

✓ CT eP 06 50 07  
 ✓ KM +iP 11  
 eS 55 24  
 ✓ CU +iP 50 57  
 S 56 45  
 ✓ LS +P 51 05  
 eS 58 58  
 ✓ NK +P 51 32  
 ✓ ZS eP 34  
 ✓ LC +iP 44  
 eS 58 10  
 ✓ PK +P 52 26  
 ePP 54 26  
 ✓ CC +iP 53 09

4 : Epc: 4°S, 145°E  
 O: 00-39-06, M: 5<sup>3</sup>/<sub>4</sub>



Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s
4	CT	eP	00 46 50	8	FL	e	19 47 44
		PP	48 34		PK	eP	48 14
		S	53 13			e(S)	49 06
	ZS	eP	46 57		KT	i	50 38
		PP	48 33		ZS	eP	46 24
	NK	eP	47 16			e(S)	49 24
		S	53 49		CC	-P	47 44
	KM	eP	48 09			eS	51 52
		PP	50 05				
		S	55 21				
	GC	eP	48 11	9	Epc: 2°S, 137°E		
	PK	eP	16		O: 02-29-21, M: 5 $\frac{3}{4}$		
		eS	55 35		CT	+P	02 36 06
		SS	59 07			PP	37 21
	CU	eP	48 20			S	41 30
		S	55 45		ZS	-P	36 26
		SS	59 21			PP	37 50
	LC	eP	48 47			S	42 07
		eS	56 52		NK	-P	36 43
	LS	eP	49 30			PP	38 10
		eS	57 55			eS	42 33
					KM	-iP	37 22
8	Epc: 30°N, 103°E					PP	39 02
	O: 19-42-40, M: 5					S	43 44
	CU	P	19 43 06			ScS	47 20
		iS	26		CU	P	37 40
	KM	+iPn	53			iS	44 19
		iP	44 12			eSS	47 32
		iSn	49		PK	-P	37 45
		iS	45 12			S	44 31
	TS	ePn	44 05			SS	47 52
		eP	30		CC	P	37 54
		Sn	45 14			PcP	39 27
	LC	ePn	44 21			eS	44 44
		P	46		LC	-iP	38 10
	SA	eP	53			PcP	39 34
		iSn	45 38			PP	40 05
		iS	46 19			S	45 14
	LF	e	45 04			ScS	47 57
		eSn	46 44		LS	-iP	38 49
		eS	47 45			PcP	39 49
	LS	eP	45 15			iS	46 24
		S	47 13			SS	50 05
	CT	P	45 22				
		S	47 24	10	* Epc: 3 $\frac{1}{2}$ °N, 124 $\frac{1}{2}$ °E		
	YC	e(P)	45 25		O: 19-12-47		
		S	47 35		h: 300km, M: 6-6 $\frac{1}{4}$		
	TU	i	49 46		CT	eP	19 17 30
	PT	i	48 45			S	21 11
	TY	i	37		ZS	S	22 37
	NK	e(P)	45 50		NK	S	59
		eS	48 34				

Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
10	✓ KM	-P	19	18	38	15	✓ CT	iS	21	00	00
		eS		23	09		✓ NK	+iP	20	53	36
	✓ CU	eP		19	06			S	21	00	11
		iS		23	59			ScS		02	33
	✓ SA	iS		24	12		✓ CC	P	20	54	10
	✓ LC	-P		19	43			pp		55	46
		S		25	08			S	21	01	17
	✓ LS	-P		20	10		✓ PK	+P	20	54	23
		iS		25	59			pp		56	00
								iS	21	01	40
								ScS		03	23
								sS		04	32
11	Epc: 17°S, 170°E O: 21-38-04, M: 6½						✓ KM	eP	20	54	35
	✓ ZS	eP	21	49	03			pp		56	15
		eS		57	56			iS	21	02	06
	✓ NK	eP		49	16		✓ CU	ScS		03	38
		S		58	22			+P	20	54	43
	✓ CC	eP		49	39			iP		56	22
	✓ PK	eP			55			S	21	02	17
	✓ CU	eP		50	11			ScS		03	47
		S	22	00	12			sS		05	14
	✓ LC	eP	21	50	29		✓ LC	eP	20	55	02
		S	22	00	44			S	21	02	54
	✓ LS	eP	21	51	08						
13	Epc: 23°N, 122°½E O: 15-50-52, M: 4½					16	*Epc: 5°S, 154°E O: 03-26-05				
	✓ CT	-iP	15	52	53		✓ ZS	eP	03	34	45
		eS		54	25			eS		41	36
	✓ ZS	eP		52	55		✓ NK	eS		42	09
		eS		54	30		✓ KM	+P		36	03
	✓ NK	eP		53	14			eS		44	01
	✓ CU	eP		55	04		✓ CU	+P		36	12
		S		58	22			S		44	15
	✓ KM	eP		55	07		✓ LC	+P		36	31
		eS		58	26			eS		44	50
	✓ PK	eP		55	07	18	Epc: 12°½N, 125°E O: 08-36-57, M: 6½				
	✓ LC	eP			37		✓ ZS	+P	08	41	19
		S		59	20			S		44	51
	✓ LS	e(P)		56	54		✓ NK	+P		41	35
							✓ KM	P		42	13
15	Epc: 4°S, 155°½E O: 20-45-22 h: 500km, M: 5¾						✓ S	S		46	28
	✓ ZS	+P	20	53	18		✓ TT	eP		42	14
		PP		55	14		✓ CU	P			31
		iS		59	38		✓ PK	+P			54
		iScS	21	02	19			S		47	35
							✓ LC	P		43	07
								S		48	02
							✓ CC	-P		43	21

Date	Sta.	Phase	h m s		Date	Sta.	Phase	h m s
18	CC	eS	08 48 32		21	KM	-iP	15 41 38
	LS	P	43 55				PP	43 13
		S	49 24				S	47 37
						LS	+P	42 24

18 Epc: 48°N, 156°E  
O: 21-42-33, M: 6

✓	SW	eP	21 47 05
✓	CC	eP	23
		eS	51 19
✓	ZS	+P	49 03
		S	54 13
✓	LC	+iP	50 07
		eS	56 07
✓	KM	+iP	51 10
		PP	53 03
		eS	58 06
✓	LS	+P	51 46
		S	59 08

22 Epc: 2°N, 127°E  
O: 07-55-12, M: 4 3/4

✓	CT	eP	08 00 36
		S	04 59
✓	KM	eP	01 46
		eS	07 01
✓	CU	eP	02 11
		S	07 46
✓	PK	eP	02 43
✓	LC	eP	49
		eS	08 54
		ScS	12 54
✓	CC	iP	03 06
✓	LS	+P	17
		eS	09 45
		ScS	13 14

20 \*Epc: 10°S, 161°E  
O: 06-27-07, M: 6 1/4

✓	CC	eP	06 37 34
✓	KM	eP	38 04
✓	LC	eP	30
✓	LS	eP	39 10
		S	49 00

22 \*Epc: 15°S, 168°E  
O: 16-43-35

✓	CT	S	17 03 02
✓	NK	S	14
✓	CC	+iP	16 54 54
✓	PK	+P	55 12
		S	17 04 28
✓	KM	+P	16 55 21
		S	17 04 51
✓	CU	eP	16 55 30
		S	17 05 04
✓	LC	+P	16 55 45
		eS	17 05 35
✓	LS	eP	16 56 22

20 \*Epc: 10°S, 161°E  
O: 12-01-54, M: 6 1/2

✓	CC	eP	12 12 27
✓	KM	eP	54
		eS	21 44
✓	PK	S	19
✓	LC	eP	13 18
		S	22 27

23 Epc: 5°S, 155°E  
O: 02-00-13  
h: 100km, M: 6

✓	CC	-iP	15 37 37
✓	PK	-iP	39 04
		S	43 08
✓	NK	eP	39 25
✓	LC	-iP	40 39
		eS	45 53
✓	CU	-iP	41 01
		S	46 31

✓	ZS	eP	02 08 47
		ipP	09 11
		iS	15 39
		sS	16 15
✓	CT	+iP	08 57
		ipP	09 20
		S	15 57
		sS	16 38

Date Sta. Phase h m s | Date Sta. Phase h m s

23 NK +P 02 09 06  
 ipP 29  
 PcP 10 20  
 iS 16 12  
 ✓CC +P 09 42  
 pP 10 06  
 eS 17 20  
 ✓PK +P 09 54  
 PcP 10 45  
 S 17 43  
 sS 18 22  
 S 17 56  
 ✓SA +P 10 06  
 ✓KM pP 30  
 PcP 53  
 S 18 04  
 sS 44  
 ✓CU P 10 13  
 ipP 37  
 PcP 57  
 iS 18 19  
 sS 19 00  
 ✓LC P 10 34  
 ipP 58  
 ePP 12 54  
 iS 18 56  
 isS 19 38  
 ✓LS +iP 11 21  
 ipP 45  
 iS 20 21  
 sS 21 05

23 Epc: 24°N, 122<sup>0</sup><sub>2</sub>E  
 O: 11-42-30, M: 5

✓ZS +P 11 44 17  
 ✓CT eP 29  
 S 45 55  
 ✓MK +iP 44 37  
 ✓LF eP 46 17  
 ✓SA iP 20  
 ✓TY P 23  
 ✓PK P 31  
 S 49 39  
 ✓CU eP 46 35  
 S 49 49  
 ✓KT eP 46 38  
 ✓KM P 40  
 eS 49 59  
 ✓TS eP 46 42  
 ✓TU eP 46  
 ✓PT eP 47 03  
 ✓YC eP 05  
 ✓LC +iP 07

23 ✓LC iS 11 50 49  
 ✓CC P 47 09  
 ✓SN eP 25  
 ✓WW P 26

23 \*Epc: 7°S, 112°E  
 O: 22-51-10  
 h: 100km, M: 5

✓CT eP 22 57 15  
 ✓KM +iP 45  
 ✓CU +iP 58 26  
 S 23 04 21  
 ✓ZS +iP 22 58 32  
 ✓NK P 36  
 eS 23 04 39  
 ✓LS +iP 22 58 54  
 iS 23 06 12  
 ✓LC +iP 22 59 11  
 eS 23 06 42  
 ✓PK +iP 22 59 37  
 ✓CC P 23 00 14

25 Epc: 40°N, 112°E  
 O: 22-48-06

✓TU P 22 48 28  
 S 42  
 ✓PT P 35  
 S 55  
 ✓TY P 55  
 S 49 27  
 ✓KT P 02  
 S 39  
 ✓PK ePn 01  
 iP 08  
 S 51  
 S 50 20  
 ✓YC e(S) 34  
 ✓SA eS 51 26  
 ✓TS e 58  
 ✓LC e 52 06  
 ✓WW e 51 59  
 ✓SN e 52 45  
 ✓CC e 50 03

26 \*Epc: 18°S, 63°W  
 O: 11-28-50, M: 6<sup>1</sup>/<sub>2</sub>

✓CC +iPKP1 11 48 46  
 iP 49 08  
 ✓LS +iPKP1 48 51  
 iP 49 19  
 ePP 52 50

Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s										
26	PK	+iPKP <sub>1</sub>	11	48	54	30	*Epc: 20° <sup>1</sup> / <sub>2</sub> N, 121° <sup>1</sup> / <sub>2</sub> E	O: 20-04-01, M: 5 <sup>1</sup> / <sub>4</sub>													
		PKP <sub>2</sub>	49	25																	
		ePP	53	02																	
	CU	+iPKP <sub>1</sub>	49	00	CT		-P	20	05	54											
		PKP <sub>2</sub>	51				KM	-iP	08	11											
		ePP	53	39				SA	P	14											
	NK	+iPKP <sub>1</sub>	49	02	CU			P	22												
		+iPKP <sub>2</sub>	50	02			PK	S	11	56											
		iPP	53	48				eP	08	38											
	ZS	+iPKP <sub>1</sub>	49	01	eS			12	25												
iPKP <sub>2</sub>		50	04																		
iPP		53	50																		
KM	+iPKP <sub>1</sub>	49	01	31	Epc: 49° <sup>1</sup> / <sub>2</sub> N, 99°E	O: 12-00-55, M: 4 <sup>1</sup> / <sub>4</sub>															
	ePKP <sub>2</sub>	59									PK	eP	12	04	30						
	PP	53	52		CU	eP	05	19													
CT	+iPKP <sub>1</sub>	49	07			CC	eP	24													
	ePKP <sub>2</sub>	50	39		LS		eS	08	54												
	ePP	54	11			eP	05	44													
26	*Epc: 5° <sup>1</sup> / <sub>2</sub> S, 154°E	O: 19-53-33, h: 100km ca.																			
												CT	+P	20	02	20	NK	eP	05	59	
													S	09	18	KM		eS	10	05	
												NK	+iP	02	28		ZS	eS	10	34	
				iS									09	36	CT	eS		06	41		
				PK								eP	03	17		eP	06	59			
												eS	11	04							
				SA								iS	21								
				KM								+iP	03	29							
												eS	11	26							
CU	P	03	36																		
	iS	11	41																		
30	Epc: 39°N, 72°E	O: 16-17-52, M: 5																			
											LS	+P	16	22	07	LS	+P	12	53	49	
												iS	25	29	LC		eP	55	06		
											WW	eP	23	09		S	59	20			
												CU	P	40	CU		P	55	24		
											iS		28	17		eS	59	52			
											KM	+P	23	58	KM		eP	55	44		
												eS	28	50		CC	P	57	13		
											PK	eP	24	35							
												NK	eP	25	15						
CT	eP	17																			
	ZS	eP	34																		
eS		31	43																		
30	Epc: 26°N, 96°E	O: 03-35-49, M: 4 <sup>1</sup> / <sub>2</sub>																			
											KM	eP	03	37	28	KM	eP	03	37	28	
												eS	38	40	LS		+P	37	31		
											LS	+P	37	31		eS	38	48			
												eS	38	48							

September

Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s		
2	✓CU	eP	03	37	58	2	✓LS	+P	21	31	38		
		eS		39	29			S		34	51		
	✓LC	eP		38	48		✓YM	eP		32	02		
	✓NK	eP		40	39		✓LC	+iP			56		
	✓ZS	e(P)			54		✓CU	S		37	14		
		e(S)		44	57		✓CU	+iP		33	10		
	✓PK	e(P)		40	54			iS		37	39		
							✓KM	+P		33	22		
								sP		34	29		
2	* Epc: 15°S, 173° $\frac{1}{2}$ W O: 09-46-30, M: 6-6 $\frac{1}{4}$							S		37	59		
	✓ZS	eP	09	58	30		✓PT	eP		33	35		
		eS		10	08	22	✓PK	+P		34	16		
	✓NK	eP	09	58	41			pP		35	00		
	✓CC	P			45			S		39	26		
	✓CT	eP			49		✓CT	+P		34	44		
		eS	10	09	02			sP		35	54		
	✓PK	+P	09	59	08			S		40	25		
	✓KM	eP			38		✓NK	+iP		34	48		
		SKS	10	10	13			sP		35	57		
	✓CU	eP	09	59	36			S		40	37		
	✓LC	eP			47		✓CC	+iP		35	05		
		SKS	10	10	20			pP			52		
	✓LS	SKS	11	11			✓ZS	+iP			06		
								pP			52		
								sP		36	17		
								iS		41	07		
2	Epc: 51° $\frac{1}{2}$ N, 168°W O: 14-20-08, M: 4 $\frac{3}{4}$												
	✓CC	-iP	14	28	22		7	Epc: 50°N, 155°E O: 06-48-42, M: 5 $\frac{1}{4}$					
		eS		34	59			✓CC	eP	06	53	30	
	✓PK	-P		29	22			✓PK	eP		54	44	
		ePP		31	24			✓LC	-iP		56	12	
		eS		36	45			✓CT	+iP			36	
	✓ZS	-P		29	44				S	07	02	56	
		eS		37	26			✓CU	eP	06	56	38	
	✓NK	eP		29	49			✓KM	+iP		57	16	
		eS		37	37								
	✓LC	-iP		30	33			7	Epc: 51° $\frac{1}{2}$ N, 178° $\frac{1}{2}$ W O: 10-06-49, M: 5 $\frac{1}{2}$				
		S		38	57				✓CC	+iP	10	14	02
	✓CT	eP		30	57			✓PK	+iP		15	09	
		eS		39	42				PP		16	58	
	✓CU	-iP		30	58				iS		21	49	
		PP		33	22			✓ZS	P		15	29	
		S		39	45				iS		22	27	
	✓KM	-iP		31	28			✓NK	P		15	34	
		e(PP)		34	08				iS		22	34	
		eS		40	41			✓SW	eP		16	22	
	✓LS	-iP		31	40			✓LC	+P			24	
		iS		41	24				PP		18	32	
2	Epc: 36°N, 71°E O: 21-27-36 h: 200km, *M: 5.7												

Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s	
7	LC	S	10	24	06	15	CT	eP	04	28	15	
	CT	P		16	45		KM	P				32
		eS		24	45			pP				29 31
		iS			48			S				32 22
	CU	P		16	49		LS	+P				29 35
		iS		24	52			pP				30 35
	KM	P		17	21			sP				31 08
		ePP		19	42			iS				35 14
	LS	P		17	47		ZS	eP				29 37
		ePP		20	21			sP				31 10
	iS		26	42	NK	P				29 39		
						eS				35 21		
					TS	eP				29 53		
					LC	+P				30 01		
						pP				31 02		
						S				36 01		
					WW	eP				30 19		
					XC	eP				22		
					PK	eP				35		
						epP				31 37		
						sP				32 09		
					TU	eP				30 37		
					CC	iP				31 16		
						ipP				32 20		
						eS				38 16		
9	* Epc: 48°S, 100°E O: 00-13-30, M: 6					15	Epc: 5 <sup>0</sup> <sub>2</sub> S, 154°E O: 18-42-19 h: 100km, M: 6					
	KM	eP	00	25	02		ZS	S	18	57	41	
		S		34	31		CT	+P		51	00	
	LS	eP		25	28			pP			24	
		eS		35	19			S			57 58	
	CU	eP		25	31		NK	S			51 09	
		ePP		28	32			S			58 14	
		eS		35	23		CC	eP			51 46	
	ZS	eP		25	47		PK	+P			58	
		S		35	58			eS			59 43	
	LC	eP		26	01		KM	iP			52 10	
		SKS		36	24			S			19 00 07	
		S			29		LC	+iP			18 52 38	
								pP			53 01	
								iS			19 00 59	
							LS	+iP			18 53 23	
								S			19 02 25	
9	Epc: 15°S, 176 <sup>0</sup> <sub>2</sub> W O: 09-00-33, *M: 5 <sup>3</sup> <sub>4</sub>					16	Epc: 13°N, 95°E O: 14-54-18, M: 5					
	ZS	P	09	12	22		KM	eP	14	57	43	
		eS		22	05			eS	15	00	26	
		eSS		27	06							
	NK	eP		12	34							
		eS		22	36							
	CT	+P		12	41							
	CC	-P			41							
	PK	-P		13	03							
		eS		23	28							
	KM	-P		13	31							
		eS		24	19							
	CU	P		13	32							
		S		24	24							
	LC	-P		13	41							
	LS	eP		14	23							

Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s
16	✓LS	eP	14 58 22	26	✓CT	P	18 51 37
		PP	36			sP	50
	✓CT	eS	15 01 32		✓ZS	+P	52 14
		eP	14 58 53		✓NK	P	31
		eS	15 02 36		✓KM	+iP	57
	✓LC	eP	14 59 41			PP	53 56
						S	57 51
					✓CU	+iP	53 18
24	Epc: 6°N, 127°E O: 08-21-13, M: 7					PP	54 29
	✓CT	+iP	08 26 07		✓TY	eP	53 37
	✓ZS	+iP	44		✓PK	+P	40
		S	31 10		✓LC	+iP	55
	✓NK	+iP	26 58			sP	54 28
	✓FL	eP	27 02			PP	55 25
	✓KM	P	25			S	59 35
	✓TT	eP	33		✓LS	eSS	19 02 06
	✓CU	+iP	48			+iP	18 54 33
	✓SA	iP	53			sP	56
	✓DR	eP	54			S	19 00 41
	✓LF	eP	57	27	Epc: 1°S, 127°E O: 04-08-28, M: 6½		
	✓TY	P	28 04		✓CT	+iP	04 14 16
	✓TS	P	06			S	18 55
	✓PK	+iP	10		✓ZS	+iP	14 58
	✓KT	eP	14			S	20 11
	✓TU	eP	20		✓NK	+iP	15 12
	✓LC	eP	24			S	20 36
	✓YC	eP	30		✓FL	eP	15 13
	✓OC	eP	31		✓KM	+iP	24
	✓PT	eP	33			PP	16 51
	✓SN	eP	39			S	20 58
	✓WW	P	41		✓CU	+iP	15 50
	✓SW	eP	52			S	21 43
	✓LS	-iP	29 01		✓SA	iP	15 51
		iS	35 13		✓TY	eP	16 12
					✓TS	eP	12
25	Epc: 6°N, 127°E O: 16-36-38, M: 5½				✓PK	+iP	19
	✓CT	+P	16 41 31			S	22 36
	✓KM	+iP	42 52		✓LC	+iP	16 28
		iPP	43 52			PcP	18 09
		S	47 53			iS	22 51
	✓CU	P	43 14		✓TU	eP	16 29
	✓PK	eP	34		✓YC	eP	37
	✓LC	+iP	49		✓PT	P	40
	✓CC	eP	57		✓SN	eP	40
					✓WW	eP	45
					✓LS	+iP	54
						iS	23 38
26	Epc: 6°N, 127°E O: 18-46-50 h: 60km ca., M: 5¼			27	Epc: 1°S, 127°E O: 04-18-51		



Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
27	CT	P	04	24	39	28	NK	-iP	00	30	56
		S		29	18			S		33	44
	ZS	eP		25	21		SW	eP		31	12
	NK	P			35		FL	eP			18
	KM	P			47		PK	-iP			31
		S		31	22			sP		33	37
	CU	eP		26	12			iS		34	44
		iS		32	06			ScS		42	01
	PK	eP		26	43		KT	eP		31	35
		S		33	00		TU	eP			52
	LC	iP		26	50		TY	P			53
		S		33	13		CT	-iP		32	03
	LS	+iP		27	16			sP		34	11
		iS		34	01		SA	iP		32	11
							PT	eP			15
							TS	P			38
							LC	-iP			52

27 Epc: 1°S, 127°E  
 0: 05-56-55, M: 5 $\frac{3}{4}$

CT	-P	06	02	44
	S		07	22
ZS	eP		03	24
	+P			27
	eS		08	34
NK	-eP		03	40
	-eP			43
	S		09	03
KM	eP1		03	50
	-P2			53
	S		09	26
CU	eP		04	16
	+iP			19
	iS		10	12
SA	eP		04	23
TS	eP			39
PK	eP			48
	-P			50
	eS		11	03
LC	eP		04	54
	eP			57
	iS		11	20
LS	+P		05	21
	-iP			23
	iS		12	07

28 Epc: 30° $\frac{1}{2}$ N, 187° $\frac{1}{2}$ E  
 0: 00-27-32  
 h: 470km, M: 6

ZS	-iP	00	30	34
	iS		33	03
	PcP		35	15
DR	eP		30	50

	pP		34	12
	(sP)		35	09
	iS		37	06
CU	-iP		32	53
	sP		35	07
	iS		37	08
WW	eP		33	01
SN	eP			05
KM	-iP			15
	(pP)		34	43
	S		37	47
	SS		40	27
LM	eP		33	41
LS	-iP		34	29
	PP		36	13
	iS		40	02

28 Epc: 2° $\frac{1}{2}$ S, 136°E  
 0: 04-11-24

ZS	eP	04	18	32
	eS		24	14
KM	eP		19	21
PK	eP			53
	eS		26	40
LC	eP		20	14
	eS		27	19
LS	eP		20	48

28 Epc: 21°S, 177° $\frac{1}{2}$ W  
 0: 14-19-58  
 h: 600km, M: 7

ZS	-iP	14	30	59
	ipP		33	04





Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s		
4	PK	ePKP	05	45	12	10	* Epc: $52^{\circ}\frac{1}{2}N$ , $169^{\circ}\frac{1}{2}W$						
		ePP		47	25			O: 01-43-00					
	LC	ePKP		45	18		LC	eP	01	53	14		
		ePP		47	44		CU	-P			38		
		PKS		48	47			eS	02	02	29		
	LS	ePKP		45	20		KM	eP	01	54	10		
	ZS	PP		48	11			S	02	03	31		
	NK	ePKP		45	26		LS	eP	01	54	32		
		ePP		48	14								
	CU	PKP		45	27		10	Epc: $52^{\circ}N$ , $174^{\circ}W$					
	PP		48	16		O: 05-44-32							
CT	PKP		45	44	CC	P		05	52	11			
4	* Epc: $53^{\circ}N$ , $178^{\circ}E$					ZS		eP		53	35		
	O: 23-56-45					LC		eP		54	28		
	CC	P	24	02	40	LS		eP		55	48		
	PK	eP		03	48	10		* Epc: $52^{\circ}N$ , $174^{\circ}W$					
		S		10	03				O: 07-38-18				
	ZS	P		04	10			CC	+iP	07	45	55	
		eS		10	44			PK	eP		47	01	
	NK	-P		04	16		LC	+P		48	14		
	LC	eS		12	21		CU	+iP			38		
	CT	iP		05	29		KM	eP		49	08		
CT	eP			29	LS		+iP			34			
KM	-P		06	03	5		* Epc: $10^{\circ}\frac{1}{2}S$ , $122^{\circ}\frac{1}{2}E$						
LS	-iP			29				O: 16-05-38					
	S		14	59		CC	eP	19	02	17			
5	* Epc: $54^{\circ}N$ , $166^{\circ}W$						ZS	eP		03	39		
	O: 18-53-59, M: $5\frac{3}{4}$						LC	eP		04	22		
	KM	+P	16	13		21	CU	eP			45		
		eS		19		22	KM	eP		05	22		
	CU	+P		13		52	LS	eP			39		
	LC	+P		14		32	7	Epc: $52^{\circ}N$ , $158^{\circ}E$					
		eS		21		30			O: 13-19-57, M: $5\frac{1}{2}$				
	LS	P		14	39	CC		P	13	25	02		
	10	* Epc: $54^{\circ}N$ , $166^{\circ}W$						PK	eP		26	13	
		O: 18-53-59, M: $5\frac{3}{4}$							eS		31	24	
CC		eP	19	02	17	ZS		+P		26	40		
ZS		eP		03	39			iP			46		
LC		eP		04	22	LC		+iP		27	42		
CU		eP			45	CT		+P		28	08		
KM		eP		05	22	KM		+iP			45		
LS		eP			39	LS	+P		29	17			
7		Epc: $8^{\circ}S$ , $110^{\circ}E$					12	O: 18-57-09, M: $5\frac{1}{2}$					
		O: 18-57-09, M: $5\frac{1}{2}$						CU	+P	19	04	34	
	CC	P	13	25	02			S		10	31		
	PK	eP		26	13	ZS		P		04	46		
		eS		31	24			S		10	53		
	ZS	+P		26	40			SSS		14	29		
	NK	iP			46	NK		eP		04	53		
	LC	+iP		27	42			eS		11	01		
	CT	+P		28	08			SSS		14	32		
	KM	+iP			45	LS		+P		04	58		
LS	+P		29	17									

Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
12	✓LS	PP	19	06	39	19	✓SA	i $\bar{S}$	06	19	14
		PPP		07	03			iSn			17
		PcS		10	45		✓TS	e $\bar{F}$			35
		S		11	13			$\bar{S}$	20	04	
		SSS		14	55		✓LF	ePn	19	39	
	✓LC	+iP		05	20			e $\bar{P}$			44
		PP		07	02			S	20	11	
		iS		11	54			$\bar{S}$			19
	✓CC	iP		05	26		✓YC	e			06
	✓PK	+P			50		✓LC	e $\bar{P}$			04
		PcP		07	15			e $\bar{S}$			55
		eS		12	47		✓TY	e( $\bar{S}$ )			21 03
		SoS		15	35		✓CU	e $\bar{P}$			20 20
		SS		16	07			$\bar{S}$			21 50
							✓TU	e			22 06
							✓PK	e			53

\* Epc: 52° $\frac{1}{2}$ N, 160°E  
 0: 04-19-17, M: 6

✓SW	eP	04	24	14
✓PK	+P		25	49
✓ZS	+P		26	16
✓NK	P			21
	S		32	09
✓LC	+iP		27	13
✓CU	+P			42
✓KM	P		28	18
✓LS	P			48
	eS		36	30

19 Epc: 23° $\frac{1}{2}$ N, 121° $\frac{1}{2}$ E  
 0: 18-28-51, M: 6

✓ZS	P	18	30	41
	S			32 04
✓CT	+iP			30 47
	S			32 15
✓NK	P			31 00
	S			32 40
✓FL	eP			31 09
✓TT	eP			56
✓SA	P			32 30
✓DR	eP			34
✓FL	eP			34
✓TY	P			48
✓CU	+iP			54
✓PK	+iP			55
	S			36 04
✓KM	+iP			32 56
	PP			33 14
✓KT	P			32 59
✓TS	eP			33 02
✓TU	eP			07
✓PT	eP			22
✓YC	eP			22
✓LC	+iP			26
	S			37 05
✓CC	+iP			33 30
	S			37 16
✓SN	eP			33 44
✓WW	P			47
✓SW	eP			34 12
✓YM	eP			33
✓LS	+iP			46
	S			39 28

13 \* Epc: 60°S, 151°E  
 0: 20-33-01, M: 6 $\frac{3}{4}$

✓KM	eSKS	20	57	02
✓ZS	PP		50	07
	eSKS		57	02
✓NK	PP		50	22
	eSKS		57	13
	ePS		59	03
✓LS	ePP		50	58
	eSKS		57	42
	iPS	21	00	12
✓PK	ePP	20	51	23
	SKS		57	47
✓LC	SKS			46
✓CC	ePP		51	31

19 Epc: 34° $\frac{1}{2}$ N, 108° $\frac{3}{4}$ E  
 0: 06-18-47

✓SA	P	06	19	03
	ePn			05

Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
19	Epc: 45°N, O: 21-42-01, h: 150km,	.146°E				21	*Epc: 11°S, O: 00-17-25, h: 100km ca.				
	✓ SW	eP	21	45	08		✓ ZS	P	00	27	30
	✓ CC	-iP			22		✓ CT	-P		27	43
	✓ DR	iP		46	13		✓ NK	-P		27	45
	✓ PK	P			48		✓ SC	P		28	08
		pP		47	19		✓ PK	-P			25
		PP			23		✓ SA	eP		28	39
		eS		50	38		✓ KM	-P			45
		sS		51	30		✓ LC	-iP		29	05
	✓ KT	eP		46	51		✓ LS	S		38	50
	✓ ZS	-iP			59			-P		29	43
		pP		47	30						
		sP			48						
		eS		50	53						
		sS		51	57						
	✓ NK	-iP		47	08						
		PP			39						
		PP			54		23	Epc: 52° $\frac{1}{2}$ N, O: 05-56-52, M: 6			
		eS		51	15		✓ CC	+iP	06	04	51
		sS		52	12		✓ PK	+eP		05	53
	✓ TU	eP		47	10			S		13	04
		eP			12		✓ ZS	+iP		06	16
	✓ TY	eP			23		✓ NK	+eP		06	21
	✓ FL	eP			27		✓ SA	eS		13	53
	✓ PT	eP			29		✓ LC	+iP		07	03
	✓ SA	P			59		✓ CU	+P		07	29
	✓ TS	eP		48	18		✓ CT	P		07	30
	✓ LC	-iP			23		✓ KM	+P		08	01
		pP			53		✓ LS	+iP		08	21
		iS		53	29			S		17	43
		sS		54	28						
	✓ WW	eP		48	24						
	✓ CT	-iP			34						
		pP		49	05						
		S		53	49						
	✓ SN	eP		48	35						
	✓ CU	-iP			45						
		pP		49	17						
		PP			50	10					
		iS		54	07						
		sS		55	09		24	*Epc: 14° $\frac{1}{2}$ S, O: 00-17-37, M: 6 $\frac{1}{2}$			
	✓ YM	eP		48	51		✓ ZS	-P	00	28	18
	✓ KM	-iP		49	22			S		36	56
		pP			54		✓ CT	P		28	29
		PP		50	56			S		37	17
		S		55	13		✓ CC	-P		28	55
		sS		56	15		✓ KM	-P		29	27
	✓ LS	-iP		50	08		✓ CU	eP		29	33
		iP			09			S		39	07
		PP		51	57						
		iS		56	39						
		sS		57	40						

Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s
24	LC	eP	00 29 48	25	SA	eP	06 23 05
		eS	39 48		KM	P	10
	LS	P	30 27		CU	P	19
						S	26 38
24	* Epc: $20^{\circ}\frac{1}{2}S$ , $179^{\circ}W$ O: 09-07-30, h: 550km				TY	eP	23 21
	ZS	-P	09 18 35		TS	eP	29
		eS	27 44		PK	+ $\phi$	30
	CT	-iP	18 48		PP		45
		PP	21 57		LC	+iP	52
		S	28 09			eS	27 44
	NK	-P	18 48		CC	-iP	24 09
		S	28 10		LS	P	25 03
	CC	-iP	19 00	25	Epc: $50^{\circ}\frac{1}{2}N$ , $155^{\circ}\frac{1}{2}E$ O: 10-03-37, M: $6\frac{1}{4}$		
		sP	21 58		SW	eP	10 08 12
		S	28 36		CC	eP	27
	PK	-iP	19 17		PK	+P	09 40
		SKS	28 49			S	14 33
		S	29 09		LS	+P	10 05
	KM	-iP	19 35			PPP	11 27
		SKS	29 12			S	15 18
		S	41		NK	eP	10 13
	CU	-iP	19 40			PP	11 24
		pP	21 38			S	15 30
		iSKS	29 18		LC	+iP	11 09
		iS	53		CU	eP	36
	LC	-iP	19 51			S	17 59
		epP	21 52		KM	+iP	12 14
		SKS	29 31			PP	14 09
		S	30 15		LS	+P	12 48
						+PcP	14 00
25	Epc: $21^{\circ}\frac{1}{2}N$ , $121^{\circ}\frac{1}{2}E$ O: 01-42-49, M: $4\frac{3}{4}$					PP	38
	NK	e(P)	01 45 41			S	20 11
	KM	-P	46 52	26	Epc: $\frac{1}{2}^{\circ}N$ , $126^{\circ}E$ O: 04-31-15, h: 100km ca		
	CU	eP	59		CT	P	04 36 37
		(S)	50 22		ZS	eP	37 26
	SA	e(P)	47 06			eS	42 23
	PK	eP	14		NK	eS	50
		S	50 46		KM	+iP	37 45
	LC	-P	47 37			epP	38 07
		S	51 28			S	42 58
	LS	eP	48 51		PK	eP	38 46
26	Epc: $21^{\circ}\frac{1}{2}N$ , $121^{\circ}\frac{1}{2}E$ O: 06-19-03					eS	44 44
	ZS	e	06 21 21		LC	P	38 51
	NK	eS	23 51			PP	40 31
					CC	+iP	39 09
					LS	+iP	16

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Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s
26	LS	eS	04 45 41	27	CC	+iP	22 37 57
						ipP	38 33
26	* Epc: 20° $\frac{1}{2}$ S, 178°W O: 08-26-12 h: 600km ca., M: 6-6 $\frac{1}{4}$				PK	P	39 05
					ZS	P	39
						pP	40 15
						sP	32
	ZS	-P	08 37 15			iS	45 14
	CT	-P	27		NK	+P	39 43
		S	46 43			pP	40 19
	NK	-P	37 28		LC	+iP	29
		eS	46 44			iPP	42 13
	CC	-iP	37 40			S	46 43
	PK	-P	57			isS	47 41
		S	44 44		YM.	eP	40 30
	KM	-iP	38 15		CU	P	57
	LC	-P	29		CT	+P	41 05
		iS	48 49			eS	47 53
					KM	+P	41 35
						pP	42 12
26	Epc: 2°S, 116° $\frac{1}{2}$ E O: 14-16-57, M: 5 $\frac{1}{2}$					eS	48 44
					LS	+iP	42 00
						pP	36
	CT	+P	14 22 23			PcP	43 00
		S	26 43			eS	49 30
	KM	+P	23 08				
	ZS	+P	38	29	Epc: 2°S, 116° $\frac{1}{2}$ E O: 02-21-30, M: 5		
		PP	24 52		CT	-eP	02 27 02
		S	28 57		KM	eP	47
	NK	+eP	23 44			S	32 49
	SA	eP	24 09		ZS	+P	28 14
	TS	eP	14			S	33 34
	LF	eP	22		NK	+P	28 20
	LC	+iP	31			S	33 47
		iPP	26 15		LS	+iP	29 07
	LS	+iP	24 33			PP	45
		iPP	26 12			PcP	35 03
		S	30 30			S	13
	TY	eP	24 33		LC	P	29 07
	WW	eP	48			PP	30 46
	PK	+iP	50			S	35 11
		PcS	30 39			+P	29 26
		S	31 10			eS	35 42
	PT	eP	24 59				
	CC	iP	25 26		PK		
27	Epc: 55° $\frac{1}{2}$ N, 161° $\frac{1}{2}$ E O: 22-32-42 h: 160km, M: 5 $\frac{3}{4}$			30	* Epc: 36°N, 27° $\frac{1}{2}$ E O: 07-30-20, M: 5		
	SN	eP	22 37 44		LS	eP	07 39 39
		epP	38 17			S	47 06



Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
30	✓ LC	eP	07	40	31	2	✓ CT	eS	12	25	44
	✓ CU	eP			47		✓ ZS	eP		22	31
		S			49 15			eS		23	57
	✓ KM	eP			40 59		✓ NK	eP		22	42
		eS			49 32		✓ KM	eP		23	07
	✓ PK	eP			41 17			eS		28	00
		eS			50 10		✓ CU	+P		23	29
							✓ PK	eP			55
							✓ LC	+iP		24	06
							✓ LS	+P			44
								S		30	54
31	* Epc: 39°N, 140°E O: 02-36-56					2	Epc: 13°S, 167.0 <sup>1</sup> / <sub>2</sub> E O: 18-30-30, M: 5 <sup>1</sup> / <sub>2</sub>				
✓	CC	iF	02	40	05	✓	ZS	+iP	18	40	52
✓	ZS	-P			56	✓	CT	S		49	16
✓	NK	-P			41 16	✓	CT	+iP		41	02
✓	SA	P			42 31	✓		iS		49	36
✓	CT	-iP			41	✓	NK	+iP		41	07
✓		eS			47 15	✓		eS		49	42
✓	LC	-P			42 56	✓	CC	+iP		41	32
✓		eS			47 42	✓	SW	eP			40
✓	KM	P			43 42	✓	PK	+iP			47
✓		S			49 04	✓		eS		51	00
✓	LS	-P			44 43	✓	SA	eP		41	52
		PP			45 16	✓	TY	P			55
		S			50 55	✓	LF	eP			56
31	* Epc: 6 <sup>0</sup> / <sub>2</sub> N, 83°W O: 10-07-54, M: 6 <sup>1</sup> / <sub>2</sub> -6 <sup>3</sup> / <sub>4</sub>					✓	KM	+iP		42	02
✓	PK	e(PKP)	10	27	14	✓		S		51	30
		ePP			29 22	✓	TU	eP		42	02
		PKS			30 25	✓	CU	+iP			09
✓	ZS	e(PKP)			27 23	✓		S		51	41
		ePP			30 09	✓	TS	P		42	13
		ePKS			55	✓	PT	eP			13
✓	NK	PP			30 03	✓	TC	ep			21
✓	LS	ePKP			27 32	✓	LC	+iP			24
		ePP			30 44	✓		iS		52	12
✓	CT	ePKP			27 40	✓	TW	eP		42	35
✓		PP			31 04	✓	LS	+iP		43	05
✓	KM	ePKP			27 44			SKS		53	21
								S			29
November						3	Epc: 6°S, 148°E O: 10-24-47, *M: 5 <sup>3</sup> / <sub>4</sub>				
						✓	CT	S	10	39	44
2	Epc: 6°N, 127°E O: 16-17-01, *M: 5 <sup>1</sup> / <sub>2</sub>					✓	ZS	S			49
						✓	NK	eP		33	24
						✓		S		40	18
	CT	eP	16	21	51	✓	KM	eS		41	53

Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
3	/ PK	eP	10	34	21	8	/ NK	eP	09	08	44
		S		42	15			eS		13	02
	/ LC	eS		43	00		/ LC	+P		10	06
	/ LS	eP		35	35		/ CU	eS		15	29
		S		44	19	/ KM	+P		11	02	
						/ LS	eP			51	
5 * Epc: 13°S, 169°E						10 Epc: 7°S, 165°E					
O: 09-54-29						O: 02-36-24, M: 6 1/4					
h: 650km, M: 6 1/4											
/	/ LS	-P	10	04	01	/	/ ZS	+iP	02	45	23
/		eS		11	47	/	/ CT	eS		52	38
/	/ CT	-P		04	15	/	/ CT	+iP		45	27
/	/ NK	-iP			17	/	/ NK	+iP			40
/	/ CC	-iP			37	/	/ S			53	06
/	/ PK	-iP			56	/	/ CC	+iP		46	16
/	/ KM	eP	05	15		/	/ PK	+iP			28
/	/ CU	-iP			19	/	/ S			54	37
/	/ LC	-iP			31	/	/ KM	+iP		46	39
/		eS		14	39	/	/ S			54	52
/	/ LS	-P	06	01		/	/ CU	+iP		46	48
		S		15	38	/	/ S			55	11
						/	/ LC	+iP		47	07
						/	/ S			55	45
						/	/ LS	+iP		47	52
						/	/ iS			57	12
6 Epc: 44° 1/2 N, 150° E						10 Epc: 7° S, 156° E					
O: 13-12-53, M: 5 3/4						O: 03-43-48, M: 6					
/	/ CC	P	13	17	00	/	/ ZS	+P	03	52	50
/		S		20	15	/	/ CT	+iP			57
/	/ PK	+iP		18	21	/	/ iS		04	00	18
/		eS		22	39	/	/ NK	+P	03	53	06
/	/ ZS	+iP		18	32	/	/ CC	P			43
/		eS		23	01	/	/ PK	+P			54
/	/ NK	eP		18	40	/	/ KM	+iP		54	05
/		eS		23	19	/	/ S		04	02	23
/	/ LC	+iP		19	58	/	/ CU	P	03	54	13
/	/ CT	eP	20	03		/	/ eS		04	02	39
/	/ CU	+iP		17		/	/ LC	+iP	03	54	34
/	/ KM	+iP		53		/	/ LS	+iP		55	18
/		eS		27	19	/	/ iS		04	04	38
/	/ LS	+P		21	38						
		PP		23	31						
8 Epc: 43° N, 146° E						10 * Epc: 24° 1/2 S, 175° 1/2 W					
O: 09-03-23, M: 5 1/4						O: 05-28-10, M: 6 1/4 - 6 1/2					
/	/ CC	eP	09	07	01	/	/ CT	eP	05	40	42
/	/ PK	eP		08	25	/	/ NK	+iP			44
/		eS		12	27						
/	/ ZS	eP		08	29						
/		eS		12	36						

Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s
10	CC	+iP	05 40 58	10	NK	eP	19 24 13
	PK	+P	41 14		PK	eP	33
	KM	+P	28		LF	eP	42
	CU	+P	34		CT	eP	25 37
						S	30 32
					LC	eP	26 08
						eS	30 58
					CU	eP	26 14
					KM	eP	34
					LS	eP	27 52
						S	34 03
10	Epc: $60\frac{1}{2}^{\circ}S$ , $147^{\circ}E$			13	Epc: $32^{\circ}S$ , $179\frac{1}{2}^{\circ}W$		
	O: 05-49-00, M: 6				O: 17-22-43, M: 6		
	CT	+P	05 57 11		ZS	P	17 35 18
		iS	06 03 42			S	45 42
	ZS	+iP	05 57 15			PS	46 35
		S	06 03 50		CT	P	35 20
	NK	eP	05 57 33			PP	38 40
		S	06 04 21		NK	P	35 30
	KM	+P	05 58 22			PP	38 55
		S	06 05 53		CC	-iP	35 51
	CC	eP	05 58 23		PK	P	36 02
	PK	+P	28			eSKS	46 36
		S	06 06 03			SKKS	56
	CU	eP	05 58 35			PS	48 20
		eS	06 06 17		KM	eP	36 03
	LC	+P	05 59 10			PP	39 55
		S	06 07 05			SKKS	46 52
	LS	eP	05 59 41		LC	P	36 27
		S	06 08 19			PP	40 37
10	Epc: $34^{\circ}N$ , $139\frac{1}{2}^{\circ}E$			15	Epc: $8^{\circ}N$ , $123\frac{1}{2}^{\circ}E$		
	O: 08-26-06, M: $5\frac{1}{2}$				O: 07-52-26, M: $5\frac{1}{4}$		
	CC	eP	08 29 33		CT	-iP	07 56 34
	ZS	eP	58			iS	59 54
		eS	32 58		ZS	-P	57 30
	NK	eP	30 12		NK	-iP	43
		eS	33 23		KM	-iP	59 00
	PK	eP	30 35		PK	-P	56
	CT	eP	31 34			PP	08 00 02
	LC	eP	32 12			eS	04 08
	CU	eP	19		LC	-iP	07 59 03
		eS	37 17		CC	P	22
	KM	eP	32 46			PP	08 00 47
		eS	38 02		LS	-iP	07 59 40
	LS	eP	33 56			iS	08 05 25
10	Epc: $34^{\circ}N$ , $139\frac{1}{2}^{\circ}E$			15	Epc: $51\frac{1}{2}^{\circ}N$ , $158^{\circ}E$		
	O: 19-20-07, M: 6				O: 16-30-32, M: $5\frac{1}{2}$		
	CC	iP	19 23 36				
	DR	eP	45				
	ZS	eP	49				
	SN	P	51				

Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s	
15	✓ SW	eP	16	35	11	17	✓ NK	eP	06	03	07	
	✓ OC	+iP			33				pP		04	16
	✓ PK	eP		36	44				sP			53
	✓ ZS	eS		41	43				S		07	23
	✓	+P		37	11			✓ TY	sS		09	17
	✓	S		42	31			✓	eP		03	13
	✓ LC	+iP		38	12			✓ YC	eP			47
	✓ CT	+P			40			✓ SA	P			51
	✓	S		45	10			✓ TS	eP		04	08
	✓ CU	+P		38	41			✓ WW	eP			10
	✓ KM	+iP		39	18			✓ LC	-iP			11
	✓	S		46	19			✓	iS		09	14
✓ LS	+iP		39	50		✓ CT	-P		04	32		
✓	S		47	17		✓ CU	-iP			36		
						✓	iS		10	00		
						✓	-P		05	14		
						✓	pP		06	31		
						✓	sP		07	01		
						✓	iS		11	09		
						✓ LS	-P		05	52		
						✓	iS		12	19		
16	Epc: $52^{\circ}\frac{1}{2}N$ , $177^{\circ}W$											
	O: 01-48-49, *M: $5\frac{3}{4}$											
✓	CC	+iP	01	56	12							
✓	PK	eP		57	18							
✓		S	02	04	04							
✓	ZS	eP	01	57	37							
✓	NK	eP			50							
✓	LC	+iP		58	35							
✓		S	02	06	18							
✓	CU	+iP	01	58	57							
✓		S	02	07	06							
✓	KM	+P	01	59	29							
✓	LS	+iP			54							
✓		S	02	08	57							
17	Epc: $48^{\circ}\frac{1}{2}N$ , $148^{\circ}\frac{1}{2}E$											
	O: 05-57-50											
	h: 370km, M: $5\frac{1}{2}$											
✓	SW	eP	06	01	05							
✓	CC	iP			23							
✓		iS		04	18							
✓	DR	iP		02	16							
✓	PK	-P			39							
✓		pP		03	44							
✓		sP		04	26							
✓		S		06	33							
✓	KT	eP		02	43							
✓	TU	eP		03	00							
✓	ZS	-P			00							
✓		pP		04	08							
✓		sP			47							
✓		S		07	11							
✓		sS		09	10							
17	* Epc: $30^{\circ}\frac{1}{2}N$ , $138^{\circ}E$											
	O: 17-55-04											
	h: 450km ca., M: 5.8											
✓	NK	-iP	17	58	38							
✓	CC	iP			40							
✓	PK	-P			59							
✓	LC	P	18	00	33							
✓		S		04	53							
✓	CU	iP		00	34							
✓		iS		04	53							
✓	KM	-P		00	55							
✓		eS		05	31							
✓	LS	P		02	10							
20	Epc: $54^{\circ}N$ , $165^{\circ}W$											
	O: 12-40-24, M: $6\frac{1}{4}$											
✓	CC	P	12	48	45							
✓	PK	P		48	45							
✓	TU	eP		50	02							
✓	PT	eP			08							
✓	ZS	+iP			10							
✓		S		58	00							
✓	NK	P		50	14							
✓	YC	eP			35							
✓	LC	iP			52							
✓	TS	eP			55							
✓	CU	P		51	18							

Data Sta.	Phase	h m s	Date Sta.	Phase	h m s
20 ✓ CU	iS	13 00 05	25 ✓ CU	iP	22 41 50
✓ BG	P	12 51 21		PP	43 02
	S	13 00 15		iS	47 16
✓ KM	P	12 51 50	✓ TS	eP	42 21
✓ LS	iS	13 01 09		eS	48 06
	P	12 52 06	✓ LF	eP	42 32
✓	S	13 01 48	✓ LS	+iP	37
				PcS	48 32
				iS	39
21 Epc: 0° lat, 128°E			✓ LC	iScS	52 41
O: 05-11-38, M: 5 $\frac{3}{4}$				+iP	42 37
✓ CT	+P	05 17 24		PP	44 13
	eS	22 01		S	48 40
✓ NK	eP	18 26		ScS	52 45
✓ KM	eP	34	✓ PK	+iP	42 44
	eS	24 06		ePP	44 33
✓ CU	iP	19 00	✓ WW	eP	42 54
	iPP	20 29	✓ YC	eP	55
	ePcP	21 13	✓ TY	eP	58
✓ LC	P	19 35	✓ SC	+iP	43 30
✓ LS	-P	20 02			
	iS	26 49			
			Epc: 2°S, 116°E		
			O: 05-10-06, M: 5 $\frac{1}{2}$		
23 Epc: 52° $\frac{1}{2}$ N, 168°W			26 ✓ CT	+iP	05 15 29
O: 00-58-35, *M: 5 $\frac{1}{2}$				iS	19 45
✓ CC	iP	01 06 45	✓ KM	+iP	16 14
✓ ZS	+iP	08 08		PP	17 15
	S	15 46		iPcP	19 18
✓ NK	+P	08 14		S	21 10
	S	16 01	✓ ZS	+iP	16 43
✓ LC	+P	08 56		iS	22 02
	ePP	11 11	✓ NK	+iP	16 50
✓ CU	+iP	09 21		iS	22 12
✓ CT	+P	23	✓ SA	P	17 12
✓ KM	+iP	52		S	22 54
	iS	19 04	✓ TS	eP	17 21
			✓ LF	eP	32
			✓ LC	+iP	36
			✓ LS	+iP	37
				PP	19 14
25 Epc: 1° $\frac{3}{4}$ S, 116° $\frac{1}{2}$ E				iPcS	23 33
O: 22-35-02, M: 5 $\frac{1}{2}$				iS	39
✓ CT	iP	22 40 29	✓ TY	eP	17 39
	+iP	30	✓ WW	eP	55
	iS	44 51	✓ PK	+iP	56
✓ KM	+iP	41 13		iS	24 13
	PP	42 13	✓ TU	eP	18 00
	eS	46 10	✓ CC	+iP	30
✓ ZS	+iP	41 43			
	ePP	42 48			
	eS	47 02			
			26 Epc: 50° $\frac{1}{2}$ N, 176°W		
			O: 11-35-42, *M: 5 $\frac{3}{4}$		



Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s
4	YM	eP	03 39 04	6	NK	eP	08 42 14
	WW	eP	43		LC	+P	43 26
	YC	eP	52		CU	+iP	49
	SN	eP	57			eS	49 45
	LC	+P	00 07		KM	+P	44 25
	TY	eP	42			eS	50 50
	SA	P	45		LS	eP	45 10
	LF	eP	54				
	PK	-P	55				
	CU	-P	41 19	6	Epc: 24°N, 122°E O: 22-54-28, *M: 5.8		
	LS	-iP	43		ZS	eP	22 56 13
	DR	eP	50		CT	eP	23
	CC	eP	59			S	57 56
	EL	eP	42 08		NK	eP	56 40
	SW	eP	12		PK	e(S)	23 01 39
	KM	eP	18		CU	eP	22 58 33
						PP	46
4	Epc: 46°N, 101°E O: 13-20-04, M: 5½					PPP	53
	CU	iP	23 23 38			(S)	23 01 46
		iS	26 29		KM	eP	22 58 36
	CC	P	24 11		LC	e(S)	23 01 56
	LS	+iP	14			P	22 59 04
		iS	27 34			eS	23 02 43
	TM	iP	24 41		CC	eP	22 59 06
	ZS	eP	52		US	eP	23 00 23
		iS	28 50			eS	05 08
	CT	-iP	25 27				
		iS	29 48	7	Epc: 6°S, 124°E O: 03-16-55, *M: 6¼-6½ h: 600km,		
6	Epc: 45°N, 150°E O: 03-49-32, *M: 5¾-6						
	CC	+P	3h 53 43		CT	eP	03 22 27
	PK	+P	55 00			pP	24 01
	ZS	eP	10			S	26 49
	LC	+P	56 53		ZS	P	23 19
	CT	eP	45			pP	25 06
	CU	+iP	57			eS	23 23
		S	4 02 53		KM	eP	23 20
	KM	+P	57 32			eS	28 26
	LS	eP	58 17		NK	P	23 30
						pP	25 17
6	Epc: 46°N, 150°E O: 08-36-24, *M: 6.6					eS	28 43
	CC	P	08 40 34		CU	P	23 50
	PK	+P	41 52			iS	29 20
	ZS	+P	42 04		TY	eS	30 21
					LC	P	24 28
						eP	26 21
						iS	30 31

Date	Sta.	Phase	h	m	s	Date	Sta.	Phase	h	m	s
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7	PK	eS	03	30	39
	LS	P		24	39
		P			40
		iS	30	50	

8	LC	iP	12	22	53
	CU	iP		23	03
		eS		28	21
	KM	eP	23	21	

7 Epc:  $43^{\circ}\frac{1}{2}N$ ,  $100^{\circ}E$   
 O: 14-11-11, M: 5

8 Epc:  $45^{\circ}N$ ,  $104^{\circ}\frac{1}{2}E$   
 O: 16-26-(22), M:  $5\frac{1}{2}$

✓	YM	P	14	12	16
✓	WW	eP			38
✓	YC	eP			56
✓	TS	eP	13	37	
✓	LF	e(P)			56
✓	PK	e(P)	14	14	
✓	CU	e(P)			20
		(S)	16	48	
		iSS	17	03	
✓	LS	eP	14	52	
✓	KM	eP	15	23	
✓	CC	eP			26
✓	NK	eP			28
✓	ZS	eP			53
✓	CT	eP	16	20	

✓	LC	eP	16	28	37
		(S)			30 20
✓	KT	P			29 21
		S			31 21
✓	PK	eP	28	53	
✓	CU	eP	29	57	
		S	32	17	
✓	LS	P	30	47	
		iS	34	16	
✓	CC	eP	30	11	
✓	NK	e(P)			29
		e(S)	33	48	
✓	KM	eP	30	57	
		(S)	34	34	
✓	ZS	P	30	51	
		eS	34	25	

8 Epc:  $45^{\circ}N$ ,  $100^{\circ}\frac{1}{2}E$   
 O: 06-13-00

10 Epc:  $6^{\circ}\frac{1}{2}S$ ,  $155^{\circ}E$   
 O: 14-35-56, \*M:  $6\frac{3}{4}$

✓	PT	eP	06	15	04
✓	LC	(P)			18
		e(S)	17	06	
✓	PK	eP	16	03	
✓	CU	P			31
✓	CC	P	17	09	
✓	KM	P			35
		(S)	21	19	
✓	NK	P	17	29	
✓	ZS	e(P)			53
✓	CT	P	18	21	

✓	ZS	P	14	44	50
		PcP			46 12
		PP			43
		PcS			50 10
		S			51 56
✓	CT	P	44	58	
		S	52	11	
✓	NK	+iP	45	07	
		PP	47	08	
		iS	52	29	
✓	CC	iP	45	44	
✓	PK	iP			55
		S	53	59	
✓	KM	+iP	46	07	
		PP	48	18	
		S	54	19	
		S:S	55	52	
✓	SA	P	46	09	
✓	CU	P			15
		S	54	32	
✓	LC	+P	46	35	
		PcP	47	14	
		PP	48	52	
		S	55	12	

8 Epc:  $35^{\circ}N$ ,  $143^{\circ}E$   
 O: 12-16-25, \*M: 5.5

✓	CC	P	12	20	15
✓	ZS	P			45
✓	NK	P	21	03	
✓	PK	eP			18
		eS	25	12	
✓	TU	eP	21	47	
		eS	26	07	
✓	CT	eP	22	26	
✓	TS	eP			44



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Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s
10	✓ LS	ScS	14 56 22	12	✓ LC	iS	19 00 08
	✓ LS	+iP	47 20		✓ LS	iP	18 50 59
		PeP	44			eS	19 01 24
		PP	49 55				
		iS	56 34				

11 Epc:  $30^{\circ}\frac{1}{2}N$ ,  $141^{\circ}\frac{1}{2}E$   
O: 18-11-09, M: 5

✓ ZS	P	18 15 18
✓ CC	P	26
✓ MK	+P	41
✓ PK	eS	19 20
✓ LC	eP	16 13
✓ LC	eS	20 19
✓ LC	eP	17 36
✓ CU	eS	22 44
✓ CU	eP	17 40
✓ KM	eS	22 33
✓ KM	eP	18 00
	eS	23 00

13 \* Epc:  $34^{\circ}\frac{1}{2}N$ ,  $48^{\circ}E$   
O: 01-44-59, M:  $7\frac{1}{4}$

✓ LS	eP	01 52 12
	iS	57 57
✓ YM	eP	52 35
✓ LC	P	53 20
	PP	55 02
✓ KM	-iP	53 42
	iS	02 00 38
✓ CU	iP	01 53 36
	iPP	55 26
	iS	02 00 28
✓ CT	iS	02 54
✓ NK	-P	01 54 57
	S	02 03 00
✓ CC	+iP	01 55 00
✓ ZS	P	13
	S	02 03 29

11 Epc:  $45^{\circ}\frac{1}{2}N$ ,  $101^{\circ}E$   
O: 21-55-01, M: 5

✓ VC	eP	21 57 00
✓ PT	eP	49
✓ TS	eP	49
✓ CU	eP	58 27
	eS	22 01 26
✓ LS	eP	21 59 13
	eS	22 02 31
✓ CC	P	21 59 19
✓ NK	P	35
	eS	22 03 10
✓ KM	+iP	21 59 43
	eS	22 03 21
✓ ZS	P	21 59 57
	PP	22 00 26
	S	03 54
✓ CT	P	00 28
	S	04 49

17 Epc:  $52^{\circ}\frac{1}{2}N$ ,  $163^{\circ}\frac{1}{2}E$   
O: 05-10-11, M:  $6\frac{1}{2}$

✓ SW	eP	05 15 22
✓ CC	iP	43
✓ ZS	+iP	17 22
	iS	23 10
✓ NK	+iP	17 28
	iPP	19 01
	iS	23 18
✓ LC	iS	24 44
✓ TS	eP	18 26
✓ CT	+iP	49
	iS	25 45
✓ KM	+iP	19 24
	S	26 50
✓ LS	+iP	19 51
	S	27 40

\* 12 Epc:  $13^{\circ}\frac{1}{2}S$ ,  $167^{\circ}W$   
O: 18-38-19, M: 5

✓ CC	+iP	18 49 25
✓ KM	+iP	57
	eS	59 23
✓ LC	iP	50 19

17 Epc:  $11^{\circ}\frac{3}{4}S$ ,  $167^{\circ}E$   
O: 13-50-13, M: 8

✓ ZS	+iP	14 00 22
	iS	08 37
✓ CT	+P	00 35
	iS	09 01

Date	Sta.	Phase	h m s	Date	Sta.	Phase	h m s
17	NK	+iP	14 00 39	30	SA	P	14 02 56
	DR	eP	57			S	06 24
	CC	P	01 03		PK	eP	03 24
		iS	09 54		CU	eP	35
		iScS	10 53			S	07 43
	SW	P	01 14		LS	eP	04 32
	PK	P	19			eS	09 21
		iS	10 26				
	KT	eP	01 26				
	TY	eP	27				
	SA	iP	32	31	*Epc: 45°S, 165° <sup>01</sup> / <sub>2</sub> E		
	KM	+P	35		O: 14-28-15, M: 6 <sup>1</sup> / <sub>2</sub>		
	TU	P	36		CT	+iP	14 40 45
	PT	eP	45			eS	51 03
	LC	+iP	56		ZS	+iP	40 58
		iS	11 32			ePP	44 15
	YC	eP	01 58			iSKS	51 21
	WW	eP	02 08		NK	+iP	41 09
	SN	eP	09			PP	44 39
	YM	P	37			eSKS	51 39
	LS	eP	37		KM	+iP	41 22
		iS	12 51		SA	eP	41
					PK	+P	46
					LC	P	56
						PP	45 58
					LS	eP	42 07
						ePP	46 14
						eSKS	52 45

28 \*Epc: 18°S, 64°<sup>01</sup>/<sub>2</sub>W  
O: 14-36-40, M: 6

LS	ePKP	14 56 37
	ePP	15 00 32
CC	ePKP	14 56 38
LC	ePKP	42
	PP	15 01 00
PK	ePKP	14 56 43
	ePP	15 00 50
KM	-PKP1	14 56 49
	ePKP2	57 51
	ePP	15 01 40
ZS	PKP1	14 56 50
	PKP2	57 48
NK	-iPKP1	56 51
	ePKP2	57 48
CT	-PKP1	56 58
	ePKP2	58 29
	ePP	15 02 19

Given by  
S. P. Lee (Chief)  
S. J. Mei

30 Epc: 18°N, 120°E  
O: 13-58-30, M: 5<sup>1</sup>/<sub>2</sub>

CT	eP	14 00 24
ZS	eP	01 32
NK	eP	45
KM	eP	02 38