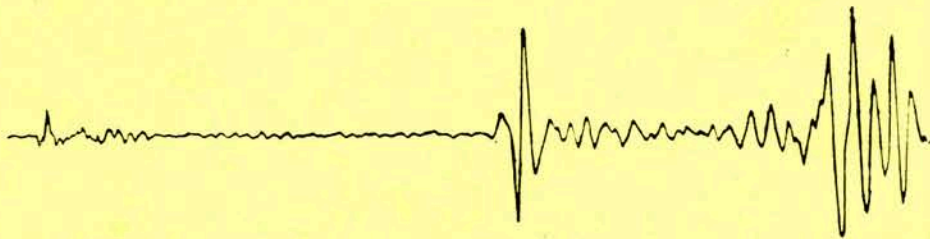


JC



JOHN CARROLL UNIVERSITY
SEISMOLOGICAL OBSERVATORY
CLEVELAND OHIO
U S A

SEISMOLOGICAL BULLETIN



1 January 1967 — 31 December 1967

OBSERVATORY DIRECTOR
EDWARD J WALTER

JANUARY 1967

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
1	iP eSKS	z E	07 ^h 19 ^m 42.2 ^s 07 30 19	d	USCGS: 15.3°S, 173.6°W H = 07 ^h 05 ^m 48.6 ^s h = 33 km Mag: 6.0
3	ePS	E	06 05 09		USCGS: 10.9°S, 165.5°E H = 05 ^h 35 ^m 46.6 ^s h = 33 km Mag: 5.2
5	iP iP eSKS	z z N	00 27 47.3 00 27 48.6 00 38 22	d c	USCGS: 48.1°N, 102.8°E H = 00 ^h 14 ^m 40.4 ^s h = 33 km Mag: 6.4
8	iP eS	z E	05 13 56.5 05 22 49	c	USCGS: 56.0°N, 162.9°E H = 05 ^h 02 ^m 52.1 ^s h = 33 km Mag: 5.1
8	iP iS	z z	18 07 58.2 18 08 17.9	c d	H = 18 ^h 07 ^m 30.8 ^s h = 168 km
9	iP eS	n N	18 15 20.6 18 21 10		USCGS: 5.1°N, 77.6°W H = 18 ^h 08 ^m 23.9 ^s h = 40 km Mag: 5.2
11	iP	z	11 33 47.0	c	USCGS: 34.1°N, 45.7°E H = 11 ^h 20 ^m 45.7 ^s h = 34 km Mag: 5.6
13	iP [†]	n	14 23 03.5		USCGS: 23.8°N, 94.6°E H = 14 ^h 04 ^m 30.8 ^s h = 91 km Mag: 4.4
17	iP ipP eS esS	z z N E	01 18 12.2 01 20 10.9 01 26 38 01 29 54	d c	USCGS: 27.4°S, 63.3°W H = 01 ^h 07 ^m 54.3 ^s h = 590 km Mag: 5.5
17	iP ipP eS esS	z z E E	12 12 34.0 12 12 47.3 12 23 00 12 23 26	c c	USCGS: 38.3°N, 142.1°E H = 11 ^h 59 ^m 31.0 ^s h = 44 km Mag: 5.9

JANUARY 1967 (cont'd.)

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
18	iP eS	z E	05 ^h 46 ^m 45.5 ^s 05 56 50	d	USCGS: 56.6°N, 120.8°E H = 05 ^h 34 ^m 32.6 ^s h = 11 km Mag: 6.1
18	iP eS	z N	08 28 04.8 08 36 01	c	USCGS: 52.5°N, 168.3°W H = 08 ^h 18 ^m 22.0 ^s h = 37 km Mag: 5.7
18	iP	z	20 10 01.5	d	
19	iP eSKS	z E	12 58 40.1 13 05 03	d	USCGS: 14.8°S, 178.8°W H = 12 ^h 40 ^m 12.6 ^s h = 18 km Mag: 6.6
20	iP iPR ₁ eS ePS	z z N N	02 10 25.3 02 13 58.0 02 21 28 02 22 26	c	USCGS: 48.0°N, 102.9°E H = 01 ^h 57 ^m 23.1 ^s h = 33 km Mag: 6.1
23	iP eS	z N	20 32 03.0 20 37 10	c	USCGS: 19.9°N, 109.3°W H = 20 ^h 25 ^m 38.3 ^s h = 56 km Mag: 5.3
24	iP ipP eS esS	z z E E	03 18 25.8 03 18 44.7 03 29 05 03 29 41	c d	USCGS: 41.4°N, 141.9°E H = 03 ^h 05 ^m 39.0 ^s h = 69 km Mag: 5.7
24	iP eS	z E	09 40 32.3 09 49 50	c	USCGS: 0.6°S, 21.0°W H = 09 ^h 29 ^m 12.3 ^s h = 33 km Mag: 4.9
24	iP iS	z e	16 52 11.6 16 52 12.5	d	USCGS:
26	iP iPR ₂	z e	06 10 46.6 06 11 43.8		USCGS: 21.4°N, 108.9°W H = 06 ^h 04 ^m 33.9 ^s h = 33 km Mag: 5.3
26	iP eS	z N	16 16 37.3 16 21 31	c	USCGS: 15.0°N, 92.8°W H = 16 ^h 10 ^m 34.3 ^s h = 33 km Mag: 5.3
26	iP iP	n z	17 44 08.1 17 44 08.3	d	

JANUARY 1967 (cont'd.)

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
26	iP	n	20 ^h 30 ^m 04.2 ^s		
28	iP eS	z E	14 ^h 02 ^m 44.3 ^s 14 10 37	d	USCGS: 52.4°N, 169.5°W H = 13 ^h 52 ^m 58.3 ^s h = 47 km Mag: 6.3
28	iP iS ₄	n n	17 45 15.1 17 45 37.0		
29	iP	z	17 51 45.2	c	
29	iP iS	z e	21 28 17.2 21 28 37.2	d	
31	iP ipP eS	z n N	13 44 55.8 13 45 02.8 13 50 54	c	USCGS: 2.8°N, 84.4°W H = 13 ^h 37 ^m 34.3 ^s h = 33 km Mag: 5.3

FEBRUARY 1967

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
1	iP	e	18 ^h 24 ^m 17.6 ^s		
	i	ew	18 24 18.0		
2	iP	z	13 20 09.8	d	
	ipP	z	15 37 17.5	d	
	eS	N	15 38 01.5	c	
9	eP	z	15 32 09	c	USCGS: 2.5°N, 74.9°W H = 15 ^h 24 ^m 47.2 ^s h = 58 km Mag: 6.3
	ePR ₁	N	15 93 43		
	eS ₁	e	15 38 10		
9	iP	n	19 27 47.4	d	
13	iP	z	23 21 02.3	d	USCGS: 52.7°N, 34.1°W H = 23 ^h 14 ^m 15.6 ^s h = 10 km Mag: 6.3
	eS	E	23 26 38		
14	iPR ₁	z	01 56 58.1	c	USCGS: 13.7°N, 96.5°E H = 01 ^h 36 ^m 04.7 ^s h = 27 km Mag: 6.8
	ePS ₁	e	02 06 51.5		
15	iP	z	16 19 21.9	d	USCGS: 9.0°S, 71.3°W H = 16 ^h 11 ^m 11.8 ^s h = 597 km Mag: 6.2
	i	z	16 20 28.0	c	
	epP	N	16 21 09		
	iS	n	16 25 52.8		
	esS	N	16 29 23		
17	iP'	z	10 29 41.2	c	USCGS: 23.7°S, 175.2°W H = 10 ^h 10 ^m 51.5 ^s h = 19 km Mag: 6.4
	iP	e	10 40 44.0		
23	iP	z	18 55 42.7	d	USCGS
	iS	n	19 04 33.0		

MARCH 1967

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
2	iP	z	02 ^h 55 ^m 08.4 ^s	d	USCGS: 0.3°S, 78.7°W H = 02 ^h 47 ^m 31.7 ^s h = 121 km Mag: 5.8
	iP	z	02 57 ^m 04.1 ^s	d	
2	iP	z	13 37 54.2	d	USCGS: 21.6°N, 108.8°W H = 13 ^h 21 ^m 45 ^s h = 33 km Mag: 4.6
4	iP	z	18 09 48.8	d	USCGS: 39.2°N, 24.6°E H = 17 ^h 58 ^m 06.4 ^s h = 33 km Mag: 6.5
	ePR ₁	N	18 12 38		
	eS ₁	N	18 19 30		
9	eP [†]	E	07 17 30		USCGS: 10.6°S, 166.3°E H = 06 ^h 58 ^m 35.7 ^s h = 30 km Mag: 6.0
	eSKS	E	07 23 25		
	ePS	E	07 27 45		
	eSR ₁	E	07 33 50		
9	eP ¹	N	18 20 54		USCGS: 10.6°S, 166.3°E H = 18 ^h 02 ^m 45.7 ^s h = 59 km Mag: 6.4
	eSKS	N	18 27 43		
	ePS	N	18 31 55		
9	iP	z	18 38 48.4	d	
13	iP	z	16 19 08.2	d	USCGS: 40.1°S, 74.5°W H = 16 ^h 06 ^m 54.3 ^s h = 33 km Mag: 6.0
	ipP	z	16 19 18.7	d	
19	iP [†]	z	01 29 59.9	c	USCGS: 6.7°S, 129.9°E H = 01 ^h 10 ^m 45.8 ^s h = 60 km Mag: 5.9
	iPR ₁	z	01 32 36.2	c	
	iSKP	z	01 33 20.7		
19	iP	z	04 13 52.1	d	USCGS: 45.4°N, 151.3°E H = 04 ^h 01 ^m 36.7 ^s h = 33 km Mag: 6.5
	iP	z	04 13 56.1	d	
	eS	E	04 24 01		
20	iP	z	13 43 46.9	d	USCGS: 45.6°N, 151.4°E H = 13 ^h 31 ^m 34.0 ^s h = 51 km Mag: 5.7
	eS	E	13 54 02		

MARCH 1967 (cont'd.)

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
21	iP	z	18 ^h 18 ^m 26.4 ^s	c	USCGS: 6.8°N, 73.0°W H = 18 ^h 11 ^m 42.2 ^s h = 151 km Mag: 5.4
24	iP'	z	09 18 44.6	c	USCGS: 6.0°S, 112.3°E H = 09 ^h 00 ^m 19.5 ^s h = 600 km Mag: 6.0
	ipP'	z	09 21 06.0		
	iPR ₁	n	09 21 28.9		
	eSKS	E	09 24 34		
25	iP	z	23 00 12		USCGS: 45.5°N, 151.4°E H = 22 ^h 47 ^m 58.4 ^s h = 41 km Mag: 5.5
27	iP	z	08 34 43.1	d	USCGS: 8.9°S, 71.3°W H = 08 ^h 26 ^m 34.5 ^s h = 603 km Mag: 5.3
	ipP	z	08 35 48.7		
	iS	e	08 41 14.4		

APRIL 1967

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>			<u>Motion</u>	<u>Remarks</u>
1	iP	z	06 ^h	06 ^m	31.0 ^s	d	USCGS: 45.8°N, 151.8°E H = 05 ^h 54 ^m 19.1 ^s h = 40 km Mag: 5.7
	ipP	z	06	06	44.2	c	
	eS	E	06	16	36		
1	iP	z	10	49	59.7	c	USCGS: 4.6°S, 105.8°E H = 10 ^h 41 ^m 00.2 ^s h = 33 km Mag: 6.0
	eS	E	10	57	14		
	eSR ₁	N	11	00	57		
1	iP	z	12	35	47.3	c	USCGS: 45.7°N, 151.8°E H = 12 ^h 23 ^m 35.5 ^s h = 40 km Mag: 5.9
	eS	E	12	45	52		
6	iP	e	03	12	55.8		USCGS: 19.6°N, 64.2°W H = 03 ^h 07 ^m 05.5 ^s h = 13 km Mag: 4.6
	iS	n	03	17	43.8		
8	iP	z	05	41	05.2	c	
	iS	e	05	41	28.2		
10	iS	e	19	07	40.6		USCGS: 39.9°N, 104.8°W H = 19 ^h 00 ^m 25.6 ^s h = 5 km Mag: 4.8
	iL	n	19	09	47.5		
12	iP	z	04	47	05.5	c	USCGS: 19.3°N, 63.6°W H = 04 ^h 40 ^m 53.0 ^s h = 38 km Mag: 4.5
	i	n	04	51	43.7		
12	iPR ₁	N	05	13	15.0	z	USCGS: 5.3°N, 96.5°E H = 04 ^h 51 ^m 40.2 ^s h = 55 km Mag: 6.1
	eSKP	z	05	14	18		
	eSKKS	N	05	20	19		
	eSR ₁	N	05	31	12		
	eSR ₂	E	05	36	11		
13	iP	z	20	05	34.2	c	USCGS: 18.5°N, 100.2°W H = 19 ^h 59 ^m 51.9 ^s h = 85 km Mag: 5.6
	iPR ₁	n	20	06	14.9		
	iS ₁	e	20	10	12.8		
19	iP	z	22	02	21.5	c	USCGS: 18.8°N, 69.6°W H = 21 ^h 57 ^m 05.1 ^s h = 103 km Mag: 5.0
	iS	e	22	07	04.3		

APRIL, 1967 (cont'd.)

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
21	eSKP	E	08 ^h 37 ^m 36 ^s		USCGS: 5.4°S, 126.9°E H = 08 ^h 14 ^m 25.0 ^s h = 33 km Mag: 6.4
25	iP ipP	z z	10 47 52.1 10 48 00.8	d c	USCGS: 32.9°S, 69.0°W H = 10 ^h 36 ^m 14.3 ^s h = 39 km Mag: 5.7
29	iP eS	z E	00 11 37.6 00 17 03	c	USCGS: 51.2°N, 130.4°W H = 00 ^h 04 ^m 41.8 ^s h = 6 km Mag: 5.1
29	iP iS	z n	04 05 31.8 04 15 29.8	c	USCGS: 51.4°N, 178.3°W H = 03 ^h 55 ^m 20.8 ^s h = 50 km Mag: 6.0
30	iP eSR ₁	z N	16 34 13.8 16 40 52	c	USCGS: 14.3°N, 91.3°W H = 16 ^h 28 ^m 15 ^s h = 16 km Mag: 4.8

MAY, 1967

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
1	iP	z	07 ^h 20 ^m 31.9 ^s	d	USCGS: 39.7°N, 21.3°E H = 07 ^h 09 ^m 00.5 ^s h = 15 km Mag: 5.6
	iP	z	07 20 36.5	d	
	eS	E	07 30 02		
1	iP	z	19 25 28.6	d	
	iS	n	19 25 32.8		
1	iS	n	21 40 25.4		
5	iP'	z	17 57 43.3	c	USCGS: 8.0°S, 107.2°E H = 17 ^h 38 ^m 05.3 ^s h = 33 km Mag: 5.3
	ipP	z	17 57 58.4	d	
6	iP	z	14 05 57.5	d	USCGS: 19.3°N, 70.0°W H = 14 ^h 00 ^m 41.4 ^s h = 39 km Mag: 5.3
	eS	E	14 10 20		
9	iP	z	06 27 40.4	d	USCGS: 44.2°N, 149.0°E H = 06 ^h 14 ^m 57.1 ^s h = 40 km Mag: 5.3
11	iP	z	15 15 35.6	d	USCGS: 20.3°S, 68.5°W H = 15 ^h 05 ^m 16.8 ^s h = 67 km Mag: 6.1
	ipP	z	15 16 03.3	c	
	iS	e	15 23 53.0		
	isS	e	15 24 40.0		
12	iS	e	22 05 26.9		
12	iP	n	22 11 35.6		
	iS	n	22 11 39.9		
12	iP	n	22 19 44.4		
	iS	n	22 19 48.4		
13	eP	z	05 27 23		USCGS: 56.5°N, 152.6°W H = 05 ^h 18 ^m 55.4 ^s h = 33 km Mag: 5.3
	eS	N	05 34 12		
14	iP	z	08 48 48.8	d	USCGS: 20.6°S, 68.9°W H = 08 ^h 38 ^m 33.1 ^s h = 109 km Mag: 5.2
	ipP	z	08 49 15.3	d	
	iS	e	08 57 07.3		
	isS	e	08 57 53.8		

MAY, 1967 (cont'd.)

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
16	iP	n	13 ^h 04 ^m 03.9 ^s		USCGS: 13.5°N, 90.6°W H = 12 ^h 58 ^m 09.5 ^s h = 95 km Mag: 4.8
	ipP	n	13 04 24.2		
	eS	N	13 09 05		
20	eP	z	07 54 41		USCGS: 13.3°N, 90.4°W H = 07 ^h 48 ^m 52 ^s h = 108 km Mag: 4.6
	eS	N	08 00 00		
20	iP	z	15 05 43.2	d	
	eS	N	15 11 24		
21	iP	e	07 24 05.1		USCGS: 27.9°S, 111.3°W H = 07 ^h 18 ^m 13 ^s h = 33 km Mag: 4.2
	iS	n	07 28 46.9		
21	iP	z	19 04 19.9	c	USCGS: 1.0°S, 101.5°E H = 18 ^h 45 ^m 11.7 ^s h = 173 km Mag: 6.3
	iPR	z	19 07 12.6	d	
	eSKP	N	19 07 56		
	iS	n	19 14 45.3		
23	iP	z	14 06 44.8	d	
27	iP	z	17 33 38.6	d	USCGS: 51.5°N, 176.1°E H = 17 ^h 22 ^m 58.7 ^s h = 34 km Mag: 5.8
	eS	E	17 42 18		
29	iP ₁	z	02 38 07.9	c	
	iS ₁	z	02 38 20.6		

JUNE, 1967

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
1	iP	z	03 ^h 45 ^m 43.4 ^s	c	USCGS: 53.7°N, 165.6°W H = 03 ^h 36 ^m 19.0 ^s h = 60 km Mag: 5.7
3	iP iPR ₁ eS ¹	z e N	09 17 16.1 09 18 45.7 09 23 58	c	USCGS: 58.4°N, 151.2°W H = 09 ^h 08 ^m 56.4 ^s h = 32 km Mag: 5.5
4	iP iS	z n	16 16 46.9 16 18 43.8	d	USCGS: 33.6°N, 90.9°W H = 16 ^h 14 ^m 13.6 ^s h = 33 km Mag: 3.8
7	iP eS	e N	07 12 37.3 02 17 51		USCGS: 17.1°N, 99.9°W H = 07 ^h 06 ^m 33.2 ^s h = 47 km Mag: 4.4
10	iP ipP eS	z z N	05 39 05.4 05 39 16.1 05 49 17	d c	USCGS: 41.3°S, 73.6°W H = 05 ^h 26 ^m 44.4 ^s h = 37 km Mag: 5.7
12	iP	z	00 12 33.0	d	USCGS: 16.6°N, 46.6°W H = 00 ^h 05 ^m 06.5 ^s h = 33 km Mag: 5.1
12	iP	z	03 02 46.0	d	USCGS: 38.2°N, 22.7°E H = 02 ^h 51 ^m 05.5 ^s h = 33 km Mag: 4.8
12	iP iP eS	z z E	23 34 42.4 23 34 43.8 23 44 34	c c	USCGS: 47.4°N, 154.3°E H = 23 ^h 22 ^m 45.3 ^s h = 56 km Mag: 5.4
13	iP iS	z e	19 09 43.9 19 10 19.7	d	USCGS: 42.9°N, 78.2°W H = 19 ^h 09 ^m 43.9 ^s h = 5 km Mag: 3.9

JUNE, 1967 (cont'd.)

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
14	iP	z	03 ^h 23 ^m 50.6 ^s	d	USCGS: 14.9°S, 73.4°W
	iP	z	03 24 16.7	d	H = 03 ^h 14 ^m 17.5 ^s h = 99 km Mag: 5.6
14	iP	z	08 17 55.7	d	USCGS: 47.5°N, 154.4°E H = 08 ^h 05 ^m 58.6 ^s h = 55 km Mag: 5.3
17	eP'	N	05 17 54		USCGS: 58.3°S, 26.6°W
	iPR ₁	z	05 18 44.5	d	H = 05 ^h 00 ^m 11.8 ^s
	eSKS	N	05 24 43		h = 140 km
	eSKKS	N	05 25 33		Mag: 6.1
17	iP	z	17 50 18.7	d	USCGS: 14.1°N, 90.0°W H = 17 ^h 43 ^m 55.2 ^s h = 103 km Mag: 4.8
19	iP	z	17 17 21.2	d	USCGS: 52.7°N, 166.9°W
	eS	E	17 25 06		H = 17 ^h 07 ^m 45.4 ^s h = 33 km Mag: 5.7
20	iP	z	07 48 24.2	d	USCGS: 52.8°N, 167.1°W
	eS	N	07 56 07		H = 07 ^h 38 ^m 44.9 ^s h = 11 km Mag: 5.2
21	iP	z	06 58 01.6	c	USCGS: 2.2°S, 77.6°W
	eS	E	07 04 34		H = 06 ^h 49 ^m 56.6 ^s h = 49 km Mag: 5.3
21	iP	z	18 12 56.1	c	USCGS: 64.8°N, 147.4°W
	iP	z	18 12 57.3	d	H = 18 ^h 04 ^m 49.5 ^s h = 17 km Mag: 5.4
21	iP	z	18 21 05.3	d	USCGS: 64.8°N, 147.4°W
					H = 18 ^h 13 ^m 02.9 ^s h = 17 km Mag: 5.6
21	iP	z	18 32 54.5	d	USCGS: 64.8°N, 147.4°W
					H = 18 ^h 24 ^m 45.7 ^s h = 14 km Mag: 3.9
21	iP	z	20 20 20.7	c	USCGS: 25.2°S, 70.5°W
	eS	N	20 29 08		H = 20 ^h 09 ^m 28.4 ^s h = 23 km Mag: 5.7

JUNE, 1967 (cont'd.)

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
23	iP	e	12 ^h 02 ^m 42.2 ^s		USCGS: 64.8°N, 147.5°W H = 11 ^h 54 ^m 33.5 ^s h = 9 km Mag: 4.6
24	iPR ₁	N	07 58 28.9		USCGS: 14.3°N, 92.6°W H = 07 ^h 51 ^m 46.5 ^s h = 91 km Mag: 4.6
26	iP ePR ₁ eS	z E N	02 28 47.6 02 29 37 02 33 50	d	USCGS: 18.4°N, 105.2°W H = 02 ^h 22 ^m 34.8 ^s h = 45 km Mag: 5.0

JULY, 1967

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
1	iP eS	z N	23 ^h 19 ^m 01.8 ^s 23 26 13	d	USCGS: 54.4°N, 158.0°W H = 23 ^h 10 ^m 07.2 ^s h = 33 km Mag: 6.2
4	iP eSKS eS	z N E	23 54 41.3 00 04 50 00 05 04	c	USCGS: 43.2°N, 142.5°E H = 23 ^h 42 ^m 13.7 ^s h = 160 km Mag: 5.6
6	iP eS	z N	13 52 06.0 13 59 55	c	USCGS: 52.6°N, 168.2°W H = 13 ^h 42 ^m 22.5 ^s h = 14 km Mag: 5.9
6	iP ipP eS	e e N	18 37 51.6 18 38 16.5 18 42 47		USCGS: 18.9°N, 61.9°W H = 18 ^h 32 ^m 15.1 ^s h = 57 km Mag: 5.1
12	iP eS	z E	21 07 18.5 21 12 55	d	USCGS: 5.6°N, 82.6°W H = 21 ^h 00 ^m 20.9 ^s h = 33 km Mag: 6.5
16	iP' eSKP	z E	13 53 41.2 13 57 04	d	USCGS: 0.8°S, 132.6°E H = 13 ^h 34 ^m 29.9 ^s h = 33 km Mag: 6
20	ePR ₁ ePS ₁	E N	15 56 45 16 06 28		USCGS: 7.7°N, 134.9°E H = 15 ^h 36 ^m 20.1 ^s h = 8 km Mag: 6.2
22	iPR ₁ ePS ₁	e e	04 17 49.6 04 27 42		USCGS: 33.5°S, 179.0°W H = 03 ^h 58 ^m 02.4 ^s h = 39 km Mag: 5.0
22	iP iP iPR ₁ eS ePS	z z z N E	17 08 53.9 17 08 54.4 17 12 50.2 17 18 53 17 19 27	c d d	USCGS: 40.7°N, 30.8°E H = 16 ^h 56 ^m 53.3 ^s h = 4 km Mag: 6.0
26	iP eS	z N	19 05 29.8 19 15 51	d	USCGS: 39.5°N, 40.4°E H = 18 ^h 53 ^m 01.3 ^s h = 33 km Mag: 5.6

JULY, 1967 (cont'd.)

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
29	iP	z	10 ^h 31 ^m 07.2 ^s	d	USCGS: 6.8°N, 73.0°W H = 10 ^h 24 ^m 24.6 ^s h = 161 km Mag: 6.0
	ipP	z	10 31 41.6		
	eS	E	10 36 32		
	eSS	E	10 37 28		
29	iP	z	00 06 38.4	d	USCGS: 10.6°N, 67.3°W H = 23 ^h 59 ^m 58.7 ^s h = 10 km
	eS	E	00 11 57		
30	iP'	z	11 09 07.8	c	USCGS: 56.2°S, 146.9°E H = 10 ^h 49 ^m 32.8 ^s h = 33 km Mag: 5.1

AUGUST, 1967

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
2	iP eS	z N	11 ^h 15 ^m 09.8 ^s 11 21 46	c	USCGS: 71.2°N, 8.0°W H = 11 ^h 06 ^m 38.7 ^s h = 33 km Mag: 5.0
2	iP eS	z N	14 14 46.9 14 21 30	c	USCGS: 71.2°N, 8.5°W H = 14 ^h 06 ^m 17.8 ^s h = 33 km Mag: 5.3
7	eS	E	11 30 11		USCGS: 58.7°N, 154.6°W H = 11 ^h 14 ^m 42.7 ^s h = 37 km Mag: 5.1
9	iP	z	13 29 17.1		USCGS: 39.5°N, 104.7°W H = 13 ^h 25 ^m 06.2 ^s h = 5 km Mag: 5.3
10	iP eS	z E	11 33 39.4 11 43 47	c	USCGS: 45.4°N, 150.3°E H = 11 ^h 21 ^m 22.3 ^s h = 37 km Mag: 5.7
11	iP eS	z E	12 22 19.5 12 30 43	d	
12	eP' ePR ₁ eSKS esSKS eS esS	E E E E E N	09 57 52 09 58 56 10 04 26 10 05 23 10 06 09 10 07 11		USCGS: 24.7°S, 177.5°W H = 09 ^h 39 ^m 44.3 ^s h = 134 km Mag: 5.8
13	iP eSKS eS	z E N	20 19 41.1 20 29 39 20 30 28	d	USCGS: 35.3°N, 135.3°E H = 20 ^h 06 ^m 50.6 ^s h = 357 km Mag: 6.0
20	iP ipP	z z	15 14 20.3 15 14 47.5	d d	USCGS: 25.2°S, 69.0°W H = 15 ^h 03 ^m 36.2 ^s h = 109 km Mag: 5.6
21	iP eP' ePR ₁ eSKP ePSKS	n N N N N	07 49 33.1 07 52 18 07 54 52 07 55 47 08 04 54		USCGS: 3.6°N, 95.8°E H = 07 ^h 33 ^m 00.6 ^s h = 33 km Mag: 5.9

AUGUST, 1967 (cont'd.)

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
22	iPR ₁	z	13 ^h 21 ^m 23.7 ^s	c	USCGS: 60.8°S, 24.6°W H = 13 ^h 02 ^m 06.8 ^s h = 33 km Mag: 6.1
	eSKKS	E	13 28 15		
	eSR ₁	E	13 37 04		
26	ePR	z	00 56 08	d	USCGS: 12.2°N, 140.7°E H = 00 ^h 36 ^m 42.1 ^s h = 33 km Mag: 6.1
	eS	E	01 05 46		
27	iP	z	13 14 44.5	c	USCGS: 12.3°N, 86.2°W H = 13 ^h 08 ^m 55.9 ^s h = 182 km Mag: 5.2
	epP	N	13 15 28		
	eS	E	13 19 26		
	esS	E	13 20 32		
30	ePR ₁	N	04 40 43		USCGS: 31.7°N, 100.3°E H = 04 ^h 22 ^m 01.5 ^s h = 3 km Mag: 6.1
	ePR ₂	N	04 42 59		
	ePS ₂	N	04 50 04		
	ePPS	N	04 51 13		
	eSR ₁	N	04 55 41		
30	iP	z	13 45 40.9	c	USCGS: 45.4°N, 151.5°E H = 13 ^h 33 ^m 26.4 ^s h = 33 km Mag: 5.5
	eS	E	13 55 47		

SEPTEMBER, 1967

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
3	iP	z	21 ^h 16 ^m 35.3 ^s	c	USCGS: 10.6°S, 79.8°W H = 21 ^h 07 ^m 30.8 ^s h = 38 km Mag: 6.5
	iP	z	21 16 36.7		
	eS	N	21 23 56		
7	eP'	z	07 31 16	c	USCGS: 2.7°N, 124.3°E H = 07 ^h 12 ^m 36.6 ^s h = 274 km Mag: 5.8
	iSKP	z	07 34 12.0		
	eSKKS	N	07 39 55		
9	iP	z	10 19 04.3	d	USCGS: 27.7°S, 63.1°W H = 10 ^h 06 ^m 44.1 ^s h = 578 km Mag: 5.8
	ipP	z	10 19 03.7		
	eS	N	10 25 32	c	
	ePS	E	10 26 11		
	esS	N	10 28 57		
	eSR ₁	E	10 30 04		
9	ePS	N	17 19 07	c	USCGS: 54.8°S, 136.0°W H = 16 ^h 52 ^m 01.3 ^s h = 33 km Mag: 5.4
	eSR ₁	N	17 25 52		
13	iP	z	18 52 03.7	c	USCGS: 52.7°N, 172.5°E H = 18 ^h 41 ^m 15.4 ^s h = 34 km Mag: 5.7
17	iP	z	08 01 57.1	d	USCGS: 17.2°N, 94.1°W H = 07 ^h 56 ^m 22.7 ^s h = 45 km Mag: 5.2
	iP	z	08 01 57.6		
	eS	N	08 06 27		
17	iP	z	16 54 56.6	d	USCGS: 31.2°N, 114.4°W H = 16 ^h 49 ^m 02 ^s h = 33 km Mag: 4.3
	eS	E	17 00 13		
18	eS	E	07 06 32	c	USCGS: 31.3°N, 114.3°W H = 06 ^h 55 ^m 32 ^s h = 33 km Mag: 4.3
19	iP	z	11 08 41.3	d	USCGS: 43.0°N, 145.2°E H = 10 ^h 56 ^m 08.6 ^s h = 84 km Mag: 5.9
	ipP	z	11 09 06.4		
	isP	z	11 09 19.6	d	
	ePR ₁	z	11 12 02		
	ipPR ₁	n	11 12 40.1		
	eS	N	11 19 06		
	eSR ₁	N	11 24 50		

SEPTEMBER, 1967 (cont'd.)

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
22	iP eS	z N	10 ^h 30 ^m 20.8 ^s 10 40 34	c	USCGS: 44.5°N, 149.4°E H = 10 ^h 17 ^m 59.9 ^s h = 60 km Mag: 5.6
23	eSKP	E	07 24 53		USCGS: 49.7°N, 164.0°E H = 07 ^h 02 ^m 03.3 ^s h = 15 km Mag: 5.7
26	iP eS	z E	11 22 59.2 11 32 28	c	USCGS: 33.6°S, 70.5°W H = 11 ^h 11 ^m 23.7 ^s h = 84 km Mag: 5.8
26	iP ipP eS esS ePS	z n E E E	16 22 44.2 16 22 57.1 16 31 57 16 32 23 16 32 48	d	USCGS: 30.0°S, 71.5°W H = 16 ^h 11 ^m 23.9 ^s h = 55 km Mag: 6-3/4 Pas.
27	iP	z	17 05 43.3	d	
28	iP' ePR ₁ iSKP iSKS ePS	n E n n N	05 15 45.2 05 16 57 05 18 47.4 05 22 48.4 05 27 02		USCGS: 6.6°S, 153.4°E H = 04 ^h 56 ^m 56.3 ^s h = 44 km Mag: 5.9
28	iP eS	z E	15 52 58.0 15 59 26	d	USCGS: 59.5°N, 147.1°W H = 15 ^h 44 ^m 57.9 ^s h = 28 km Mag: 5.6
29	ePR ₁ eS ₁	N N	05 26 03 05 29 56		USCGS: 12.3°N, 91.2°W H = 05 ^h 18 ^m 49.6 ^s h = 33 km Mag: 5.2
30	iS	n	22 45 35.9		USCGS: 49.1°N, 66.2°W H = 22 ^h 39 ^m 53 ^s h = 33 km Mag: 4.2

OCTOBER, 1967

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
3	iP	n	18 ^h 22 ^m 19.8 ^s	c	USCGS: 10.9°N, 85.9°W H = 18 ^h 16 ^m 03.2 ^s h = 21 km Mag: 5.8
	iP	z	18 22 21.5		
	ePR ₁	N	18 23 14		
	eS ₁	N	18 27 38		
4	iP	z	06 08 32.6	c	USCGS: 10.7°N, 86.0°W H = 06 ^h 02 ^m 16.4 ^s h = 33 km Mag: 5.3
	eS	N	06 13 46		
4	eP	N	10 25 23		USCGS: 38.5°N, 112.1°W H = 10 ^h 20 ^m 14.0 ^s h = 18 km Mag: 5.2
	iP	e	10 25 30.8		
	eS	E	10 29 46		
4	ePR ₁	N	17 41 26		USCGS: 5.7°S, 153.9°E H = 17 ^h 21 ^m 20.7 ^s h = 52 km Mag: 6-3/4 Pas.
	eSKS	E	17 47 03		
	eSR ₁	N	17 57 48		
7	iP	z	01 25 21.0	c	USCGS: 29.6°S, 71.1°W H = 01 ^h 14 ^m 04.1 ^s h = 42 km Mag: 5.3
9	iP	n	17 34 13.7		USCGS: 21.1°S, 179.3°W H = 17 ^h 21 ^m 49.5 ^s h = 654 km Mag: 7 - 7-1/4 Pas.
	ePR ₁	E	17 39 48		
	eP' ₁	E	17 42 58		
	epP'	N	17 44 58		
	eS	N	17 46 33		
	ePS	N	17 48 41		
	ePPS	N	17 49 39		
	esS	N	17 50 44		
	eSR ₁	N	17 54 28		
14	eS	N	03 42 51		USCGS: 17.3°N, 60.8°W H = 03 ^h 31 ^m 04.5 ^s h = 29 km Mag: 5.3
15	iP	e	08 06 44.4	c	USCGS: 11.9°N, 86.0°W H = 08 ^h 00 ^m 50.3 ^s h = 162 km Mag: 6.2
	iP	z	08 06 46.4		
	eP	N	08 06 46		
	eP	E	08 06 46		
	ipP	n	08 07 11.3		
	eS	E	08 11 29		
	esS	E	08 12 25		

OCTOBER, 1967 (cont'd.)

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
16	iP	e	13 ^h 34 ^m 17.9 ^s		USCGS: 49.3°N, 129.1°W H = 13 ^h 27 ^m 35.6 ^s h = 33 km Mag: 5.2
	e(s)	N	13 39 32		
	eSR ₁	N	13 41 43		
18	eP	N	01 20 29		USCGS: 79.8°N, 2.4°E H = 01 ^h 11 ^m 45 ^s h = 33 km Mag: 5.7
	iP	n	01 20 30.8		
	ePR ₁	N	01 22 21		
	eS	E	01 27 25		
	eSR ₁	N	01 30 57		
25	iP	n	01 16 06.0		USCGS: 24.5°N, 122.2°E H = 00 ^h 59 ^m 22.6 ^s h = 65 km Mag: 6.0
	ePR ₁	N	01 18 27		
	eSKS	N	01 24 24		
	ePS	N	01 27 54		
	ePPS	N	01 29 00		

NOVEMBER, 1967

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
4	iP	n	16 ^h 34 ^m 48.0 ^s		USCGS: 2.8°S, 77.7°W H = 16 ^h 26 ^m 48.2 ^s h = 99 km Mag: 6.0
	ipP	n	16 35 11.5		
	iS	e	16 41 10.5		
	eS	E	16 41 12		
	esS	E	16 41 56		
	eSR ₁	E	16 44 35		
4	eSKS	E	14 53 39		USCGS: 43.5°N, 144.1°E H = 14 ^h 30 ^m 37.5 ^s h = 30 km Mag: 6.0
	eS	N	14 53 58		
	e(PS)	N	14 55 17		
5	eP	N	02 02 53		No epi. listed
	eS	N	02 12 47		
8	iP	e	03 16 15.8		USCGS: 16.8°N, 85.9°W H = 03 ^h 10 ^m 53.3 ^s h = 28 km Mag: 5.4
	eS	E	03 20 38		
8	eS	N	17 28 48		USCGS: 51.1°N, 178.5°E H = 17 ^h 09 ^m 27.1 ^s h = 29 km Mag: 5.3
12	ePR ₁	N	10 54 58		USCGS: 17.2°S, 172.0°W H = 10 ^h 36 ^m 52.0 ^s h = 34 km Mag: 5.6
	eSKS	N	11 01 52		
15	iP	n	21 43 07.1		USCGS: 28.7°S, 71.2°W H = 21 ^h 31 ^m 51.5 ^s h = 15 km Mag: 6.2
	eS	N	21 52 16		
	e	E	21 53 26		
17	iP	e	05 05 46.0		USCGS: 28.5°N, 43.8°W H = 04 ^h 58 ^m 56.8 ^s h = 33 km Mag: 5.2
	eP	E	05 05 46		
	eS	E	05 11 01		
	eSR ₁	N	05 13 05		
23	ePR ₁	E	08 55 03		USCGS: 14.5°N, 52.1°E H = 08 ^h 35 ^m 49.5 ^s h = 3 km Mag: 6-3/4 Pas.
	iPR ₁	e	08 55 10.1		
	eSKS	E	09 01 11		
	ePS	E	09 04 33		
	ePPS	E	09 05 28		

NOVEMBER, 1967 (cont'd.)

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
23	iP	n	13 ^h 50 ^m 42.6 ^s		USCGS: 80.2°N, 1.0°W
	i	n	13 53 30.8		H = 13 ^h 42 ^m 01.6 ^s
	eS	E	13 57 37		h = 10 km
	e	E	14 01 04		Mag: 5.8
26	i	e	08 23 33.5		USCGS: 56.6°N, 152.2°W
	ESR ₂	E	08 30 39		H = 08 ^h 11 ^m 06.3 ^s h = 28 km Mag: 4.9
27	iP	e	05 13 35.4		USCGS: 40.0°N, 104.7°W
	iS	e	05 16 41.4		H = 05 ^h 09 ^m 22.7 ^s h = 5 km Mag: 5.2

DECEMBER, 1967

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
1	iP	n	14 ^h 08 ^m 42.4 ^s		USCGS: 49.5°N, 154.4°E H = 13 ^h 57 ^m 02.4 ^s h = 136 km Mag: 5.9
	iP	e	14 08 42.4		
	ipP	n	14 09 09.9		
	iS	e	14 18 16.4		
	eS	E	14 18 17		
	ePS	N	14 18 43		
2	iP	n	00 37 18.5		USCGS: 24.1°N, 108.6°W H = 00 ^h 31 ^m 18.9 ^s h = 33 km Mag: 5.1
	iP	e	00 37 18.5		
	eS	E	00 42 28		
4	e(PR ₁)	E	08 56 44		USCGS: 43.7°N, 127.4°W H = 08 ^h 48 ^m 45.2 ^s h = 33 km Mag: 4.6
	eS	E	09 00 59		
5	iP	e	11 15 33.9		USCGS: 30.8°N, 114.1°W H = 11 ^h 09 ^m 37.4 ^s h = 33 km Mag: 5.0
	iP	n	11 15 34.8		
	eS	E	11 20 36		
6	iP	e	18 41 29.3		USCGS: 30.8°N, 114.0°W H = 18 ^h 35 ^m 37.6 ^s h = 33 km Mag: 4.8
	eS	E	18 46 41		
10	iP	e	12 13 22.0		USCGS: 40.5°N, 124.6°W H = 12 ^h 06 ^m 50.3 ^s h = 5 km Mag: 5.8
	iP	n	12 13 22.5		
	e	E	12 18 28		
	eS	N	12 18 34		
	eS	E	12 18 36		
	e(SR ₁)	N	12 20 58		
	eSR ₁	E	12 20 59		
10	iP	e	19 34 41.2		USCGS: 36.7°N, 107.2°W H = 19 ^h 30 ^m 00.1 ^s h = 0 Mag: 5.1
	i	n	19 40 27.6		
10	eS	N	23 19 14		USCGS: 17.7°N, 73.9°E H = 22 ^h 51 ^m 24.3 ^s h = 33 km Mag: 6.0
	ePS	E	23 20 56		
	eSR ₁	N	23 27 31		
12	iP ₁	e	20 53 08.6		
	iS ₁	n	20 53 10.8		

DECEMBER, 1967 (cont'd.)

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
21	iP	n	02 ^h 35 ^m 52.3 ^s		USCGS: 21.8°S, 70.0°W H = 02 ^h 25 ^m 21.6 ^s h = 33 km Mag: 6.3
	eP	N	02 35 55		
	iP	e	02 35 57		
	eS	E	02 44 23		
	ePS	N	02 44 52		
24	iP	e	20 09 17.3		USCGS: 17.4°N, 61.1°W H = 20 ^h 03 ^m 10.9 ^s h = 24 km Mag: 6.4
	iP	n	20 09 18.8		
	iP	e	20 09 20.2		
	eP	N	20 09 23		
	eS	N	20 14 15		
	e	E	20 14 34		
	e	E	20 15 14		
24	iP	e	21 38 37.4		USCGS: 17.4°N, 61.3°W H = 21 ^h 32 ^m 31.3 ^s h = 20 km Mag: 5.9
	iS	n	21 43 45.9		
25	ePR ₁	E	01 43 37		USCGS: 5.3°S, 153.7°E H = 01 ^h 23 ^m 33.6 ^s h = 64 km Mag: 6-3/4 - 7 Pas.
	iPR ₁	e	01 43 37.6		
	eSKS	E	01 49 08		
	eSKKS	E	01 50 32		
	ePS	E	01 53 24		
	eSR ₁	N	01 59 57		
25	iP	n	10 51 58.0		USCGS: 21.5°S, 70.4°W H = 10 ^h 41 ^m 31.6 ^s h = 53 km Mag: 5.8
	iP	n	10 51 59.0		
	iP	e	10 51 59.5		
	eS	E	11 00 22		
	e	E	11 01 48		
	e	E	11 02 09		
26	eP	E	09 36 32		USCGS: 44.5°N, 129.7°W H = 09 ^h 29 ^m 38.5 ^s h = 33 km Mag: 5.1
	eS	E	09 42 10		
26	eP	E	10 47 35		USCGS: 44.5°N, 129.7°W H = 10 ^h 40 ^m 40.6 ^s h = 33 km Mag: 5.0
	eS	E	10 53 19		
27	iP	e	09 28 13.0		USCGS: 21.2°S, 68.3°W H = 09 ^h 17 ^m 55.7 ^s h = 135 km Mag: 6.4
	iP	n	09 28 13.4		
	ipP	N	09 28 39.8		
	eS	E	09 36 35		
	iS	e	09 36 35.5		
	esS	E	09 37 23		

DECEMBER, 1967 (cont'd.)

<u>Date</u>	<u>Phase</u>	<u>Component</u>	<u>GMCT</u>	<u>Motion</u>	<u>Remarks</u>
27	eS	N	16 ^h 49 ^m 09 ^s		USCGS: 22.3°S, 174.8°W
	ePS	E	16 50 47		H = 16 ^h 22 ^m 48.5 ^s
	eSR ₁	N	16 56 35		h = 33 km Mag: 6.1
28	iP	e	06 33 06.1		USCGS: 44.2°N, 128.8°W
	iP	n	06 33 13.7		H = 06 ^h 26 ^m 15.8 ^s
	eS	E	06 38 34		h = 33 km Mag: 5.4
28	iP	e	07 08 33.5		USCGS: 44.2°N, 129.0°W
	e(S)	E	07 13 54		H = 07 ^h 01 ^m 36.8 ^s h = 33 km Mag: 4.9