

JULY-DEC-ONLY

SCOTT BASE

77° 51'S 166° 48'E

ELEVATION, 109 feet.



SEISMOLOGICAL BULLETIN

JULY 1957

Instrument	Component	Symbol	To(sec)	Tg(sec)	Film Speed (15 mm/min) as viewed on screen
Benioff	Vertical	z	0.6	0.2	120
		Z	0.6	25.0	120
Benioff	Horizontal N - S	n	0.5	0.2	120
		N	0.5	10.0	120
Benioff	Horizontal E - W	e	0.6	0.2	120
		E	0.6	25.0	120

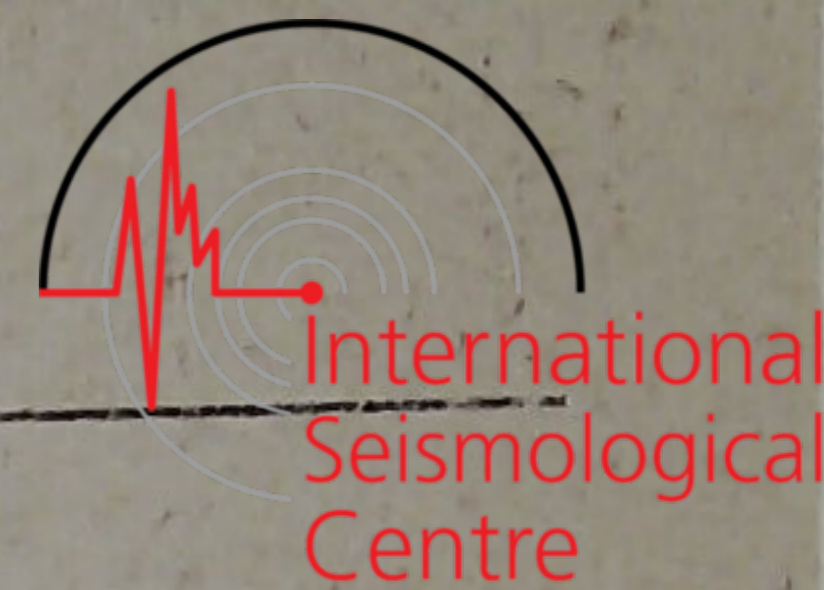
Recordings on 35 mm film and enlarged 8 times in viewer.
Amplitudes as measured from screen.

First Movements: + indicates ground movements towards north,
east, or upwards (compression).

- indicates ground movements towards south,
west, or downwards (dilatation).



No.	Day	Phase	h. m. s.	T (sec)	A (mm)	Remarks:
1	1	eP z	02 32 03	$\frac{1}{2}$		
		eX z	33 14	$\frac{1}{2}$		
2		iP z	06 36 23	$\frac{1}{2}$		
3		eX z	13 18 10			Very weak.
4		eX z	13 31 14	1		Weak.
5		eP z	19 44 52	$\frac{1}{2}$		
		ePKP z	48 59	1		Could be PP.
		eX z	20 00 01	1		
6	2	ePKP z	00 04 55			
7		iPKP z	01 01 32	1.6	$+2\frac{1}{2}$	
		iPP z	03 46	2	$-1\frac{1}{4}$	
		eL Z	53.0	20		
8		eP z	07 55 06			
9		eX z	14 56 54			
10		eP z	15 08 11			
11		eP z	22 03 52			
12	3	iP z	06 11 19	0.8	$-1\frac{1}{2}$	
		iPcP z	12 14	0.5	-1	
		epP z	13 05			
		iScP z	15 21	0.6	$+\frac{1}{2}$	



No.	Day	Phase	h. m. s.	T (sec)	A (mm)	Remarks:
13	3	ePKP z	12 43 45	$1\frac{1}{2}$		
14		eX z	12 56 25			Very weak arrival.
15	4	iP z	08 41 07	1		
16		eP z	09 54 17	$\frac{1}{2}$		
17		eP z	14 23 09			Very weak and emergent.
18		eX z	16 05 20			Very weak.
19		eP z	23 12 00			
20	5	eX z	00 34			Near tremor.
21		eP z	06 35 27	1		
		eX z	36 19	1		
22		iP z	12 42 32	1	+1	
		ePcP z	44 00	$\frac{1}{2}$		
		eS N	49 33	5		
23		eX z	16 59 30			
24		eX z	20 19 53			
25	6	iP z	00 31 53			Weak.



No.	Day	Phase	h. m. s.	T (sec)	A (mm)	Remarks:
26	7	eX	z.en. 09 58 11			Local.
27		eP	z 15 46 49			
28		iP	z 16 22 38	1	+2	
		eS	E 31 58	7		
		eX	N 32 21	5	1	
		eScS	N 32 43	5	1 $\frac{1}{4}$	
		eX	z 33 30			
		eL	Z 46.0	20		Surface waves not well developed.
29	9	eP	z 10 10 07	1		
		eX	N 19.0			
		eL	Z 38.0	20		
30	11	eX	z 18 50 54			
31		eX	z,e 00 02 02			
32		iP	e 04 16 29			Local.
33		eX	z 21 08 09			
34		eX	z 22 10 35			Very emergent.
35		eX	z 22 16 49			Very emergent.
36	13	iP	z 01 50 38			



No.	Day	Phase	h. m. s.	T (sec)	A (mm)	Remarks:
37	13	eP z	09 42 39			
		iX z	40			
38		eP z	14 09 13			
39		eP z	14 34 53			
40		eP z	16 11 22			
41	14	ePKP z	02 45 50			
42		iP z	06 32 49	0.8	+11	
		iP N	32 49	2	-4	
		ipP z	33 32	2	-6	
		eX z	34 01	1½	4	
		eX Z	35 26	7		
		iScP z	37 36	2½	+2	
		iS N	39 59	6½	+7	
		eX z	40 05	3	½	
		iScS N	42 20	6½	-4	
		eL Z	53.0	15	1½	
43		eP z	07 02 52			
44		iP z	08 19 38	1	+4	
		iP N	19 39	5	-3	
		eX z	23 35	2-3		
		iS N	26 44	6	-9	
		eX N	27 48	9		
		eX N	30 04	7		
		eX N	30 54	7		
		eL Z	34.0	30	1½	Dispersion of surface waves.



No.	Day	Phase	h. m. s.	T (sec)	A (mm)	Remarks:
45	14	iP z	09 52 26	1	+1	
46	15	eP z	12 48 02	1		
47	16	eP z	04 30 19			Weak.
48		eP z	17 09 19			Weak.
49	17	eX z	03 22 35			
50		eP z	05 24 39			
51		iP z	11 21 00	1	+9	
		iP N	00	5	-4	
		iP e	00	0.8	+1	
		iX z	21 54	1	-1½	
		eX N	27 37	7		
		iS N	29 46	4	-4	
		eScS E	30 35	7		
		eX E	32 14	7		
	eL Z	46.0			Not well developed.	
52		eX z	11 49 34			
53		eP z	12 38 06	½		
54		eX z	12 50 40			
55	18	eX z	00 41 52			



No.	Day	Phase	h. m. s.	T (sec)	A (mm)	Remarks:
56	18	eX z	09 07 10			Weak.
57		eX z	10 09 01			Weak.
58		eX z	11 22 40	1		
59		iP z	13 32 48	1	+1	
60		iP z	19 07 46			
61		iP z	19 47 31			
		eS N	50 25			
62		eX z	20 01 15			
63		eX z	21 52 14			
64	19	ePKP z	13 20 29			
65		eX z	14 46 18			
66		eP z	20 37 53			Weak.
67		eP z	21 48 33			
68	20	eP z	10 07 36			
		iP z	37	1	$+\frac{3}{4}$	
		eS N	17 33	$5\frac{1}{2}$	$\frac{3}{4}$	
69		iP z	11 22 45			



No.	Day	Phase	h. m. s.	T (sec)	A (mm)	Remarks:
70	20	eX z	13 07 47			
71		eP z	15 48 53	1		
		iPcP? z	49 09	1	+	
72		eX z	19 03 40			Very weak.
73		eX z	21 00 48			
74		eX z	21 20 26			
75	21	eP z	00 34 29			
76		eP z	06 02 54	1		Very emergent.
		eX z	03 06	$2\frac{1}{2}$		
		eX z	03 24	4		
		eL Z	07.4			Dispersion of Surface Waves.
77		eX z	06 15 20	3		
78		eP z	06 47 07	1		
79		iP z	07 11 47	$\frac{1}{2}$	-	
80		eP z	13 26 10			
81		iP z	19 46 08	1	$-\frac{3}{4}$	
82	22	iP z	06 25 20	1	+1	
		ipP z	25 28	$\frac{3}{4}$	-4	
		iPcP z	26 58	$\frac{3}{4}$	$+3\frac{1}{2}$	



No.	Day	Phase	h. m. s.	T (sec)	A (mm)	Remarks:
82	22	eS N	32 02	$6\frac{1}{2}$		$1\frac{1}{2}$ cycles only, rather spiked phase.
83		eP z	06 30 17			
		ipP z	30 25	$\frac{3}{4}$	$-1\frac{1}{2}$	
		iPcP z	31 53	$\frac{1}{2}$	+1	
84		eP z	10 45 35	$\frac{1}{2}$		
85	23	ePKP z	01 04 19			
		eSKP z	07 40			
		eL Z	53.1			Not well developed.
86		eP z	06 30 34			
		eX z	31 38			
87		eX z	13 38 52			
88		eX z	22 37 33			
89	24	eP z	02 08 28	3		
90		eP z	02 36 42	1		
91		eP z	06 13 38	$\frac{1}{2}$		
92		eX z	06 22 42			
93		iP z	10 07 06	1	$+\frac{3}{4}$	
94		iP z	10 58 48	$\frac{3}{4}$	$-\frac{1}{2}$	



No.	Day	Phase	h. m. s.	T (sec)	A (mm)	Remarks:
95	24	eP z	11 12 38	$1\frac{1}{4}$		
		iX z	47	0.8	$+1\frac{1}{2}$	
		eS N	20 54	4	1	
		eS e	56	4		
		eX N	21 48	5	1	
		eL Z	32.0	15		Surface Waves with Dispersion.
96		eX z	14 52 38			
97	25	eP N	01 06 25			Local.
98		iP z	11 16 06	$\frac{1}{2}$	$+\frac{3}{4}$	
99		eX z	22 50 25			
100	26	eP z	06 57 45			
101	27	eX z	06 48 50	$\frac{1}{2}$		
102		eP z	14 19 07	1		
103		iP z	14 55 25			
104		iP z	18 54 27	1	$-\frac{3}{4}$	
105	28	eX z	01 41 17	$\frac{1}{2}$		
106		eX z	02 58 29	$\frac{1}{2}$		



No.	Day	Phase	h. m. s.	T (sec)	A (mm)	Remarks:
107	28	eX z	05 44 47			
108		eP z	08 54 39	2		Very emergent.
		iPP Z	59 05	5	-3	
		iPP z	59 07	2.6	+2	
		iX z	59 20	4 $\frac{1}{2}$	-2 $\frac{1}{2}$	
		eX Z	09 00 00	10		
		eSKS N	05 14			
		eX z	09 49			Possibly different seism.
		eL Z	14.5	25	12 $\frac{1}{2}$	Dispersion of Surface Waves.
109		eX z	13 22 22			
110	29	eX z	00 43 24			
111		eX z	09 21 56			
112		eX z	10 05 42			
113		eX z	15 59 07			
114		iP z	17 26 53	1	+1	First movement in time mark.
		eS n	36 27	5		
		eS e	36 27	5		
		eL Z	50.8			
		ePKPPKP z	54 18	2		
115	30	eX z	02 23 13	2		
116		eX z	02 38 08			



No.	Day	Phase	h. m. s.	T (sec)	A (mm)	Remarks:
117	30	eX z	05 57 13			
118		eX z	07 50 20			
		eX z	51 09			
119		eX z	08 11 39	1		
120		eX z	17 05 51			
121		eX z	20 56 50			
122	31	eP z	07 44 30	1		
123		eX z	10 54 00	$\frac{1}{2}$		Near or local.
124		iP z	20 18 07	$\frac{1}{2}$	$+1\frac{1}{2}$	

SCOTT BASE

77°51'S 166°48'E.

ELEVATION, 109 feet.



SEISMOLOGICAL BULLETIN

AUGUST, 1957

INSTRUMENT	COMPONENT	SYMBOL	To(sec.)	Tg(sec.)	FILM SPEED (15mm/min) As viewed on screen.
Benioff	Vertical	z	0.6	0.2	120
		Z	0.6	25.0	120
Benioff	Horizon- tal N - S	n	0.5	0.2	120
		N	0.5	10.0	120
Benioff	Horizon- tal E - W	e	0.6	0.2	120
		E	0.6	25.0	120

Recordings on 35 mm. film and enlarged 8 times in viewer.
Amplitudes as measured from screen.

- First Movements: +. Indicates ground movements towards North,
East, or Upwards (compression).
- Indicates ground movements towards South,
West, or Downwards (dilatation).



No.	Day	Phase	h. m. s.	T (sec.)	A (mm.)	Remarks:
1	1	eP z	05 52 33			Near?
2		eP z	17 06 17			
		iP z	18	1	+	
3		eX z	20 16 32			
4		eX z	21 30 59			
5	2	eP z	02 20 12	1		
6	3	eP z	03 46 16			Near.
7		eP z	06 55 37			
8		eP z	08 24 45			
9		eP z	09 56 18			Local or near quake.
10	4	eP z	00 50 55			
		eX z	51 03			
11		eP z	02 31 22			
12		eX z	09 34 47	$1\frac{1}{2}$		
13		iP z	21 18 12	1	+	
		ipP z	18	$1\frac{1}{4}$	$+1\frac{1}{2}$	
		eX N	20 54			



No.	Day	Phase	h. m. s.	T (sec.)	A (mm.)	Remarks:
13		eS E	26 02	10		
		eX E	27 35	6		
		eL E	34.4			Not well recorded.
14	5	eP z	04 39 13			
15		eP z	08 24 18			
16		eP z	21 38 52			
17	6	eP z	04 14 36			Near.
18		eP z	05 19 32			Near.
19	7	eP z	04 46 22	$\frac{3}{4}$		
20		eX z	05 00 15	$\frac{1}{2}$		
21		eP z	09 02 37			Weak.
		epP z	49			
22		eX z	10 23 48			
23		eX z	16 28 49			
24		iP z	19 50 00	1	-? $1\frac{1}{2}$	First movement in time mark.
		epP z	51 51	1		
		eS N	57 31	5	1	



No.	Day	Phase	h. m. s.	T (sec.)	A (mm.)	Remarks:
25		iP z	19 58 27	$\frac{1}{2}$	+	
			37	$\frac{1}{2}$		
26		eX z	21 26 35			
27	8	eP z	03 30 20			Local, with crustal phases?
28	9	iP z	02 41 19	1	$-2\frac{1}{4}$	
		iP e	19	1	$-\frac{3}{4}$	
		eX N	45 29			
		eS e	51 18			
		eL Z	03 05			Poorly developed surface waves.
29		eX z	22 02 46			
30	10	eP z	00 05 54			
31		eX z	02 06 58			
32		iP z	02 27 31	1	$+1\frac{1}{2}$	
		ipP z	29 28			
		eS N	34 44			
		eX N	35 36			
33		eP z	04 06 08			
34		eP z	12 12 54			



No.	Day	Phase	h. m. s.	T (sec.)	A (mm.)	Remarks:
35		eP z	19 24 51			
		eS N	34 46	5		
36	11	iP z	05 20 15	1	$-\frac{3}{4}$	
		ipP z	24	1	-2	
		eX z	36	$2\frac{1}{2}$		
		eX z	25 57	1		Different seism?
		eScS N	30 08	7		
37		eX z	13 48 56			
38		eP z	21 48 13			
		ipP z	20	2	-2	
		eS N	56 28	4	$1\frac{1}{2}$	
		eS e	31	$4\frac{1}{2}$		
		eL Z	22 08.0	25		
39		eP z	22 12 35			
		eX z	17 48	2		
40	12	eP z	07 21 36			
41		eP z	10 35 07			
42		eXz e	15 18 10			
43	13	eX z	03 21 51			
44		eX z	06 22 55			



No.	Day	Phase	h. m. s.	T (sec.)	A (mm.)	Remarks:
45		eX z	08 15 51			
46		ePKP z	12 19 27			
47		eP z	12 29 17			
48		eP z	14 55 36			
49	14	eX z	01 33 13			Very weak.
50		eP z	03 47 50			Local.
51		eP z	04 06 10			Local.
52		eP z	05 26 26			Local.
53		iP z	18 36 27	0.8	+1	
		ePe n	27			
		ipP z	36 39	1	-1	
		epP e	39			
		eX z	37 13			
		eX Z	45.0	10		
54	15	eP z	06 12 05			Local.
55		eX z	12 07 34			
56		eP z	18 29 35			Local.



No.	Day	Phase	h. m. s.	T (sec.)	A (mm.)	Remarks:
57		iP z	20 56 05	1	$-1\frac{3}{4}$	
		iP e	05		--?	
		eP n	06			
		eS N	21 04 59	$5\frac{1}{2}$	$1\frac{1}{2}$	
58	16	eP z	03 37 36			
		epP z	38 02			
59		eP z	12 08 47			
		epP z	09 11			
60		eP z	14 59 14			Very weak.
61		eX z	17 44 19			
62		eP z	18 38 52			
63		eX z	23 46.8			Very weak and emergent.
		eL Z	24 19.5			Dispersion of surface waves.
64	17	eP z	02 33 23			
65		eX z	04 28 25			
66		eX z	04 37 30			
67		iP z	12 18 36		+	
68		eX z	18 36 53			
69		eX z	18 43 19			



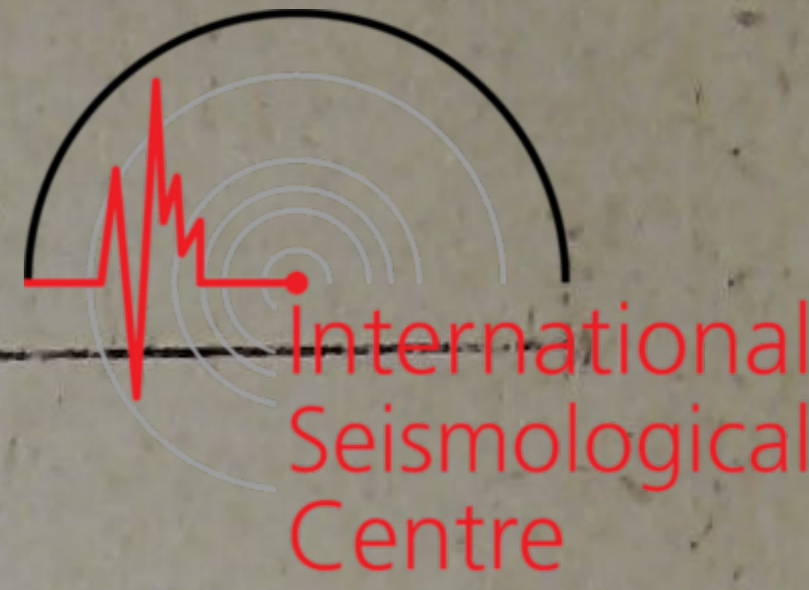
No.	Day	Phase	h. m. s.	T (sec.)	A (mm.)	Remarks:
70		eZ z	19 43.6			
71	18	eX z	00 11 52			Weak.
72		eP z	06 40 00	1		
		eX N	42 03	5		
		eS Z	44 36			
		eS E	44 50			
		eL	46 35			Dispersion of surface waves.
73		eP z	08 50 14	2		
		eS E	09 01 20	7		
		eX e	02 25			
74		eP z	16 11 46			
75		iPKP z	22 01 35	1	+	
		eSKP z	04 48			
76	19	eP z	00 22 49			
77		iP z	02 52 43	1	+	
78		eX z	07 20 15	1		Weak with indefinite onset.
		eX z	26 40			
79		eP z	11 45 38			
80		eP z	20 29 55			Local.



No.	Day	Phase	h. m. s.	T (sec.)	A (mm.)	Remarks:
81		ePKP z	21 51 03			
		eSKP z	54 21			
82	20	eP z	04 54 27	1½		
		eP e	54 30			
		eL N	05 02.1			Dispersion of surface waves.
83		eP z	05 48 21			Local.
84		eP z	06 38 07			
		eP e	38 12			
		eS e	47 05			Very weak and emergent.
		eL Z	07 02.5			Weak surface waves.
85		eX z	11 24 12			Very weak.
86		eP z	12 12 54			
		eP e	58			
		eS E	21 53	10		
		eS N	56	8		
87		eX z	18 52 39			
88		eX z	23 07 51			
89	21	eP z	05 55 16	1		
		eP N	19			
		epP z	25			
		ePcP z	57 33	2		



No.	Day	Phase	h. m. s.	T (sec.)	A (mm.)	Remarks:
90		eX z	14 49 04			
		eX e	12			
		eXN n	17			
91		eP z	17 49 06			
92		eP z	19 50 15			
93	22	ePz e	03 18 08			Local.
94		iP z	04 56 25		+	
95		iP z	08 07 28	$\frac{1}{2}$	+	
		eP e	28			
96		ePz e	09 40 03			Local.
97		iP z	15 39 38			
98		eX z	16 46 31			
99		iP z	16 54 02	2	$+2\frac{1}{2}$	
		ePn e	03			
100		eX z	18 43 50			
		eX z	47 53			
101		iP z	19 04 13	$\frac{3}{4}$	+	
102		eP z	21 35 03			Local.
103		eX z	22 28 20			



No.	Day	Phase	h. m. s.	T (sec.)	A (mm.)	Remarks:
104	23	iP z	02 11 35	1	-1	
		eP e	35			
		ipP z	51	1	$-1\frac{1}{2}$	
		eScS N	21 27	8		
		eScS E	21 35	10		
		iX N	22 22	8	-	
105		iP z	02 43 45	1	+	
106		eP z	04 18 54			
107		iP z	13 45 12	$1\frac{1}{2}$	+	
		eP e	12			
		epP z	36	$1\frac{1}{2}$		
108		eP z	16 26 52	$\frac{3}{4}$		
109		eP z	20 19 48			
110		iP z	23 02 50	$\frac{1}{2}$	+	
111	24	eP z	01 12 16			
112		iX z	01 38 43			
113		eX z	01 56 45			
114		eP z	08 28 40			Local.
115		eP z	09 47 19			Local.
116		eP z	10 16 57			Local.



No.	Day	Phase	h. m. s.	T (sec.)	A (mm.)	Remarks:
117		eP z	10 50 18			Local.
118		eP z	11 52 57			Local.
119		eP z	15 13 02			
120		iPz e	15 55 57			
121		eX z	17 04 19			
122		eX z	23 12 00			
123	25	eX z	12 49 17			Local.
124		eX z	14 01 26			
125		eP z	15 04 02			
126		iP z	15 24 28	2	-4	
		iP N	29		-	
		iP e			-	
		eL E	28.0	12		
127		eX z	18 43 34			
128		eP z	21 23 15			
129	26	eX z	04 48 42			
		eX e	46			
130		ePKP z	07 12 25			



No.	Day	Phase	h. m. s.	T (sec.)	A (mm.)	Remarks:
131		eX z	11 14 07			
132		iP z	11 41 02	$1\frac{1}{2}$	+1	
		eP e	03			
		eS N	50 44			
		eL Z	12 14.0	20	2	Dispersion of surface waves.
133		eX z	11 59 50			
134		eX z	12 07 55			
135		eP z	14 12 02	$1\frac{1}{2}$		
136		iP z	20 04 56	1	+	
137	27	eX z	03 32 35			
138		eX z	19 36 41			
139		iP z	21 04 50	1	+2	
140		iP N	21 04 50	1	-	
		eX z	05 18			
		eX z	08 48			
		eS N	11 37			
141	28	iP z	08 28 16	$1\frac{1}{2}$	$-1\frac{3}{4}$	
		eP e	18			
142		eP z	20 38 54			Local.

No.	Day	Phase	h. m. s.	T (sec.)	A (mm.)	Remarks:
143	29	ePe n	14 11 28	1		
		eP z	29	1		
144	30	eP z	03 59 43			
145		eP z	09 39 30			Local.
146		eP z	17 12 17			Local.
147		eX z	20 22 00			
148	31	eX z	10 10 35			
149		eX z	12 05 30			
150		eX z	17 04 29			
151		eX z	17 58 00			

SCOTT BASE

77° 51'S 166° 48'E

ELEVATION, 109 feet.



SEISMOLOGICAL BULLETIN

SEPTEMBER 1957

Instrument	Component	Symbol	To(sec)	Tg(sec)	Film Speed (15 mm/min) as viewed on screen.
Benioff	Vertical	z	0.6	0.2	120
		Z	0.6	25.0	120
Benioff	Horizontal N - S	n	0.5	0.2	120
		N	0.5	10.0	120
Benioff	Horizontal E - W	e	0.6	0.2	120
		E	0.6	25.0	120

Recordings on 35 mm film and enlarged 8 times in viewer.
Amplitudes as measured from screen.

First Movements: + indicates ground movements towards north,
east, or upwards (compression).
- indicates ground movements towards south,
west, or downwards (dilatation).



No.	Day	Phase		h. m. s.	T (sec)	A (mm)	Remarks:
1	1	eX	z	11 07 25			
2	2	eP	z	00 13 27			
3		eP	z	05 48 08			
		eP	e		10		
		eP	N		18		
4		eP	z	09 57 05			
		ePe	N		09		
		eS	N	10 05 44			
5		ePKP	z	14 39 23			
		eSKP	z		42 44		
6		eP	z	20 29 50			
7		eX	z	21 46 13			
8	3	eP	z	06 17 32			
		eP	e		36		
9		iP	z	14 49 17			+
		eP	e		17		
10		eP	e	21 57 45			
		eP	z		48		
		eP	n		52		



No.	Day	Phase		h.	m.	s.	T (sec)	A (mm)	Remarks:
11	4	eP	z	01	42	12			
12		eP	z	04	42	22			
13		eX	z	11	38	27			Weak.
14		eP	z	12	38	28			
15		eP	z	22	47	56			Weak.
16	5	eP	z	01	34	29			Weak.
17		eP	z	03	20	55			
18		eX	z	07	13	18			
19		eXz	e	07	27	25			
20		iP	z	07	29	15		+	
21		eP	z	07	34	10			
22		eXz	e	07	46	30			
23		ePKP	z	11	55	06			Weak.
24		eP	z	14	02	23			
25		eP	z	19	10	27			



No.	Day	Phase	h. m. s.	T (sec)	A (mm)	Remarks:
25	6	eP z	00 29 42			
27		ePKP z	05 13 44			
28	7	ePKP z	07 07 40			
29		ePKP	10 25 54			
		eX z	26 06			
		eSKP z	29 14			
30		eX z	11 03 34			
31	8	eX z	03 26 31			
32		eP z	08 53 17			
33		eX z	09 40 16			
34		eP z	13 30 25			
35	9	iP z	00 20 58	1	+1	
		eP e	58	1		
		eP N	21 03			
		eS e	27 05			Very emergent.
		eL Z	29.0			Dispersion well displayed
36		iP z	05 03 42	1	+	



No.	Day	Phase	h. m. s.	(T (sec))	A (mm)	Remarks:
37		iP z	09 11 06	$1\frac{1}{4}$	$+\frac{3}{4}$	
		eP e	07	$1\frac{1}{4}$		
38		ePz e	12 21 38			
39	10	ePz e	07 03 39			Near?
40		eX z	17 40 46			Weak.
41	11	eP z	13 25 00			
42		iP z	13 51 03	$\frac{3}{4}$	$+1\frac{1}{4}$	
		iP e	03	$\frac{3}{4}$	-1	
		epP z	52 52			
43		iP z	23 32 40	1	+1	
		iP e	40	1	-1	
		iP N	40		-	
		ipP z	50		+	
44	13	eP e	09 12 13			
45		eP e	12 55 08			
46		eP z	16 33 20			
		ipP z	34 30		+	



No.	Day	Phase	h. m. s.	T (sec)	A (mm)	Remarks:
47	14	ePze n	12 41 09			
		eX N	37			
		eL Z	45.7			Dispersion of surface waves.
48	15	iP z	04 34 01		+	
		iP e	01		+	
		iS E	43 32		+	
		eScS E	51			
49		ePz e	18 53 41			
		eS e	19 02 12			
50	17	eP e	13 46 11			
51		eP e	14 34 18			
52		eX e	20 36 48			Near.
53	19	iP z	01 04 55		+	
54	20	eP z	10 09 36			Weak.
55		iP z	11 36 57			
56		ePz e	16 14 22			
57	20	eX z	17 06 40			



No.	Day	Phase	h. m. s.	T (sec)	A (mm)	Remarks:-
58		eP z	18 56 23			
59	23	iP z	09 34 17		+	
60		iP z	18 54 40		+	
61	24	eP z	01 55 05			
62		iP Z	08 33 48	3	+2	
		ePe n	52			
		ipP z	34 02	1 $\frac{1}{4}$	-3	
		iX Z	13	2 $\frac{1}{2}$	-2 $\frac{1}{4}$	
		iPP z	37 04	1 $\frac{1}{2}$	+2 $\frac{1}{2}$	
		iX N	26	2	+4	
		iX N	43 57	3	-1 $\frac{1}{2}$	
		iX Z	44 20	5 $\frac{1}{2}$	+1	
		iS N	44 31	5 $\frac{1}{2}$	+5	
		ePKKP z	51 29			
	ePKPPKP z	09 00 01				
	eL Z	03.5			Surface waves with dispersion.	
63		eX z	09 20 13			Very weak.
		eX z	32	2 $\frac{1}{2}$		
64		eP z	09 23 15			
65		eX z	17 28 01			Near tremor.
66	25	eP z	16 49 25			
		eS N	59 51			



No.	Day	Phase	h. m. s.	T (sec)	A (mm)	Remarks:
67	26	eP z	10 20 35			
68		iP z	12 10 11	1	-4	
		iPn N	11			
		eP e	12			
69		iP z	18 59 27		-	
		eP n	30			
		eS N	19 10 27			
70	27	eXze n	02 52 42			Near?
71		eP z	04 20 32			
		ePe n	37			
		eS N	30 39			
72		eP z	04 30 55			
		ePe n	58			
73		ePKP z	05 18 18			
74		eP z	06 09 00			
		ePn e	02			
75		eP z	11 40 29			
76		eXze n	14 50 10			Near?
77		iPz e	22 48 31			
		eP n	31			

No.	Day	Phase	h. m. s.	T (secs)	A (mm)	Remarks:
78	28	ePKPz e	00 45 09			
79		eP z	04 23 14			
80		iP z	14 29 02	$\frac{1}{2}$	-13	
		iP e	02	$\frac{1}{2}$	+14	
		iP n	02	$\frac{1}{2}$	+4	
		ipP Z	30 54	7	+4	
		ipP N	54	7	-7	
		ipP z	58	1	-3	
		iX z	31 02	1	-7	
		iX N	32 23	2	$-4\frac{1}{2}$	
		iPPP z	48	3	-3	
		eS z	36 20			
		iS E	21	10	+7	
		iS N	22	$4\frac{1}{2}$	+26	
		iS e	22		+	
		iScS E	37 52	9	+5	
		iScS N	53	8	-15	
		iScS e	55		-	
		isS N	39 47	11	+12	
	isS E	47	9	-4		
	iSS N	40 35	5	-6		
	ePKPPKP z	58 24	$1\frac{1}{2}$			
	eX z	45	3			
81	28	iP z	14 40 56		+	
		ePe n	56			
82		iP z	14 53 06		+	



No.	Day	Phase	h. m. s.	T (sec)	A (mm)	Remarks:
83		ePze n	23 35 22			
		iP z	24		+	
84	29	eP z	02 12 38			
		iP z	39		-	
		ePNn e	39			
		eX n	13 29			
		eL E	16.7			Surface waves with dispersion.
85		eX z	06 48 45			Near?
86		iP z	06 49 32		+	
87		iP z	07 15 15		+	
88		iP z	08 21 50	1	+6	
		eP n	50			
		iP N	51	$1\frac{1}{2}$	-	
		iP Z	51	$1\frac{1}{2}$	+	
		iS e	28 41	$2\frac{1}{2}$	+5	
		eS n	41	$2\frac{1}{2}$	2	
		iS E	42	4	$+1\frac{1}{2}$	
		iS N	44	3	-8	
		eScS e	30 42	3		
89		eX z	10 23 28			Near?
90	30	eP z	03 11 39			

No.	Day	Phase	h. m. s.	T (sec)	A (mm)	Remarks:
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91		eP z	12 18 50			
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92		eP z	13 55 44			
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SCOTT BASE
77° 51'S 166° 48'E
ELEVATION, 109 feet

77.85
166.8



SEISMOLOGICAL BULLETIN

OCTOBER 1957

Instrument	Component	Symbol	To(sec)	Tg(sec)	Film Speed (15 mm/min) as viewed on screen
Benioff	Vertical	z	0.6	0.2	120
		Z	0.6	25.0	120
Benioff	Horizontal N - S	n	0.5	0.2	120
		N	0.5	10.0	120
Benioff	Horizontal E - W	e	0.6	0.2	120
		E	0.6	25.0	120

Recordings on 35 mm film and enlarged 8 times in viewer.
Amplitudes as measured from screen.

First Movements: + indicates ground movements towards north,
east, or upwards (compression).
- indicates ground movements towards south,
west, or downwards (dilatation).

Handwritten: 7/25/59



No.	Day	Phase	h. m. s.	T(secs)	A(mm)	Remarks:
1	1	iP z	07 23 50			
2		eXze n	09 35 48			Near.
3		eXze n	22 23 57			Near.
4	2	eP z	11 37 48			Very emergent.
5		ePKP z	12 46 54			Very weak and emergent.
6		eP z	20 51 32			
		ePen N	36			
		eS N	58 31			
		eL E	21 09.5			
7		eP z	21 11 21			
8	3	ePze n	06 09 59			
9		eP z	13 54 03			
10		eP z	14 09 08			
11	4	iP z	01 10 10			
		ePcP z	11 05			
12		ePKP z	05 44 48			Very emergent.
		eL Z	06 16.0			
13		eP z	07 05 48			Coda of 8 minutes.



No.	Day	Phase	h.	m.	s.	T(secs)	A(mm)	Remarks:
14		eP z	08	25	41			
15		eXze n	09	48	45			Near?
16		eP z	12	24	55			
17		eP z	20	57	45			
18		eXze n	23	09	50			Near?
19	5	ePKP z	00	14	54			
		eSKP z		18	02			
20		ePKP z	11	56	15			Weak.
21		eXze n	14	32	10			Near?
22		eP z	16	17	15			Very emergent.
23		iP z	21	17	08		+	
		iP e			08		-	
		eP n			09			
24	6	ePze n	12	58	13			Near.
25	7	ePz e	04	03	49			
26		eX z	13	28	35			



International
Seismological
Centre

No. Day Phase h. m. s. T(secs) A(mm) Remarks:

27 iP z 16 57 49 +
ePen N 49

Oct 8th - Blizzard inter-
fered with recording.

28 10 iP z 03 55 40 1 +2
ePe n 40

29 iP z 18 53 32 1/2 +
iP e 32 -
eP n 32
iPcP z 54 26 +
iPcP e 26 -

30 11 eP z 20 38 52 Very weak arrival.

31 12 eP z 16 54 36
eP e 39

32 iP z 19 08 47 +
iP e 47 +
eP N 49
iS N 18 21 -
eX N 20 07

33 14 eP z 03 21 44

34 iP z 14 19 58 +



No.	Day	Phase	h. m. s.	T(secs)	A(mm)	Remarks:
35	15	iP z	06 03 53		-	
		iP e	54		-	
		eP n	54			
		ePcP z	05 15			
36		ePze n	09 51 54			
37	17	ePKP z	14 57 21			
		ePKP e	24			
38		eX e	18 03 13			
39	18	eP z	13 53 30			Near?
40		iP z	19 18 32	1	-	
		eP n	32			
41		ePz n	19 51 30			Near?
42	19	ePz e	13 01 43			Near?
43		ePKP z	18 47 15			Very emergent.
		ePKPn e	30			
44	20	eP z	06 50 17			Near?
45		eX z	12 33 55			Very weak and emergent.



International
Seismological
Centre

No.	Day	Phase	h. m. s.	T(secs.)	A(mm)	Remarks:
46		iP z	16 05 39			
		eP n	39			
		eP e	40			
		eX N	09 29			
47		eP z	21 40 08			
		eP e	12			
48	21	eP N	00 28 14			Short Period recorders off.
		eS N	37 07			
49		eP z	07 13 31			
50		eP z	15 14 35			
51	24	iP z	00 02 28			
		eP n	28			
52		eP z	00 28 08			
		eP n	09			
		eP e	12			
53		iP z	09 16 37	.4	+2	
		eP n	38			
		eP e	38			
		eX z	50			
		iPcP z	17 15	.3	-2	
		iPcP e	15	.3	+3	
		iPcP n	15	.3	-	
		epP z	18 27			



No.	Day	Phase	h. m. s.	T(secs)	A(mm)	Remarks:
53		eX z	20 30			
		iS N	24 00	5	+2½	
		eScS N	25 34	4	1	
		eSS E	27 15	9		
54		eP z	20 18 23			
		eP e	23			
		eP n	23			
55	25	iP z	04 42 35	½	-7	
		iP e	35	½	-2	
		iP n	35	½	-4	
		iS e	43 09		+30	
		iS n	09		+6	
		eS z	09		6	
56		ePKP z	10 22 37	1½		
		ePKP e	51			
57		eP z	20 51 14			
		eP n	15			
58	26	ePze n	04 43 25			
59		iP z	08 35 16	½	+	
		ePe n	16			
		epP z	37 12			
		iS N	42 37	6	+2	
		eScS N	44 06	4½		
60		ePze n	17 47 02			



No.	Day	Phase	h. m. s.	T(secs)	A(mm)	Remarks:
61	27	iP z	05 51 15		+	
		iP e	15		-	
62		ePKP z	22 51 30	1		
		eX z	40	1		
		eX z	52 17	1		
		eSKP z	54 56			
63		iP z	23 07 47		+	
		iP e	47		-	
64	28	ePze n	08 29 20			
		eS e	55			
65	29	eP z	02 33 48			
66	30	ePzc n	15 15 43			Near.
67		iP e	19 48 14			
68	31	ePze n	02 13 44			
69		ePz e	04 35 20			
70		eP z	10 37 56			
		eP /e	57			



No.	Day	Phase	h. m. s.	T.(secs)	A(mm)	Remarks:
71		ePz	N 15 34 32			
		ePe	n 34			
		eX	N 37 37			
		eL	N 42.1			Dispersion of surface waves.

SCOTT BASE

77° 51'S 166° 48'E

ELEVATION, 109 feet



SEISMOLOGICAL BULLETIN

NOVEMBER 1957

Instrument	Component	Symbol	To(sec)	Tg(sec)	Film Speed (15 mm/min) as viewed on screen
Benioff	Vertical	z	0.6*	0.2	120
		Z	0.6*	25.0	120
Benioff	Horizontal N - S	n	0.5	0.2	120
		N	0.5	10.0	120
Benioff	Horizontal E - W	e	0.6	0.2	120
		E	0.6	25.0	120

*Noted
1/25/57*

Recordings on 35 mm film and enlarged 8 times in viewer.
Amplitudes as measured from screen.

First Movements: + indicates ground movements towards north,
east, or upwards (compression).
- indicates ground movements towards south,
west, or downwards (dilatation).

* Vertical Seismometer period adjusted to 1 second, on 21 November.



No.	Day	Phase	h. m. s.	T(sec)	A(mm)	Remarks:
1.	1	eP zen	20 00 30			Near. ✱
2	2	eP z	16 29 38			Weak. 6°N 127°1/2E
3		iP z	18 41 03	1	+2 1/2	
		eP n	03			
		eS E	49 43			
		iS N	44	4	+2	
		eScS N	51 20			
4	3	iP e	09 58 16			✱
		eP zn	16			
		iS e	19			
5		eP ze	10 36 19			
		eS E	45 52	7		
6		eP e	11 26 03			
7	4	eP en	18 02 42			Near. ✱
8	5	eP zen	00 47 54			
9		eP z	04 03 31			✱
10		eP ze	10 04 13			
		iP z	14		+	
		iP e	14		+	



No.	Day	Phase	h. m. s.	T(sec)	A(mm)	Remarks:
		eP n	14			
		eX E	10 03			
11	6	eP z	00 53 09			Weak.
12		eP ze	05 10 15			Very emergent.
		eS N	20 14			
13		eP ze	06 16 19			
14	7	eP ze	03 09 40			
15		eP ze	04 37 40			
16		eP ze	06 27 39			★ Dispersion of surface waves.
		eL NE	33.9			
17	8	iP z	02 57 51		+	
		eP en	51			
18		iP z	06 29 52		+	
		eP en	52			
19		eP z	10 10 13			
20	9	iP z	19 21 56		+	
21		ep zen	23 50 57			
		iS e	51 01			



No.	Day	Phase	h. m. s.	T(sec)	A(mm)	Remarks:
22	10	eP z	02 47 42			
		eP en	43			
		iX N	52 19	5	+	
		iS E	57 03	10	+1½	
		iS e	04	6	-1½	
		eS N	07	7		
		iScS N	49	5	+2½	
		iScS e	51	2½	-1	
		iScS E	52	7	-	
		eSS E	03 00 19	9		
eL Z	09.9			Dispersion of Surface Waves.		
23		iP z	03 44 58			
		eP en	58			
		iS e	45 07			
24		eP z	03 55 07			
		eP e	14			
		eS e	04 04 30			
		eS N	36			
		iScS N	05 16			
25		iP z	05 37 41	1	+1	
		eP en	41			
26		eP z	06 00 26			
		eP en	30			
		iPPP N	04 48		+	
		iS E	09 55	9	+	
		iS N	57	5	-	
		eL Z	23.5			Weak surface waves.



No.	Day	Phase	h. m. s.	T(sec)	A(mm)	Remarks:
27		eP zen	12 45 12			✱
		iS e	17			
28		eP ze	18 13 48			
29	11	iP z	06 32 44			+
		iP e	46			-
		ipP z	48			
		ePcP z	34 09			
30		eX ze	11 56 55			
31	12	eP ze	00 29 34			
32		eP z	01 43 10			
		eP e	13			
33		eP zen	09 45 22			
34		iP z	17 11 12			-
		eP e	13			
		iPcP z	59			+
35		eP zen	21 42.2			Near. ✱
36	13	iP z	17 31 08	$\frac{3}{4}$		+3
		iP e	08	$\frac{3}{4}$		+3
		iP n	08	$\frac{3}{4}$		-
		iP N	08	4		$-3\frac{1}{2}$



No.	Day	Phase	h. m. s.	T(sec)	A(mm)	Remarks:
		iX z	52		-	
		iPcP z	32 44		-	
		iS N	37 55	10	-6	
		eSS n	41 23			
		iSS E	29			
		eL E	42.9			Dispersion of surface waves.
37	14	iP z	16 44 42		+	
		eP e	43			
		ePcP z	45 21			
38	15	ePKP ze	16 49 36			
39		eP zen	21 12 21			
		iS e	25			
40	16	ePKP z	02 07 57			Weak.
41	17	ePKP z	06 16 08			
42	18	eP zen	12 47.5			Near. ✖
43		iP zen	19 29 59			✖
		iS e	30 02			
44	19	iP z	02 38 14		+	✖



No.	Day	Phase	h. m. s.	T(sec)	A(mm)	Remarks:
		iP e	14		+	
		eP n	14			
		eL	42.9			Surface waves with dispersion.
45		eP ze	16 29 53			Diffracted?
46		eP z	19 37 56			
47	20	ePKP z	12 59 43			Very weak and emergent.
48	21	eP ze	18 09 20			
49	22	eP z	16 08 56			
50		iP z	16 15 16		-	
		iX z	20		+	
		eP en	20			
		iX z	23		+	
51	23	iP z	22 13 48	1	+2	
		iP e	48	1	-	
		eP n	48			
52	24	eP ze	04 56 22			
53		eP z	08 01 19			

X



No.	Day	Phase	h. m. s.	T(sec)	A(mm)	Remarks:
54		iP z	16 12 54			<i>☆</i>
		eP en	54			
		iX z	13 21			
		iX e	27			
55	25	ePKP z	04 30 24			Weak.
56		eP ze	22 47 18			Microseismic level high.
		iX e	29			
		eX n	29			
		eS N	57 28			
		eL Z	23 20.0			Not well developed.
57	26	iP z	05 22 18	2	+1½	
		eP e	18			
58		eP zen	12 33 40			Near. <i>☆</i>
59		iP zen	15 31 18			
		iS n	38			
60		iP z	15 35 53		+	<i>☆</i>
		iP e	53		-	
		eP n	53			
61		eP ze	23 08 25			Near. <i>☆</i>
		eP n	32			
62	27	eP z	03 33 45			



No.	Day	Phase	h. m. s.	T(sec)	A(mm)	Remarks:
		eP e	46			
		epP z	34 13			
63		eP zen	04 10 20			Near. ★
64		iP z	08 45 20		-	
		eP e	20			
65		eP z	14 08 30			
66	28	eP ze	01 41 12			★
		eX e	54			
67		iP z	03 19 41		+	
		eP e	41			
68		eP z	05 22 45			★
						★
69		iP z	11 11 10			<i>Norman</i>
70		eP z	11 54 50			
71		iP z	21 00 40	2	+2	
		eP en	40			
		iP N	41	4	-1½	
		iX z	43		+	
		iX e	43		+	
		eX Z	02 59			
		eS N	09 17			
		eL E	22.9			Not well developed.

No.	Day	Phase	h. m. s.	T(sec)	A(mm)	Remarks:
72	29	eP ze	06 47 04			
73		eP zen	11 00 14			Weak. *
74		eP ze	17 50 14			
75		iP z	21 53 24			
		eP e	24			
76		eiP z	22 31 13	1½	-1½	
		iP z	16	1	-12	
		iP e	16		+	
		iP E	16	6	+2	
		iP n	17		-	
		iP N	17		-	
		iP Z	17	3	-8	
		iPcP N	23	3	+6	
		iPcP n	23	1½	+2	
		iPcP z	24	1	-30	
		iPcP Z	24	3	-22	
		iPP Z	34 02	3	+6	
		iS N	40 45	7	-25	
		iS E	45	9	-2½	
		iScS N	41 11	5	-7	
		iPKKP z	50 28	1	-1	
		iPKPPKP z	58 19	3	-4½	
		iX z	59 20	3	+3	
		iSKPP z	23 01 36	2	-2	
		iX e	03 00	5	-4	
77	30	eP ze	19 41 55			



No.	Day	Phase	h. m. s.	T(sec)	A(mm)	Remarks:
78		eP zen	21 10 52			Very weak.
79		eP ze	22 20 53			
80		eP e	23 24 35			Near?
		eP zn	49			

SCOTT BASE

77° 51'S 166° 48'E

ELEVATION, 109 feet.



SEISMOLOGICAL BULLETIN

DECEMBER 1957

Instrument	Component	Symbol	To(sec)	Tg(sec)	Film Speed (15 mm/min) as viewed on screen
Benioff	Vertical	z	1.0	0.2	120
		Z	1.0	25.0	120
Benioff	Horizontal N - S	n	0.5*	0.2	120
		N	0.5*	10.0	120
Benioff	Horizontal E - W	e	0.6*	0.2	120
		E	0.6*	25.0	120

Recordings on 35 mm film and enlarged 8 times in viewer.
Amplitudes as measured from screen.

First Movements: + indicates ground movements towards north,
east, or upwards (compression).
- indicates ground movements towards south,
west, or downwards (dilatation).

* N - S and E - W Seismometers period adjusted to 1 second
on 15 December.



No.	Day	Phase	h. m. s.	T(sec)	A(mm)	Remarks:
1	1	eP z	11 09 31 ✓			
2		eP ze	12 56 23 ✓			
3		iP z	14 04 17 ✓		+	
4		eP z	19 33 48 ✓			
5	2	eP z	08 24 16 ✓			
6		eP z	14 41 37 ✓			
7	3	eP ze	04 02 24 ✓			
8	4	iP z	00 39 18		-	
		iP e	18		+	
9		eP zen	01 18 59 ✓			Near.
10		eP ze	03 46 00 ✓			
11		iPKP z	03 56 59	1½	-2	
		ePKP en	57 03			
		iPKP z	07	2	+8	
		ePKP N	07			
		eX Z	58 57			
		IPP? z	59 32	2½	+7	
		iSKP z	04 00 06	2½	-5	
		eSKP Z	00 21	12	10	



No.	Day	Phase	h. m. s.	T(sec)	A(mm)	Remarks:
		iPKS N	00 38	4	-8	
		iSKKP Z	11 18	15	+10	
		eSS E	16 56	14		
		eSSS E	21 50	15		
		eL Z	44.5			Surface Waves continue for 3 hours.
12		ePKP z	13 39 17			
13		eP z	13 43 56 ✓			Near.
14	6	iP z	09 49 45 ✓		+	
		eP en	46			
		eX z	55 03			
15		eP zen	12 27 31 ✓			Near.
16		eP zen	16 06 46 ✓			Near.
17	7	eP z	02 45 54 ✓			
18		eP zen	03 27 28			
		iP z	29		+	
19		eP ze	16 05 24 ✓			Near.
		eP n	26			
20		eP zen	17 18 50 ✓			Near.
21	8	eP zen	00 02 00			Near.



No.	Day	Phase	h. m. s.	T(sec)	A(mm)	Remarks:
22		eP z	01 45 20			
23		eP z	19 28 51 ✓			Near.
		eP en	53			
24	9	eP z	15 08 46 ✓			
25		iP z	16 00 07		+	
		iP e	07		-	
		eP n	08			
26		iPKP z	22 27 25		+	
27	10	eiP z	14 47 21			
		iP z	23	2	-2	
		ePN ne	23			
		iPcP z	30		-	
		iX z	48 07			
		eX z	49 54			
		iS E	56 44	9	+3	
		iS Z	48	7	+3½	
		iS N	49	7	+3½	
		iScS N	57 31	7	-6	
		eSS N	15 00 35			
		eX Z	04.5			
		eL Z	11.4			
28		eP z	16 04 24			



No.	Day	Phase	h. m. s.	T(sec)	A(mm)	Remarks:
29		iP z	17 04 36			
		eP e	36			
30		eP z	17 45 18			
31	11	eP zen	08 40 56			
32		iP z	09 13 21		+	
		eP e	21			
33	12	iP e	09 57 34		+	
		iP z	35		+	
		eP n	35			
		eX z	10 00 17			
34		iP z	18 48 57	1	+1½	
		iP e	57		-	
		eP n	57			
		ipP z	49 21	1¼	-3	
		eS N	57 06			
35		eP zen	18 55 39 ✓			Near.
36		iP z	19 21 27		-	
37	13	ePKP Z	02 04 11			No short period records on 13.12.57.
		iSKP Z	07 32	5	+3	
		eSKKS N	13 17			



No.	Day	Phase	h. m. s.	T(sec)	A(mm)	Remarks:
		eX N	15 08			
		eX Z	16 15			
		eL Z	53.0			
38	14	iP z	12 33 25 ✓			
		eP en	25			
39	15	eP z	15 50 50 ✓			
40	16	iP z	03 55 51		+	
41		eP z	08 50 34			
42		eP zn	14 10 07 ✓			
43		iP z	19 14 03		-	
		eP n	08			
44	17	eL Z	06 19.0			
45		eiP z	14 00 50			
		eiP e	51			
		eiP n	52			
		iP e	54		+67	
		iP E	54		+14	
		iP z	55	1	+40	
		iP n	55	1	-34	
		iP Z	55	2½	+70	



No.	Day	Phase	h. m. s.	T(sec)	A(mm)	Remarks:
		iP N	55	1½	- > 100	
		ipP Z	01 19	4	-30	
		iPP Z	03 22	9	+15	
		iScP n	05 07	2	-6	
		iS e	09 35	4	+32	
		iS E	35	8	+23	
		iS n	36	4	+18	
		iS N	36	5	+ 80	
		iS Z	37	4½	+10	
		iScS E	10 23	7½	+18	
		iScS e	29	5	+24	
		iScS Z	43	10	-10	
		eSS N	14 14	15	20	
		eL E	17.2			
		iPKPPKP Z	29 27	7	+15	
46	18	iP z	20 52 48			✓
		iP e	52			
		eP n	52			
		eX z	58			
47		eX z	22 09 10			
48	19	eP ze	06 00 53			✓
49		eP z	23 01 20			✓
50	20	eP zen	01 24 06			Near.



No. Day Phase h. m. s. T(sec) A(mm) Remarks:

51 eP z 11 29 35
eP en 46

52 21 iP z 17 55 04 +

53 22 iP e 09 01 54
eP n 54
eP z 56

54 25 eL Z 17 22

55 eP zn 19 07 44 ✓

56 26 iP z 12 17 38 1 +2
eP en 38
ipP z 43 1 -2
ipP e 44
iPcP z 19 15 $\frac{3}{4}$ -3
iPcP e 15 -
iX z 18

57 27 iP z 07 24 17 ✓ -

58 eP zen 19 09.6 ✓ Near.

59 eP zen 23 23 36 ✓ Near.

60 28 eP z 14 48 58



No.	Day	Phase	h. m. s.	T(sec)	A(mm)	Remarks:
61		iP z	19 11 52		--	
		eP ne	53			
		ipP z	12 02			Direction of 1st movement lost in time mark.
62	29	iP z	15 23 06		+	
63		eP z	19 20 13			
	30					Records not available when bulletin prepared.
64	31	iP z	14 34 53	1½	+2	
		eP n	53			
		eP e	58			
		epP z	35 04	2½	4	
		ipP Z	05	3	-3	
		iPcP z	37 37	1	+2	
		iS N	40 15	5	-18	
		iS E	16	5	+2	
		eL Z	43.5			Dispersion of surface waves.
65		eP z	21 24 04			