

**NIZAMIAH OBSERVATORY,
BEGAMPET, INDIA**

**SEISMOLOGICAL BULLETIN
1942-1944
No. 1**



Osmania University, Hyderabad.

NIZAMIAH OBSERVATORY, BEGUMPET, HYDERABAD, DECCAN, INDIA.

SEISMOLOGICAL BULLETIN FOR 1942 TO 1944.

Latitude : $17^{\circ} 25' 54''$.

Longitude : $78^{\circ} 27' 15''$ E or 5h 13m 49s E.

Geocentric Direction Cosines : $a = +.1912$; $b = +.9354$ $c = +.2977$.

Altitude : 1,760 feet.

Lithological foundation : Granite Rock.

Instruments : Milne-Shaw seismographs.

Tables for computation : H. Jeffreys and K. E. Bullen Seismological Tables.

Time service : A synchronome mean time clock is used to time-mark the records. The clock rate is determined by taking transits of stars.

Instrumental Constants.

Component	Steady mass (Kg.)	T (Sec.)	Vm.	Damping Ratio	Paper speed mm/min.
E	.45	12	250	20 : 1	8
N	.45	12	250	20 : 1	8

No.	Date	Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks		
				h.	m.	s.						
1	1942 January 8	..	N	S	13	40	32	..	..	
			N	i	13	43	03	..	..	
			N	L	13	44	10	..	..	
			N	M	13	45	04	7	4			
2	Do	9	..	N	M	10	01	06	9	2	..	
3	Do	11	..	N	M	2	49	58	9	4	..	
4	Do	14	..	N	M	6	21	12	15	4	..	
				E	M	6	21	34	16	5		
5	Do	18	..	N	P	16	41	48	2,740	
				N	S	16	46	05	..	..
				N	SS	16	46	49	..	..
				N	L	16	48	34	..	..
				E	M	16	50	08	8	8		
				N	M	16	51	32	11	11		
				N	F	17	27	..	..	..
6	Do	18	..	E, N	S	20	45	57	
				E	M	20	53	37	10	3		
				N	M	20	54	19	9	2		
7	Do	18	..	E	M	23	19	06	12	4	..	
				N	M	23	19	23	11	4		
8	Do	19	..	E	P	1	27	37	Phases following P lost due to stoppage of driving clock.
9	Do	19	..	N	M	18	17	54	10	2	..	
10	Do	20	..	E	M	7	50	06	18	6	..	
11	Do	21	..	N	eP	12	06	57	
				N	e	12	11	30	..	..
				N	SS	12	14	24	..	..
				N	M	12	18	37	15	7		
12	Do	23	..	E	P	21	36	58	5,200	
				E	PP	21	38	46	..	..
				E	S	21	43	48	..	..
				E	SS	21	46	38	..	..
				E	L	21	51	15	..	..
				E	M	21	55	19	15	6		
13	Do	24	..	E	M	21	27	58	16	4	..	
				E	F	22	53	..	..	..
14	Do	27	..	E	P	13	39	16	6,610	
				E	PP	13	41	17	..	..
				E	S	13	47	26	..	..
				E	PS	13	47	39	..	..

No.	Date	Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks		
				h.	m.	s.						
	1942 January 27.—(contd.)	..	E	ScS	13	49	03		
			E	SS	13	51	20	..	..	
			E	L	13	58	34	..	..	
			E	M	14	03	19	22	26			
15	January	27	..	E	M	16	11	05	19	7	..	
16	Do	29	..	E	P	9	37	33	10,780	△ from PP-P.
				E	PP	9	41	23	..	..
				E	SKS	9	47	30	..	..
				E	SS	9	54	29	..	..
				E	L	10	09	29	..	..
17	Do	30	..	E	M	10	13	27	15	4	..	
				E	F	11	43	..	..	..
				E	P	12	16	43	2,300	
				E	PP	12	16	56	..	..
				E	S	12	20	26	..	..
				E	SS	12	20	41	..	..
				E	L	12	22	10	..	..
18	Do	30	..	E	M	12	22	40	20	184	..	
				E	F	14	42	..	..	..
				E	eP	16	26	03	2,260	
				E	S	16	29	44	..	..
19	Do	31	..	E	L	16	31	41		
				E	M	16	32	32	12	5		
				E	M	10	05	27	16	4		
20	Do	31	..	E	P	17	35	28	2,600	
				E	S	17	39	35	..	..
				E	SS	17	40	25	..	..
				E	L	17	41	36	..	..
				E	M	17	44	46	15	21		
21	February	4	..	E	F	19	06		
				E	S	3	04	36	..	..
				E	L	3	08	37	..	..
				E	e	3	10	08	..	..
22	Do	4	..	E	M	3	10	43	15	6	..	
				E	F	3	55	..	..	..
				E	M	4	06	15	15	4		
23	Do	4	..	E	M	18	44	08	15	4	..	
24	Do	5	..	E	M	10	25	28	12	3	..	
25	Do	9	..	E	M	1	47	17	15	5	..	
26	Do	13	..	N	M	7	36	12	15	3	..	

No.	Date	Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks
				h.	m.	s.				
	1942									
27	February 14	N	P	10	50	15	..	..	2,680
		N	S	10	54	28	..	..	..
		N	L	10	57	43	..	..	..
		N	M	10	59	26	10	6	..	
		N	F	11	24	..	..	..	..
28	Do 16	E	P	18	21	14	..	..	9,890
		E, N	SKS	18	31	35	..	..	..
		E, N	S	18	32	05	..	..	..
		N	PS	18	32	51	..	..	..
		E	SS	18	37	34	..	..	..
		E	L	18	51	23	..	..	..
		E	M	18	55	03	21	10	..	
		E	F	19	48	..	..	..	..
29	Do 17	E	M	5	02	45	17	4	..	
30	Do 18	E	M	17	27	20	22	8	..	
31	Do 20	E, N	P	0	52	33	..	..	6,110
		E, N	S	1	00	15	..	..	..
		E	ScS	1	02	15	..	..	..
		E	SS	1	03	48	..	..	..
		E	L	1	09	41	..	..	..
		E	M	1	15	30	15	4	..	
		N	M	1	16	42	13	2	..	
		N	F	1	43	..	..	..	..
32	Do 21	E, N	P	7	17	35	..	..	6,390
		N	PP	7	19	35	..	..	..
		E, N	S	7	25	33	..	..	..
		E	PS	7	25	46	..	..	..
		E	ScS	7	27	16	..	..	..
		E	SS	7	29	29	..	..	..
		E	L	7	35	31	..	..	..
		N	M	7	41	43	14	7	..	
		E	M	7	41	46	18	17	..	
		E	F	9	03	..	..	..	..
33	Do 21	E	M	9	39	24	18	5	..	
34	Do 21	E	P	21	50	00	..	..	1,400
		E	[S]	21	52	20	..	..	..
		E	L	21	53	15	..	..	..
		E	M	21	54	29	4	22	..	
		E	F	22	41	..	..	..	..
5	Do 22	E	M	10	25	21	15	4	..	
36	Do 28	N	eP	4	59	53	..	..	2,560
		E, N	S	5	03	56	..	..	..
		E	SS	5	04	26	..	..	..

No.	Date	Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks
				h.	m.	s.				
	1942									
	February 28.—(contd.)	E	L	5	05	52	..	..	..
		N	M	5	08	21	13	14	..	
		E	M	5	08	24	11	6	..	
		E	ScS	5	10	50	..	..	..
		N	F	5	40	..	..	..	..
37	March 1	E	M	11	24	33	15	3	..	
		N	M	11	26	31	15	3	..	
38	Do 5	E, N	P	19	57	48	..	..	6,190
		N	PcP	19	58	42	..	..	..
		N	PP	19	59	23	..	..	..
		E, N	S	20	05	35	..	..	..
		N	ScS	20	07	18	..	..	..
		E	SS	20	08	59	..	..	..
		N	L	20	15	21	..	..	..
		E	M	20	19	32	11	6	..	
		N	M	20	21	35	11	5	..	
		N	F	21	13	..	..	..	..
9	Do 6	E	P	20	20	47	..	..	9,130
		N	S	20	31	02	..	..	..
		E	S	20	31	05	..	..	..
		E	PS	20	32	00	..	..	..
		E	SS	20	36	27	..	..	..
		E	L	20	45	42	..	..	..
		N	M	20	52	29	10	2	..	
		E	M	20	52	37	15	4	..	
		N	F	21	26	..	..	..	..
0	Do 8	E	M	4	40	47	8	2	..	
		N	M	4	40	54	9	2	..	
1	Do 8	E, N	SS	5	20	43	..	..	..
		E	L	5	40	37	..	..	..
		E	M	5	45	17	14	6	..	
		N	M	5	45	26	15	4	..	
2	Do 12	E	P	13	32	36	..	..	5,260
		E	S	13	39	29	..	..	..
		E	L	13	47	51	..	..	..
		E	M	13	50	39	16	5	..	
3	Do 13	E	P	9	03	55	..	..	2,600
		E	L	9	06	58	..	..	..
		E	S	9	08	02	..	..	..
		E	M	9	10	37	15	4	..	
4	Do 19	E	M	12	59	31	17	6	..	
5	Do 20	N	PP	1	36	23	..	..	..

Times approximate.
Time marks not recorded.

No.	Date	Comp.	Phase	G.M.T.	Period	Amp.	Dist.	Remarks
	1942			h. m. s.	Sec.	Micron	Km.	
	March 20.—(contd.)	E	SKS	1 43 32	..	..	..
		E	e	1 51 38	..	..	..
		E	M	2 00 47	15	7	..	
		N	M	2 05 08	15	4	..	
46	Do 21 ..	N	P	23 35 30	..	..	5,510	Times approximate.
		N	S	23 42 38	..	..	..
		N	L	23 50 45	..	..	..
		N	M	23 56 15	18	33	..	
47	Do 22 ..	N	P	2 19 00	..	..	2,200	Times approximate.
		N	S	2 22 34	..	..	..
		N	M	2 26 30	8	43	..	
48	Do 25 ..	E	P	7 33 18	..	..	5,190	
		E	PP	7 35 04	..	..	..
		E	S	7 40 07	..	..	..
		E	ScS	7 43 11	..	..	..
		E	SS	7 44 11	..	..	..
		E	L	7 48 14	..	..	..
		E	M	7 52 12	18	5	..	
		E	F	8 21 ..	..	..	..
49	Do 25 ..	E	M	16 54 15	12	3	..	
50	Do 30 ..	E	eP	0 32 04	..	..	2,530	
		E	S	0 36 05	..	..	..
		E	L	0 37 20	..	..	..
		E	M	0 39 14	9	9	..	
51	April 4 ..	N	M	4 26 57	8	2	..	
		E	M	4 27 17	9	2	..	
52	Do 7 ..	E	M	13 16 29	10	2	..	
53	Do 8 ..	E, N	P	15 48 19	..	..	4,540	Times approximate.
		E	PP	15 49 50	..	..	..
		E, N	S	15 54 30	..	..	..
		E	SS	15 57 12	..	..	..
		N	M	16 04 15	16	190	..	
54	Do 8 ..	E, N	P	19 37 50	..	..	4,440	Times approximate.
		E, N	S	19 43 55	..	..	..
		E	M	19 55 24	15	6	..	
		N	M	19 55 28	16	4	..	
55	Do 9 ..	E, N	S	0 10 00	..	..	..	Times approximate.
		E	M	0 20 42	15	4	..	
		N	M	0 21 45	12	2	..	
56	Do 9 ..	E, N	P	4 50 07	..	..	4,410	

No.	Date	Comp.	Phase	G.M.T.	Period	Amp.	Dist.	Remarks
	1942			h. m. s.	Sec.	Micron	Km.	
	April 9.—(contd.)	E	PP	4 51 50	..	..	..
		E, N	S	4 56 10	..	..	..
		E	SS	4 59 16	..	..	..
		N	L	5 02 15	..	..	..
		E	M	5 06 16	14	5	..	
		N	M	5 08 09	15	4	..	
		N	F	5 50 ..	..	..	..
57	Do 10 ..	E	M	14 09 17	12	3	..	
58	Do 13 ..	E	SKS	8 10 18	..	..	..
		N	L	8 26 30	..	..	..
		N	M	8 32 20	18	9	..	
		E	M	8 35 39	18	14	..	
		E	F	9 54 ..	..	..	..
59	Do 13 ..	E	M	10 58 36	15	6	..	
		N	M	10 58 41	18	13	..	
60	Do 13 ..	E	M	14 39 38	16	6	..	
61	Do 14 ..	E	M	20 31 46	14	4	..	
62	Do 18 ..	E	M	18 36 29	15	4	..	
		N	M	18 36 29	15	5	..	
63	Do 19 ..	N	M	1 45 26	18	8	..	
		E	M	1 45 40	16	5	..	
64	Do 20 ..	E, N	P	8 40 27	..	..	5,610	
		E	PcP	8 50 42	..	..	..
		E	PP	8 51 25	..	..	..
		E, N	S	8 56 41	..	..	..
		E	SS	9 00 13	..	..	..
		E	L	9 04 54	..	..	..
		N	M	9 08 18	11	3	..	
		E	M	9 08 27	12	3	..	
		N	F	9 33 ..	..	..	..
65	Do 27 ..	E	M	1 17 04	14	3	..	
		N	M	1 18 09	15	4	..	
66	Do 27 ..	E	eP	13 39 09	..	..	4,920	
		E, N	S	13 45 43	..	..	..
		E	L	13 52 50	..	..	..
		E	M	13 57 57	15	6	..	
		N	M	13 58 48	15	4	..	
		N	F	14 30 ..	..	..	..
67	Do 28 ..	N	M	10 37 16	11	3	..	
68	Do 29 ..	N	M	12 06 37	9	2	..	

No.	Date	Comp.	Phase	G.M.T.	Period	Amp.	Dist.	Remarks
	1942			h. m. s.	Sec.	Micron	Km.	
	April 29.—(contd.)							
		E	M	12 07 11	10	2	..	
69	May 5 ..	N	cP	3 33 53	..	..	860	
		N	S	3 35 20	..	..	..
		N	M	3 38 7	8	9	..	
70	Do 5 ..	N	M	16 17 03	14	8	..	
71	Do 7 ..	N	M	19 40 03	7	3	..	
72	Do 8 ..	N	M	2 22 55	8	3	..	
73	Do 14 ..	N	P	2 33 18	..	..	16,660	
		N	P ₂	2 33 48	..	..	..
		N	PP	2 36 59	..	..	..
		N	PKS	2 37 20	..	..	..
		N	SKKS	2 43 54	..	..	..
		N	SKSP	2 47 27	..	..	..
		N	L	3 24 56	..	..	..
		N	M	3 42 53	18	138	..	
		N	F	6 09 ..	..	..	..
74	Do 15 ..	N	M	13 31 16	15	4	..	
75	Do 15 ..	N	P	14 13 41	..	..	..
		N	M	14 15 54	7	22	..	
76	Do 15 ..	N	cP	16 59 44	..	..	2,260	
		N	S	17 03 25	..	..	..
		N	M	17 07 18	8	3	..	
77	Do 17 ..	N	M	16 53 55	15	5	..	
		E	M	16 54 03	15	4	..	
78	Do 19 ..	E	M	10 08 46	12	4	..	
79	Do 22 ..	N	M	21 28 17	12	5	..	
80	Do 23 ..	N	M	2 23 46	9	5	..	
81	Do 23 ..	N	cP	20 05 44	..	..	1,280	
		N	S	20 07 52	..	..	..
		N	M	20 09 35	6	15	..	
82	Do 24 ..	N	P	3 31 24	..	..	2,490	
		N	S	3 35 22	..	..	..
		N	SS	3 35 47	..	..	..
		N	L	3 37 30	..	..	..
		N	M	3 39 29	15	26	..	
		N	F	5 40 ..	..	..	..
83	Do 24 ..	N	S	21 33 31	..	..	..

	Date	Comp.	Phase	G.M.T.	Period	Amp.	Dist.	Remarks
	1942			h. m. s.	Sec.	Micron	Km.	
	May 24.—(contd.)							
		E	M	21 50 24	11	3	..	
		N	M	21 50 50	10	2	..	
34	Do 27 ..	N	M	3 41 31	9	10	..	
35	Do 27 ..	N	M	7 37 20	15	4	..	
36	Do 28 ..	E, N	P	1 10 22	..	..	5,780	
		E	PcP	1 11 24	..	..	..
		E	PP	1 12 19	..	..	..
		E, N	S	1 17 46	..	..	..
		E	SS	1 20 56	..	..	..
		E	L	1 25 46	..	..	..
		N	M	1 29 58	15	12	..	
		E	M	1 30 10	12	9	..	
37	Do 28 ..	E	S	15 29 11	..	..	..
		E	M	15 31 59	8	15	..	
38	Do 31 ..	E	M	13 11 32	9	3	..	
39	June 2 ..	E	P	0 54 52	..	..	6,280	
		E	PcP	0 55 59	..	..	..
		E, N	S	1 02 44	..	..	..
		E	L	1 12 46	..	..	..
		N	M	1 16 16	16	6	..	
		E	M	1 16 24	15	6	..	
40	Do 3 ..	N	M	5 10 36	15	4	..	
41	Do 4 ..	E	P	7 15 58	..	..	2,240	
		E	S	7 19 37	..	..	..
		E	M	7 23 29	8	3	..	
42	Do 5 ..	E	M	17 33 39	9	3	..	
		N	M	17 34 21	9	2	..	
43	Do 6 ..	N	S	15 13 34	..	..	..
		N	M	15 17 51	11	3	..	
		E	M	15 17 53	11	3	..	
44	Do 10 ..	E, N	P	10 29 19	..	..	5,510	
		N	S	10 36 27	..	..	..
		E	SS	10 39 49	..	..	..
		N	L	10 44 08	..	..	..
		N	M	10 47 26	14	10	..	
45	Do 10 ..	N	M	14 33 25	20	8	..	
46	Do 11 ..	N	M	10 36 45	18	6	..	
47	Do 11 ..	N	M	15 29 15	15	5	..	

No.	Date	Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks
				h.	m.	s.				
	1942									
	June—(contd.)									
98	Do 11	N	M	17	36	16	18	10	..	
99	Do 12	N	M	11	55	47	16	4	..	
100	Do 14	E N	M M	3	29	29	9	15 5	..	
101	Do 18	E E N E N N N	P PeP S S SS L M	9	41	08	..	..	6,860
				9	41	42	..	..	..
				9	49	32	..	..	..
				9	49	37	..	..	..
				9	53	30	..	..	..
				10	00	41	..	..	..
				10	06	28	14	12	..	
102	Do 24	E, N E, N N E	SKS SS M M	11	41	18	..	..	..
				11	50	03	..	..	..
				12	09	43	20	52	..	
				12	10	37	18	12	..	
103	Do 30	N E	M M	7	51	42	12	3	..	
				7	53	43	9	3	..	
104	July 3	N E, N N N E	P S L M M	2	53	25	..	..	1,690
				2	56	12	..	..	..
				2	57	19	..	..	..
				2	59	02	8	62	..	
				2	59	02	8	65	..	
105	Do 4	N E	M M	8	54	57	9	5	..	
				8	55	23	8	4	..	
106	Do 7	N	M	3	26	41	9	2	..	
107	Do 8	E E N E E N E	P PP SKKS SKSP SS M M	7	15	31	..	..	16,660
				7	19	02	..	..	..
				7	26	15	..	..	..
				7	29	21	..	..	..
				7	38	09	..	..	..
				8	12	27	20	17	..	
				8	13	49	20	26	..	
108	Do 8	N N E	S M M	21	47	09	..	..	..
				21	55	54	9	3	..	
				21	56	00	9	4	..	
109	Do 9	E N	M M	0	16	05	14	5	..	
				0	17	10	16	4	..	
110	Do 10	N E	M M	3	33	43	9	5	..	
				3	33	47	9	6	..	

No.	Date	Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks
				h.	m.	s.				
	1942									
	July—(contd.)									
111	Do 12	N	M	6	35	01	19	8	..	
112	Do 13	N N	S M	0	22	46	..	..	..
				0	43	44	12	3	..	
113	Do 24	N N N N	eP S L M	5	07	27	..	..	3,360
				5	12	26	..	..	..
				5	16	02	..	..	..
				5	18	14	9	6	..	
114	Do 25	E E E, N E N	P PP S ScS L M	6	30	51	..	..	4,900
				6	32	34	..	..	..
				6	37	24	..	..	..
				6	41	02	..	..	..
				6	44	17	..	..	..
				6	49	18	16	12	..	
115	Do 29	E, N E, N N N E	P S L M M	20	27	10	..	..	2,820
				20	31	33	..	..	..
				20	33	55	..	..	..
				20	36	53	8	5	..	
				20	37	12	9	4	..	
116	Do 29	N E	M M	21	08	53	8	4	..	
				21	09	04	8	5	..	
117	Do 29	E, N E E, N E N N	P PP S SS L M	22	58	32	..	..	5,730
				23	00	44	..	..	..
				23	05	53	..	..	..
				23	09	40	..	..	..
				23	15	17	..	..	..
				23	18	48	13	12	..	
118	August 1	E N E, N N N E E N	eP PP SKS SKKS S L M M	12	48	18	..	..	10,620
				12	52	31	..	..	..
				12	58	51	..	..	..
				12	59	08	..	..	..
				12	59	39	..	..	..
				13	21	00	..	..	..
				13	27	17	19	12	..	
				13	29	40	21	38	..	
119	Do 1	N E, N E E N	eP S ScS L M M	14	43	24	..	..	5,000
				14	50	03	..	..	..
				14	53	04	..	..	..
				14	57	55	..	..	..
				15	02	09	16	26	..	
				15	02	41	15	34	..	
120	Do 4	N E	M M	20	05	03	9	6	..	
				20	05	10	8	4	..	

No.	Date	Comp.	Phase	G.M.T.	Period	Amp.	Dist.	Remarks
				h. m. s.	Sec.	Micron	Km.	
1942 August—(contd.)								
121	Do	E, N	P ₂	23 56 45	..	..	16,660	
	Do	N	PP	0 00 04	..	..	..
		E	SKKS	0 07 14	..	..	..
		E	M	0 52 44	26	349	..	
		N	M	0 55 56	27	347	..	
122	Do	E	M	0 08 33	16	4	..	
		N	M	0 10 15	15	3	..	
123	Do	N	S	16 07 30	..	..	..
		N	M	16 20 12	15	4	..	
124	Do	N	cP	17 25 25	..	..	2,180	
		E, N	S	17 28 57	..	..	..
		E	M	17 32 12	6	3	..	
		N	M	17 32 15	8	2	..	
125	Do	E, N	S	15 23 20	..	..	..
		E	M	15 47 05	14	3	..	
		N	M	15 48 36	15	4	..	
126	Do	E	cP	11 29 41	..	..	4,769	
		E	PP	11 31 13	..	..	..
		E, N	S	11 36 05	..	..	..
		E	SS	11 38 48	..	..	..
		N	ScS	11 39 45	..	..	..
		E	L	11 42 06	..	..	..
		N	M	11 45 35	9	2	..	
127	Do	E, N	P	18 33 31	..	..	1,880	
		E	PP	18 33 42	..	..	..
		E, N	S	18 36 35	..	..	..
		E	L	18 38 21	..	..	..
		N	M	18 40 22	6	5	..	
		E	M	18 40 36	6	4	..	
128	Do	E	P	9 16 59	..	..	..
		E	M	9 39 22	14	5	..	
129	Do	E, N	P	6 46 53	..	..	8,070	
		E	PP	6 49 37	..	..	..
		E, N	S	6 56 19	..	..	..
		E	SS	7 00 56	..	..	..
		E	L	7 10 11	..	..	..
		E	M	7 15 13	15	9	..	
		N	M	7 15 21	15	9	..	
130	Do	E, N	P	23 10 28	..	..	17,560	
		E	P ₂	23 11 17	..	..	..
		E	PKS	23 14 09	..	..	..
		E	PP	23 14 44	..	..	..
		E	SKKS	23 21 49	..	..	..
		E	SKSP	23 25 18	..	..	..
		E	SS	23 33 44	..	..	..
	Do	N	M	0 11 08	20	180	..	

No.	Date	Comp.	Phase	G.M.T.	Period	Amp.	Dist.	Remarks
				h. m. s.	Sec.	Micron	Km.	
1942 August 25—(contd.)								
		E	M	0 11 46	19	487	..	
31	Do	25	E	M	21 45 59	15	4	..
32	Do	25	E	M	22 15 28	16	4	..
33	Do	27	E	M	6 51 33	14	4	..
34	September	1	E	P	9 50 59	..	..	5,440
			E	PP	9 52 59	..	..	..
		E, N	S	9 58 03	..	..	..	..
		E	SS	10 02 01	..	..	..	..
		E	M	10 14 32	14	3	..	..
		N	M	10 16 23	15	5	..	..
35	Do	1	E	M	19 30 22	9	4	..
			N	M	19 31 10	9	4	..
36	Do	2	N	M	4 14 06	15	6	..
			E	M	4 15 00	15	5	..
37	Do	3	E, N	S	7 53 08	..	..	..
			N	M	8 01 46	9	4	..
			E	M	8 01 49	9	4	..
38	Do	4	E	M	18 38 52	15	4	..
			N	M	18 40 26	15	4	..
39	Do	8	N	M	16 25 08	8	3	..
			E	M	16 25 13	8	3	..
40	Do	9	E	P	1 49 08	..	..	..
			E	M	2 17 24	14	5	..
41	Do	10	E	P	4 56 50	..	..	4,890
			E	PP	4 58 15	..	..	..
			N	S	5 03 22	..	..	..
			E	SS	5 06 13	..	..	..
			E	ScS	5 07 09	..	..	..
			E	L	5 10 06	..	..	..
			E	M	5 15 25	16	4	..
			N	M	5 16 01	15	4	..
42	Do	10	N	M	13 13 28	12	3	..
42	Do	14	E	P	11 48 38	..	..	4,670
			E	S	11 54 57	..	..	..
			E	SS	11 57 35	..	..	..
			E	L	12 00 59	..	..	..
43	Do	17	N	M	12 00 07	7	2	..

No.	Date	Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks
				h.	m.	s.				
	1942						Sec.	Micron	Km.	
	November—(contd.)									
169	Do 17	N	M	11	12	07	16	5	..	
170	Do 18	E	eP	12	08	45	..	..	4,360	
		E	PP	12	10	08	..	..	..
		E	eS	12	14	45	..	..	..
		E	SS	12	17	20	..	..	..
		E	L	12	20	11	..	..	..
		N	M	12	24	05	8	2	..	
171	Do 19	E	M	10	21	48	15	4	..	
		E	M ₁	10	30	48	14	5	..	
		N	M	10	31	16	14	3	..	
172	Do 20	N	M	4	29	24	8	2	..	
173	Do 21	N	M	14	27	04	18	8	..	
174	Do 23	E	M	14	54	50	8	3	..	
175	Do 26	E, N	P	14	38	03	..	..	6,980	
		E	PP	14	40	28	..	..	..
		E, N	S	14	46	33	..	..	..
		N	ScS	14	47	55	..	..	..
		N	SS	14	50	45	..	..	..
		N	L	14	58	43	..	..	..
		E	M	15	01	49	15	10	..	
		N	M	15	02	01	14	5	..	
176	Do 28	E	eP'	10	57	04	..	..	12,780	△ Approximate.
		E	PS	11	07	13	..	..	..
		E	SS	11	13	29	..	..	..
		E	L	11	27	51	..	..	..
		N	M	11	34	51	20	34	..	
		E	M	11	35	22	20	56	..	
177	December 2	E	S	19	19	09	..	..	..
		N	M	19	29	50	18	9	..	
		E	M	19	29	54	19	12	..	
178	Do 3	N	M	1	32	47	7	2	..	
179	Do 4	E	M	16	06	28	22	12	..	
180	Do 5	E	P	14	52	08	..	..	..
		N	M	15	22	54	22	10	..	
		E	M	15	23	23	21	11	..	
181	Do 8	E	M	23	06	55	6	2	..	
182	Do 9	E	M	6	35	48	11	4	..	

No.	Date	Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks
				h.	m.	s.				
	1942						Sec.	Micron	Km.	
	December—(contd.)									
183	Do 9	E	P	22	42	30	..	..	..
		E	M	23	06	12	19	13	..	
184	Do 15	N	M	10	48	52	15	3	..	
		E	M	10	48	56	14	5	..	
185	Do 17	N	M	1	58	08	18	6	..	
		E	M	2	00	07	18	7	..	
86	Do 17	N	M	21	20	48	12	3	..	
		E	M	21	20	49	12	5	..	
87	Do 19	N	P	9	25	33	..	..	2,190	
		E, N	S	9	29	06	..	..	..
		E	L	9	31	03	..	..	..
		E	M	9	32	16	8	6	..	
88	Do 19	N	M	9	32	50	10	5	..	
		E	P	23	20	26	..	..	6,590	
		E	S	23	28	35	..	..	..
89	Do 20	E	SS	23	32	26	..	..	..
		E	L	23	38	57	..	..	..
		E	M	23	43	37	15	12	..	
		E	M	1	54	56	15	6	..	
90	Do 20	E, N	P	14	11	02	..	..	4,810	
		E	PP	14	12	47	..	..	..
		E	PcP	14	13	07	..	..	..
		E	S	14	17	29	..	..	..
		E	SS	14	20	08	..	..	..
		E	ScS	14	20	59	..	..	..
		E	L	14	23	48	..	..	..
		E	M	14	26	50	19	489	..	
91	Do 21	N	M	14	27	05	19	432	..	
		E	F	16	37	..	..	..	..
92	Do 23	E	M	5	20	11	8	3	..	
93	Do 23	E	M	21	45	54	8	3	..	
		E	M	5	20	11	8	3	..	
		E	eP	14	10	32	..	..	8,270	
		E	eS	14	20	08	..	..	..
94	Do 27	E	L	14	36	10	..	..	..
		E	M	14	39	50	22	12	..	
		E	P	16	49	52	..	..	6,680	
95	Do 27	E	PP	16	52	05	..	..	..
		E	S	16	58	06	..	..	..
		E	PS	16	58	28	..	..	..
		E	SS	17	02	09	..	..	..
		E	L	17	09	01	..	..	..

No.	Date	Comp.	Phase	G.M.T.	Period	Amp.	Dist.	Remarks
	1942 December 27—(contd.)			h. m. s.	Sec.	Micron	Km.	
	..	E	M	17 13 29	14	5	..	
	..	N	M	17 14 43	15	4	..	
195	Do 29 ..	E	M	4 20 34	14	5	..	
		N	M	4 22 38	14	3	..	
196	Do 31 ..	N	M	13 07 58	15	4	..	

No.	Date	Comp.	Phase	G.M.T.	Period	Amp.	Dist.	Remarks
	1943			h. m. s.	Sec.	Micron	Km.	
1	January 15 ..	N	M	23 34 01	14	3	..	
2	Do 16 ..	N	M	21 23 17	10	2	..	
3	Do 24 ..	E	M	22 31 01	15	4	..	
4	Do 27 ..	E	P	2 57 38	..	..	9,420	
		E	PP	3 01 04	..	..	..
		E	S	3 08 09	..	..	..
		E	SS	3 14 03	..	..	..
		E	L	3 25 12	..	..	..
		E	M	3 31 36	16	14	..	
5	February 6 ..	N	eP	9 40 29	..	..	2,690	
		N	PP	9 41 00	..	..	..
		N	e	9 41 43	..	..	..
		N	S	9 44 43	..	..	..
		N	SS	9 45 36	..	..	..
		N	M	9 49 59	9	3	..	
6	Do 8 ..	N	P	21 09 03	..	..	1,750	
		N	S	21 11 56	..	..	..
		N	L	21 13 10	..	..	..
		E	M	21 14 36	10	14	..	
		N	M	21 14 39	10	15	..	
7	Do 16 ..	E	P'	7 48 16	..	..	16,110	△ Approximate.
		E	PP	7 51 00	..	..	..
		E	SKKS	7 58 26	..	..	..
		E	e	7 59 03	..	..	..
		E	M	8 20 56	15	6	..	
8	Do 16 ..	E	M	15 31 01	15	6	..	
9	Do 16 ..	E	eP	17 02 09	..	..	7,920	
		E	S	17 11 28	..	..	..
10	Do 17 ..	E	M	3 16 08	19	9	..	
11	Do 17 ..	E	M	6 24 24	15	6	..	
12	Do 17 ..	E	M	12 54 12	9	5	..	
13	Do 18 ..	E	M	19 51 16	9	4	..	
14	Do 21 ..	E	P	18 19 23	..	..	5,380	
		E	S	18 26 23	..	..	..
		E	L	18 34 47	..	..	..
		E	M	18 38 09	21	10	..	
15	Do 22 ..	N	P'	9 40 45	..	..	17,220	△ Approximate.
		E	P' ₂	9 41 11	..	..	..

No.	Date	Comp.	Phase	G.M.T.	Period	Amp.	Dist.	Remarks
				h. m. s.	Sec.	Micron	Km.	
1943								
February 22.—(contd.)								
		E	PKS	9 44 03	..	..	..
		N	PP	9 44 49	..	..	..
		N	SKKS	9 51 13	..	..	..
		E	SS	10 04 18	..	..	..
15	Do	E	L	10 34 54	..	..	..
		E	M	10 38 29	16	32	..	
		E	F	12 19 ..	..	..	..
16	Do	23	E	P	23 24 35	..	..	2,350
			E	S	23 28 23	..	..	..
			E	L	23 30 36	..	..	..
			E	M	23 32 30	12	10	..
17	Do	24	E	M	23 08 20	8	3	..
18	Do	24	E	M	23 33 18	8	4	..
19	Do	27	E	M	3 34 31	8	4	..
			N	M	3 34 36	8	2	..
20	Do	28	E	P	12 58 54	..	..	2,180
			E	S	13 02 26	..	..	..
			E	L	13 03 58	..	..	..
			E	M	13 05 24	7	49	..
			E	F	14 11 ..	..	..	..
21	March	1	E	M	6 48 33	7	3	..
			N	M	6 49 15	7	2	..
22	Do	2	E	P	9 09 17	..	..	2,210
			E, N	S	9 12 53	..	..	..
			E	SS	9 13 17	..	..	..
			E	L	9 14 53	..	..	..
			E	M	9 16 44	9	10	..
			N	M	9 16 59	7	6	..
			E	F	9 49 ..	..	..	..
23	Do	4	E	M	10 48 13	12	4	..
24	Do	4	E	M	20 24 28	15	6	..
25	Do	5	E	P	0 52 14	..	..	..
			E	e	1 12 17	..	..	..
			E	M	2 01 26	20	10	..
26	Do	7	E	P	3 13 19	..	..	..
			E	M	3 41 39	15	45	..
			E	F	4 48 ..	..	..	..

S lost while changing paper.

No.	Date	Comp.	Phase	G.M.T.	Period	Amp.	Dist.	Remarks
				h. m. s.	Sec.	Micron	Km.	
1943								
March 9—(contd.)								
27		E	P	10 07 23	..	..	12,220	
		E	PP	10 08 23	..	..	..
		E	SKS	10 14 21	..	..	..
		E	SKKS	10 15 30	..	..	..
		E	PS	10 17 52	..	..	..
		E	SS	10 24 09	..	..	..
		E	L	10 41 18	..	..	..
		E	M	10 44 09	18	24	..	
28	Do	9	E	M	20 43 35	15	5	..
29	Do	10	E	M	9 17 28	16	7	..
30	Do	11	E	ePP	9 51 49	..	..	11,660
			E	SKS	9 58 19	..	..	..
31	Do	14	N	M	18 15 29	18	4	..
32	Do	15	E	M	3 21 33	15	5	..
33	Do	15	E	P	4 58 27	..	..	6,590
			E	S	5 06 36	..	..	..
			E	SS	5 10 55	..	..	..
			E	M	5 22 44	16	5	..
34	Do	15	E	S	23 23 24	..	..	..
			E	M	23 36 41	9	3	..
35	Do	20	E	M	5 56 38	16	6	..
36	Do	21	E	P	20 47 26	..	..	8,450
			E	PP	20 50 02	..	..	..
			E	S	20 57 10	..	..	..
			E	PS	20 57 39	..	..	..
			E	SS	21 02 13	..	..	..
			E	L	21 12 36	..	..	..
			E	M	21 20 02	18	12	..
			E	F	22 29 ..	..	..	..
37	Do	22	E	P	8 32 ..	..	..	5,300
			E	S	8 39 35	..	..	..
			E	L	8 48 45	..	..	..
			E	M	8 54 34	19	6	..
38	Do	29	E	S	5 31 50	..	..	..
			E	M	5 42 17	14	9	..
39	Do	31	E	P	5 43 09	..	..	..
			E	M	6 16 50	9	3	..
40	Do	31	E	P	11 36 46	..	..	..
			E	M	12 04 06	11	3	..

No.	Date	Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks
				h.	m.	s.				
	1943									
41	April 1	E	P	14	25	16	..	..	3,900
		E	PP	14	26	47	..	..	..
		E	PcP	14	28	10	..	..	..
		E	S	14	30	48	..	..	..
		E	SS	14	33	17	..	..	..
		E	SCS	14	35	28	..	..	..
		E	M	14	39	14	19	97	..	
		E	F	17	40	..	..	..	..
42	Do 5	E	P	2	01	10	..	..	2,510
		E	S	2	05	09	..	..	..
		E	SS	2	05	30	..	..	..
		E	L	2	07	03	..	..	..
		E	M	2	07	54	12	201	..	
		E	ScS	2	11	49	..	..	..
43	Do 5	E	eP	5	16	56	..	..	1,590
		E	S	5	19	33	..	..	..
		E	M	5	21	12	6	4	..	
44	Do 6	E	P'	16	26	59	..	..	16,780
		E	P ₂	16	27	37	..	..	..
		E	PP	16	30	37	..	..	..
		E	SKKS	16	37	36	..	..	..
		E	SKSP	16	40	46	..	..	..
		E	SS	16	50	01	..	..	..
		E	M	17	21	13	22	123	..	
		E	F	20	26	..	..	..	..
45	Do 7	E	P	8	54	32	..	..	5,380
		E	eS	9	01	32	..	..	..
		E	M	9	16	31	10	3	..	
46	Do 7	E	M	14	26	52	16	6	..	
47	Do 8	E	M	0	39	30	16	6	..	
48	Do 9	E	P	8	59	12	..	..	6,740
		E	PcP	8	59	48	..	..	..
		E	PP	9	01	27	..	..	..
		E	S	9	07	29	..	..	..
		E	PS	9	08	10	..	..	..
		E	SS	9	11	17	..	..	..
		E	L	9	18	35	..	..	..
		E	M	9	23	26	15	8	..	
		E	F	10	21	..	..	..	..
49	Do 11	E	P	14	55	58	..	..	6,460
		E	PP	14	58	04	..	..	..
		E	S	15	04	00	..	..	..
		E	i	15	04	15	..	..	..
		E	ScS	15	05	44	..	..	..

No.	Date	Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks
				h.	m.	s.				
	1943									
	April 11—(contd.)	E	SS	15	07	58	..	..	..
		E	L	15	14	29	..	..	..
		E	M	15	21	34	15	24	..	
		E	F	16	46	..	..	..	..
50	Do 12	E	eP	4	21	37	..	..	4,900
		E	S	4	28	10	..	..	..
		E	L	4	35	30	..	..	..
		E	M	4	38	36	11	4	..	
51	Do 12	E	P	19	53	20	..	..	6,750
		E	S	20	01	38	..	..	..
		E	L	20	12	37	..	..	..
		E	M	20	19	46	18	8	..	
52	Do 13	E	eP	12	38	18	..	..	5,580
		E	S	12	45	30	..	..	..
		E	L	12	53	25	..	..	..
53	April 15	E	P'	11	54	39	..	..	..
		E	M	12	54	16	15	8	..	
54	Do 20	E	P	15	23	55	..	..	2,180
		E	PP	15	24	40	..	..	..
		E	S	15	27	22	..	..	..
		E	L	15	29	33	..	..	..
		E	M	15	31	25	7	4	..	
55	Do 22	E	eP	9	32	37	..	..	6,520
		E	PP	9	34	32	..	..	..
		E	S	9	40	42	..	..	..
56	Do 23	E	P	6	16	55	..	..	4,010
		E, N	S	6	22	35	..	..	..
		E	M	6	30	22	8	3	..	
57	Do 26	E	M	23	34	57	9	3	..	
58	Do 29	E	M	16	04	51	9	3	..	
59	Do 29	E	P	20	48	42	..	..	2,530
		E	S	20	52	43	..	..	..
		E	L	20	55	06	..	..	..
		E	M	20	58	24	8	3	..	
60	Do 30	E	M	1	26	21	9	3	..	
61	May 1	E	M	14	21	23	6	2	..	
62	Do 2	E	P'	17	37	57	..	..	16,280
		E	PP	17	41	28	..	..	..
		E	SKSP	17	51	33	..	..	..

△ Approximate.

No.	Date	Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks
				h.	m.	s.				
	1943									
	May 2—(contd.)	E	SS	18	00	15	..	..	..
		E	L	18	27	52	..	..	..
		E	M	18	30	59	18	22	..	
		E	F	20	00	..	..	..	..
63	Do 3	E	P	2	07	20	..	..	5,260
		E	i	2	07	32	..	..	..
		E	PcP	2	08	44	..	..	..
		E	PP	2	09	02	..	..	..
		E	S	2	14	13	..	..	..
		E	SS	2	16	48	..	..	..
		E	M	2	25	06	14	47	..	
		E	F	5	21	..	..	..	..
64	Do 3	E	cP	12	47	59	..	..	4,900
		E	S	12	54	32	..	..	..
		E	M	13	08	21	15	4	..	
65	Do 3	E	M	17	07	39	11	4	..	
66	Do 7	E	M	20	54	33	9	3	..	
67	Do 22	E	M	10	20	09	18	7	..	
68	May 25	E	P	23	16	22	..	..	5,340
		E	PP	23	18	18	..	..	..
		E	S	23	23	20	..	..	..
		E	SS	23	26	07	..	..	..
		E	L	23	30	19	..	..	..
		E	M	23	34	05	22	301	..	
69	Do 26	E	M	1	46	08	21	25	..	
70	Do 31	E	M	5	38	35	8	3	..	
71	June 2	E	P	3	04	28	..	..	1,410
		E	S	3	06	49	..	..	..
		E	M	3	08	55	8	9	..	
72	Do 3	E	S	4	10	04	..	..	..
		E	M	4	14	18	9	3	..	
73	Do 8	E	P	20	48	36	..	..	3,420
		E	PP	20	49	35	..	..	..
		E	PcP	20	51	27	..	..	..
		E	S	20	53	39	..	..	..
		E	i	20	55	48	..	..	..
		E	L	20	58	01	..	..	..
		E	M	21	00	18	15	286	..	
74	Do 9*	E	M	3	48	05	15	50	..	

No.	Date	Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks
				h.	m.	s.				
	1943									
75	June 13	E	P	5	21	42	..	..	6,690
	—(contd.)	E	PcP	5	22	49	..	..	..
		E	PP	5	23	59	..	..	..
		E	S	5	29	56	..	..	..
		E	PS	5	30	16	..	..	..
		E	ScS	5	31	17	..	..	..
		E	SS	5	34	21	..	..	..
		E	L	5	42	32	..	..	..
		E	M	5	47	00	18	40	..	
76	Do 13	E	P	8	46	58	..	..	6,630
		E	PcP	8	47	43	..	..	..
		E	PP	8	49	07	..	..	..
		E	S	8	55	09	..	..	..
		E	PS	8	55	31	..	..	..
		E	SS	8	58	53	..	..	..
		E	L	9	08	01	..	..	..
		E	M	9	13	13	14	6	..	
77	Do 13	E	M	18	19	19	12	4	..	
78	Do 15	E	P	11	20	47	..	..	6,500
		E	PP	11	22	46	..	..	..
		E	S	11	28	51	..	..	..
		E	PS	11	29	05	..	..	..
		E	M	11	46	40	15	5	..	
79	Do 15	E	M	19	56	26	16	6	..	
80	Do 20	N	cP	15	41	15	..	..	5,340
		N	S	15	48	13	..	..	..
		N	L	15	55	55	..	..	..
		N	M	15	59	27	17	24	..	
81	Do 20	N	M	18	45	56	15	4	..	
82	Do 28	E	M	15	56	36	15	4	..	
83	Do 28	E	M	18	20	45	9	3	..	
84	Do 29	E	P	9	13	30	..	..	5,110
		E	i	9	14	01	..	..	..
		E	S	9	20	15	..	..	..
		E	M	9	34	09	9	3	..	
85	Do 30	E	M	11	10	22	11	5	..	
86	July 8	E	cP	14	43	37	..	..	6,500
		E	S	14	51	41	..	..	..
		E	PS	14	52	04	..	..	..
		E	SS	14	55	26	..	..	..
		E	L	15	01	56	..	..	..

No.	Date	Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks
				h.	m.	s.				
	1943									
	July									
	8	..	E M	15	05	30	15	4	..	
87	Do	..	E eP'	2	29	22	..	..	12,780
		..	E PP	2	30	43	..	..	..
		..	E SKS	2	36	13	..	..	..
		..	E SKKS	2	37	12	..	..	..
		..	E PS	2	40	02	..	..	..
		..	E SS	2	46	18	..	..	..
		..	E L	3	04	52	..	..	..
		..	E M	3	16	04	16	6	..	
88	Do	..	E P	12	03	02	..	..	1,800
		..	E S	12	05	59	..	..	..
		..	E SS	12	06	17	..	..	..
		..	E M	12	08	35	7	7	..	
89	Do	..	E M	6	58	10	14	3	..	
90	Do	..	E P	15	00	40	..	..	4,520
		..	E PP	15	02	03	..	..	..
		..	E PcP	15	02	20	..	..	..
		..	E S	15	06	50	..	..	..
		..	E SS	15	09	48	..	..	..
		..	E ScS	15	10	37	..	..	..
		..	E L	15	13	54	..	..	..
		..	E M	15	18	13	15	36	..	
91	August	..	N M	1	37	56	21	13	..	
92	Do	..	E P	17	06	37	..	..	5,260
		..	E PP	17	08	31	..	..	..
		..	E S	17	13	30	..	..	..
		..	E ScS	17	16	26	..	..	..
		..	E SS	17	17	36	..	..	..
		..	E M	17	30	26	15	4	..	
93	Do	..	E P	13	58	03	..	..	6,690
		..	E S	14	06	17	..	..	..
		..	E PS	14	06	45	..	..	..
		..	E SS	14	10	29	..	..	..
		..	E M	14	22	03	15	4	..	
94	Do	..	E S	15	33	53	..	..	..
		..	E M	15	58	26	14	11	..	
95	Do	..	E M	5	28	26	12	3	..	
96	Do	..	E M	20	09	33	9	3	..	
97	Do	..	E M	9	23	32	10	2	..	
98	Do	..	E M	1	34	47	9	4	..	

△ Approximate.

No.	Date	Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks
				h.	m.	s.				
	1943									
	August									
99	20	..	E P	1	30	44	..	..	5,380
		..	E PP	1	32	37	..	..	..
		..	E S	1	37	44	..	..	..
		..	E SS	1	40	43	..	..	..
		..	E L	1	45	29	..	..	..
		..	E M	1	50	12	17	7	..	
100	Do	..	E M	14	45	43	8	3	..	
101	Do	..	E M	1	11	34	9	3	..	
102	Do	..	E M	7	41	41	8	2	..	
103	Do	..	E M	19	00	56	11	3	..	
104	Do	..	E M	0	10	01	15	4	..	
105	September	..	E P	8	43	12	..	..	4,920
		..	E S	8	49	6	..	..	..
		..	E M	9	00	48	16	16	..	
106	Do	..	E SKS	4	06	00	..	..	P lost while changing paper.
		..	E S	4	06	56	..	..	..
		..	E PS	4	08	12	..	..	..
		..	E SS	4	13	36	..	..	..
		..	E L	4	30	02	..	..	..
		..	E M	4	37	17	18	29	..	
107	Do	..	E M	20	39	11	13	4	..	
108	Do	..	E M	1	59	31	17	7	..	
109	Do	..	E P	2	18	36	..	..	..
		..	E M	2	58	46	15	7	..	
110	Do	..	E M	4	40	48	20	14	..	
111	Do	..	E PP	7	37	28	..	..	..
		..	E PS	7	47	13	..	..	..
		..	E M	8	13	14	16	9	..	
112	Do	..	E M	0	20	39	16	6	..	
113	Do	..	E P	11	35	43	..	..	2,130
		..	E S	11	39	10	..	..	..
		..	E M	11	42	21	9	28	..	
114	October	..	E M	6	42	15	9	3	..	
115	Do	..	E M	8	25	19	9	3	..	

Times Approximate.

No.	Date	Comp.	Phase	G.M.T.	Period	Amp.	Dist.	Remarks
	1943			n. m. s.	Sec.	Micron	Km.	
116	October 2	E	M	14 50 02	8	3	..	
117	Do (contd.)	N	S	23 42 01	..	..	..
	Do	N	L	0 04 01	..	..	..
	Do	N	M	0 11 42	21	9	..	
118	Do	N	M	16 24 48	14	12	..	
119	Do	E, N	P	17 27 18	..	..	1,800	Times Approximate.
		E, N	S	17 30 15	..	..	..
		N	M	17 32 31	10	156	..	
120	Do	N	M	17 09 28	16	8	..	
121	November 2	N	P	3 44 12	..	..	2,580	
		N	S	3 48 17	..	..	..
		N	L	3 50 28	..	..	..
		N	M	3 52 38	8	6	..	
122	Do	N	M	17 16 14	12	4	..	
123	Do	N	PP	18 27 45	..	..	12,440	
		N	SKS	18 33 44	..	..	..
		N	SKKS	18 34 43	..	..	..
		N	PS	18 37 15	..	..	..
		N	SS	18 43 02	..	..	..
		N	M	19 03 20	15	15	..	
		N	F	21 06 ..	..	..	..
124	Do	N	P	14 45 31	..	..	10,040	
		N	PP	14 49 19	..	..	..
		N	SKS	14 55 34	..	..	..
		N	S	14 56 29	..	..	..
		N	PS	14 57 43	..	..	..
		N	L	15 17 33	..	..	..
		N	M	15 22 37	15	63	..	
125	Do	N	M	6 52 18	14	6	..	
126	Do	N	M	7 40 54	18	8	..	
127	Do	N	M	15 42 34	8	6	..	
128	Do	N	M	22 52 40	14	6	..	
129	Do	E	P	8 41 43	..	..	6,700	
		N	P	8 41 53	..	..	..
		N	PcP	8 42 20	..	..	..
		N	PP	8 44 29	..	..	..
		N	S	8 49 58	..	..	..
		N	PS	8 50 23	..	..	..
		N	ScS	8 51 35	..	..	..

No.	Date	Comp.	Phase	G.M.T.	Period	Amp.	Dist.	Remarks
	1943			h. m. s.	Sec.	Micron	Km.	
	November 6—(contd.)	N	L	9 01 06	..	..	..
		N	M	9 05 25	19	121	..	
130	Do	N	M	8 49 30	14	7	..	
131	Do	N	M	7 46 13	15	4	..	
132	Do	N	M	12 06 03	11	3	..	
133	Do	E	cP	10 56 15	..	..	5,090	
		E, N	S	11 02 59	..	..	..
		E	SS	11 06 32	..	..	..
		N	L	11 10 00	..	..	..
		N	M	11 17 07	15	4	..	
134	Do	E	M	18 04 13	18	5	..	
		N	M	18 06 13	15	6	..	
135	Do	N	PP	19 01 28	..	..	11,020	
		N	SKS	19 08 13	..	..	..
		N	S	19 09 00	..	..	..
		N	PS	19 10 01	..	..	..
		N	M	19 37 22	21	9	..	
136	Do	N	M	0 07 57	7	2	..	
137	Do	E	S	15 13 37	..	..	..
		E	L	15 15 37	..	..	..
		E	M	15 20 04	11	3	..	
138	Do	E	M	0 36 59	12	3	..	
139	Do	N	S	13 31 08	..	..	..
		N	ScS	13 34 44	..	..	..
		N	L	13 37 23	..	..	..
		N	M	13 41 26	21	42	..	
140	Do	E	P	21 31 50	..	..	3,460	
		E	PP	21 32 27	..	..	..
		E	S	21 36 56	..	..	..
		E	SS	21 38 20	..	..	..
		E	M	21 43 16	11	4	..	
141	Do	E	P	22 29 01	..	..	5,170	
		E	S	22 35 49	..	..	..
142	Do	E	cP	8 48 11	..	..	2,260	
		E	S	8 51 52	..	..	..
		E	L	8 52 56	..	..	..
143	Do	E	cP	9 59 52	..	..	1,340	
		E	S	10 02 06	..	..	..

No.	Date		Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks
					h.	m.	s.				
	1943										
	November	27	..	E	M	10	05	00	9	4	..
144	Do	29	..	N	M	19	11	49	9	3	..
145	Do	29	..	N	M	21	13	45	15	4	..
146	Do	29	..	N	M	21	57	45	15	6	..
147	December	1	..	N	P	6	15	45	..	..	7,370
				N	S	6	24	35	..	..	..
				N	SCS	6	25	25	..	..	..
				N	M	6	42	02	12	4	..
148	Do	1	..	N	eP ₂ '	10	54	42	..	..	16,660
				N	SKKS	11	04	46	..	..	..
				N	SS	11	17	00	..	..	..
				N	L	11	37	02	..	..	..
				N	M	11	55	05	19	12	..
149	Do	2	..	N	M	2	57	28	18	9	..
150	Do	3	..	N	eP	4	48	44	..	..	7,020
				N	S	4	57	16	..	..	..
				N	PS	4	57	50	..	..	..
				N	L	5	09	46	..	..	..
				N	M	5	14	37	23	15	..
151	Do	3	..	N	eP	7	02	56	..	..	6,630
				N	PeP	7	03	17	..	..	..
				N	S	7	11	07	..	..	..
				N	L	7	21	00	..	..	..
				N	M	7	27	50	12	3	..
152	Do	3	..	N	M	8	21	16	14	3	..
153	Do	5	..	N	P	3	20	38	..	..	2,220
				N	S	3	24	15	..	..	..
				N	M	3	28	36	7	3	..
				N	ScS	3	31	47	..	..	..
154	Do	6	..	N	M	6	29	40	10	2	..
155	Do	9	..	N	M	4	03	20	15	4	..
156	Do	12	..	N	P	15	58	39	..	..	2,320
				N	PP	15	59	15	..	..	..
				N	S	16	02	24	..	..	..
				N	SS	16	03	08	..	..	..
				N	L	16	04	29	..	..	..
				N	M	16	06	49	8	3	..
157	Do	13	..	N	M	8	0	33	9	2	..

△ Approximate.

No.	Date		Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks
					h.	m.	s.				
	1943										
	December—(contd.)										
158	Do	13	..	N	M	16	27	18	15	4	..
159	Do	17	..	N	M	14	25	22	14	4	..
160	Do	23	..	N	M	17	17	16	17	4	..
161	Do	23	..	N	P	19	12	10	..	..	8,580
				N	S	19	22	01	..	..	..
				N	PS	19	22	27	..	..	..
				N	SS	19	26	18	..	..	..
				N	L	19	37	51	..	..	..
				N	M	19	43	45	21	23	..
162	Do	24	..	N	M	2	32	07	13	4	..
163	Do	25	..	N	M	5	25	18	16	3	..
164	Do	27	..	N	M	1	28	16	14	3	..
165	Do	27	..	N	M	4	59	56	16	5	..
166	Do	28	..	N	P	15	00	53	..	..	2,230
				N	S	15	04	31	..	..	..
				N	M	15	08	18	7	3	..
167	Do	29	..	N	PP	13	10	16	..	..	..
				N	S	13	14	37	..	..	..
				N	ScS	13	19	46	..	..	..
				N	M	13	21	20	8	4	..
168	Do	30	..	N	M	8	40	10	16	5	..
169	Do	30	..	N	M	22	54	22	19	5	..

No.	Date	Comp.	Phase	G.M.T.	Period	Amp.	Dist.	Remarks
				h. m. s.	Sec.	Micron	Km.	
1	1944 January 3	N	eP	9 53 59	..	..	2,650	
		N	S	9 58 11	..	..	..
		N	M	10 04 28	9	5	..	
2	February 18	E	P	4 01 24	..	..	330	
		E	S	4 01 59	..	..	..
		E	M	4 02 32	6	3	..	
3	Do 28	E	M	1 21 42	15	4	..	
4	Do 28	E	M	2 09 53	18	5	..	
5	March 5	E	P	17 23 24	..	..	5,520	
		N	S	17 30 33	..	..	..
		N	ScS	17 33 09	..	..	..
		N	SS	17 34 13	..	..	..
		N	L	17 38 26	..	..	..
6	Do 7	N	M	17 45 34	16	4	..	
		N	M	13 53 40	9	2	..	
7	Do 7	N	S	20 46 53	..	..	..
		N	M	21 03 30	12	2	..	
8	Do 8	N	M	5 50 22	14	3	..	
9	Do 9	N	P	22 09 17	..	..	3,220	
		N	PP	22 09 54	..	..	..
		N	S	22 14 08	..	..	..
		N	M	22 20 51	12	68	..	
10	Do 9	N	P	22 18 33	..	..	3,220	
		N	PP	22 19 13	..	..	..
		N	S	22 23 24	..	..	..
		N	SS	22 24 30	..	..	..
		N	ScS	22 28 38	..	..	..
11	Do 10	N	M	22 29 43	13	310	..	
		N	eP	6 49 58	..	..	6,610	
12	Do 11	N	S	6 58 08	..	..	..
		N	PS	6 58 27	..	..	..
		N	M	7 12 31	16	10	..	
		N	M	6 37 49	9	2	..	
13	Do 12	N	M	5 08 31	8	2	..	
14	Do 15	N	P	5 09 01	..	..	2,670	
		N	S	5 13 13	..	..	..
		N	L	5 15 55	..	..	..
		N	M	5 17 47	9	30	..	
		E	M	5 17 54	7	10	..	

No.	Date	Comp.	Phase	G.M.T.	Period	Amp.	Dist.	Remarks		
				h. m. s.	Sec.	Micron	Km.			
15	1944 March 15	N	P	5 59 18	..	..	1,830	
		N	S	6 02 18	..	..	..
		E	M	6 03 46	8	5	..			
		N	M	6 03 56	8	9	..			
16	Do 15	E	P	6 26 47	..	..	1,690	
		E	S	6 29 34	..	..	..
		E	M	6 31 18	9	6	..			
17	Do 15	E	S	9 10 52	..	..	..
		E	M	9 23 15	9	2	..			
18	Do 22	N	P	0 52 33	..	..	5,410	Times approximate. Clock correction un- certain.
		N	PcP	0 53 48	..	..	..
		N	PP	0 54 34	..	..	..
		N	S	0 59 35	..	..	..
		N	ScS	1 02 07	..	..	..
		N	SS	1 03 18	..	..	..
		N	M	1 16 14	15	11	..			
		19	Do 31	E, N	P	3 01 21	6,240	
				N	PcP	3 02 23	
				N	PP	3 03 15	
N	S			3 09 11	..	..	..
N	PS			3 09 18	..	..	..
20	April 4	N	ScS	3 11 11	..	..	..
		N	L	3 19 04	..	..	..
		N	M	3 25 18	16	8	..			
		N	M	23 27 16	9	2	..			
21	Do 5	E	M	23 27 29	8	2	..			
		E	M	18 26 11	9	2	..			
22	Do 9	E	M	1 05 41	12	4	..			
		N	M	1 06 09	9	3	..			
23	Do 9	N	M	18 41 46	12	3	..			
24	Do 10	N	e	3 37 26	..	..	1,820	
		N	P	3 37 58	..	..	..
		N	S	3 40 57	..	..	..
		N	M	3 41 56	6	38	..			
25	Do 10	N	M	5 33 49	9	3	..			
26	Do 10	N	M	6 53 34	9	2	..			
27	Do 10	N	M	10 21 16	9	3	..			

No.	Date	Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks
				h.	m.	s.				
	1944									
	April—(contd.)									
28	Do	17	E	18	02	04	11	3	..	
			N	18	04	32	10	3	..	
29	Do	17	E	18	57	34	11	3	..	
30	Do	20	N	0	05	26	16	4	..	
31	Do	22	N	1	59	28	13	2	..	
32	Do	26	N	2	04	02	..	..	6,300
			E	2	04	05	..	..	..
			N	2	05	10	..	..	..
			E	2	06	01	..	..	..
			N	2	11	55	..	..	..
			E	2	13	33	..	..	..
			N	2	15	21	..	..	..
			E	2	21	33	..	..	..
			N	2	28	29	12	4	..	
			E	2	33	59	15	5	..	
33	Do	27	E, N	14	48	02	..	..	6,330
			E	14	48	47	..	..	..
			N	14	49	53	..	..	..
			E, N	14	55	57	..	..	..
			N	14	57	36	..	..	..
			E	14	59	30	..	..	..
			E	15	06	14	..	..	..
			E	15	13	06	21	32	..	
			N	15	19	39	16	19	..	
34	Do	27	N	19	14	38	..	..	6,580
			N	19	22	46	..	..	..
			N	19	41	40	9	2	..	
35	Do	29	N	21	45	44	..	..	2,250
			N	21	49	24	..	..	..
			N	21	52	46	6	2	..	
36	May	2	E	12	36	37	..	..	1,110
			E, N	12	38	29	..	..	..
			N	12	41	04	8	5	..	
			E	12	41	09	8	3	..	
37	Do	5	N	6	03	42	..	..	..
			N	6	20	28	11	3	..	
38	Do	6	N	1	16	52	18	5	..	
39	Do	9	N	13	25	19	5	3	..	
			E	13	25	19	5	2	..	
40	Do	18	E	4	55	03	..	..	8,360
			N	5	04	43	..	..	..

No.	Date	Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks
				h.	m.	s.				
	1944									
	May 18—(contd.)									
			N	5	05	15	..	..	..
			N	5	17	30	..	..	..
			N	5	23	26	11	3	..	
41	Do	19	E	0	31	02	..	..	8,360
			N	0	40	42	..	..	..
			N	0	41	15	..	..	..
			N	0	44	54	..	..	..
			N	0	55	53	..	..	..
			N	1	01	35	10	2	..	
42	Do	20	E	2	26	24	..	..	1,820
			E	2	29	23	..	..	..
			E	2	31	56	5	2	..	
43	Do	25	N	1	24	18	..	..	..
			N	1	29	25	..	..	..
			N	1	30	25	..	..	..
			N	1	31	02	..	..	..
			N	1	38	46	..	..	..
			N	1	55	35	..	..	..
			N	2	05	32	18	6	..	
44	Do	25	E, N	13	09	56	..	..	8,290
			E	13	12	34	..	..	..
			N	13	19	33	..	..	..
			E	13	20	18	..	..	..
			N	13	24	14	..	..	..
			E	13	35	01	..	..	..
			N	13	39	46	11	8	..	
			E	13	42	05	10	4	..	
45	Do	25	E	15	30	29	15	4	..	
46	Do	30	E, N	9	59	33	..	..	1,560
			E	10	02	02	..	..	..
			N	10	02	08	..	..	..
			E	10	03	09	..	..	..
			E	10	04	38	4	2	..	
			N	10	05	03	4	6	..	
47	June	4	N	14	13	20	12	3	..	
48	Do	4	N	20	20	20	12	3	..	
49	Do	9	N	20	54	49	..	..	..
			N	21	12	19	9	2	..	
50	Do	16	N	23	19	08	15	5	..	
51	Do	19	N	19	53	30	14	3	..	

No.	Date	Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks
				h.	m.	s.				
				h.	m.	s.	Sec.	Micron	Km.	
1944 June—(contd.)										
52	Do 20	E	P	11	44	30	..	..	2,350	
		E	S	11	48	18	..	..	..
		N	M	11	49	40	9	5	..	
		E	M	11	51	58	9	3	..	
53	Do 21	E	eP	11	12	04	..	..	11,000	
		N	PP	11	15	28	..	..	..
		N	SKS	11	22	34	..	..	..
		N	S	11	23	15	..	..	..
		N	SS	11	30	01	..	..	..
		N	L	11	45	22	..	..	..
		N	M	11	53	30	18	16	..	
		E	M	11	54	42	12	4	..	
54	Do 28	N	P ₁	8	18	38	..	..	16,660	
		N	P ₂	8	18	54	..	..	..
		N	PKS	8	21	57	..	..	..
		N	SKKS	8	29	06	..	..	..
		N	SKSP	8	32	15	..	..	..
		N	M	9	23	22	20	20	..	
55	July 5	N	eP	10	04	49	..	..	2,890	
		N	S	10	09	17	..	..	..
		N	SS	10	10	10	..	..	..
		N	L	10	12	14	..	..	..
		N	M	10	14	31	16	4	..	
56	Do 18	N	M	11	24	58	15	4	..	
57	Do 17	N	P	11	06	32	..	..	6,780	
		N	PcP	11	07	21	..	..	..
		N	PP	11	08	32	..	..	..
		N	S	11	14	51	..	..	..
		N	ScS	11	16	30	..	..	..
		N	SS	11	18	27	..	..	..
		N	L	11	23	21	..	..	..
		N	M	11	25	22	11	4	..	
58	Do 19	N	S	10	39	12	..	..	..
		N	PS	10	39	19	..	..	..
		N	ScS	10	41	09	..	..	..
		N	L	10	50	11	..	..	..
		N	M	10	55	44	15	12	..	
59	Do 19	N	M	23	41	07	18	3	..	
60	Do 20	N	M	20	45	59	14	3	..	
61	Do 23	N	eP	12	01	53	..	..	3,640	
		N	PP	12	02	58	..	..	..
		N	PcP	12	04	26	..	..	..

No.	Date	Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks
				h.	m.	s.				
				h.	m.	s.	Sec.	Micron	Km.	
1944 July 23—(contd.)										
		N	S	12	07	10	..	..	..
		N	L	12	11	15	..	..	..
		N	M	12	14	12	8	6	..	
62	Do 27	N	eP	0	17	23	..	..	9,710	
		N	SKS	0	27	42	..	..	..
		N	S	0	28	07	..	..	..
		N	M	0	52	17	15	5	..	
63	Do 27	N	P	8	22	7	..	..	1,600	
		N	S	8	24	45	..	..	..
		N	M	8	26	50	8	12	..	
64	Do 30	N	M	15	44	24	9	2	..	
65	August 2	N	e	22	57	57	..	..	2,120	
		N	P	22	58	32	..	..	..
		N	PP	22	58	47	..	..	..
		N	S	23	01	58	..	..	..
		N	SS	23	02	17	..	..	..
		N	L	23	04	01	..	..	..
		N	M	23	05	05	10	12	..	
66	Do 6	N	M	7	40	45	9	2	..	
67	Do 7	N	P ₁	3	45	29	..	..	16,660	
67	Do 7	N	PP	3	49	32	..	..	..
		N	SKSP	3	59	03	..	..	..
		N	M	4	49	15	16	8	..	
68	Do 8	N	M	9	00	05	12	5	..	
69	Do 10	N	S	11	09	38	..	..	..
		N	M	11	16	49	9	2	..	
70	Do 12	N	PP	9	17	55	..	..	5,200	
		N	S	9	23	02	..	..	..
		N	PS	9	23	21	..	..	..
		N	L	9	29	50	..	..	..
		N	M	9	33	26	10	2	..	
71	Do 14	N	eP	14	29	33	..	..	4,290	
		N	S	14	35	29	..	..	..
		N	ScS	14	39	21	..	..	..
		N	L	14	42	29	..	..	..
		N	M	14	46	01	15	6	..	
72	Do 15	N	M	1	47	07	11	3	..	
73	Do 15	N	P	11	57	55	..	..	6,690	
		N	S	12	06	09	..	..	..
		N	ScS	12	07	26	..	..	..

Times approximate.

No.	Date	Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks				
				h.	m.	s.								
1944 August 15—(contd.)														
74	Do	18	N	SS	12	10	01	6,310				
			N	M	12	21	53	12	2					
			N	eP	10	42	53	..	..			
			N	S	10	50	47	..	..			
			N	SS	10	54	22	..	..			
75	September	3	N	L	11	00	8				
			N	M	11	05	51	15	4					
			N	PP	19	33	03	..	..			
			N	PKS	19	34	03	..	..			
			N	e	19	44	23	..	..			
76	Do	6	N	M	20	15	34	16	7	..				
			N	S	13	41	54	..	..			
			N	M	13	46	49	15	9					
			77	Do	11	N	P	9	54		21	5,370
						N	PP	9	56		16	
N	S	10				01	20	..	..			
78	Do	14	N	ScS	10	04	04				
			N	L	10	09	34	..	..			
			N	M	10	13	35	16	4					
			N	P	6	46	29	..	..			
			N	PP	6	48	02	..	..			
79	Do	23	N	S	6	52	24	4,270				
			N	ScS	6	56	33	..	..			
			N	L	6	58	00	..	..			
			N	M	7	02	48	14	4					
			N	P	12	24	40	..	..			
80	Do	24	N	S	12	33	49	7,750				
			N	PS	12	34	09	..	..			
			N	ScS	12	34	52	..	..			
			N	L	12	45	52	..	..			
			N	M	12	50	54	20	28					
81	Do	27	N	M	11	33	13	21	8	2,570	Times approximate. Clock correction uncertain.			
			N	P	16	29	44	..	..			
			N	PP	16	30	07	..	..			
			N	PeP	16	33	33	..	..			
			N	S	16	33	48	..	..			
82	Do	27	N	M	16	38	06	9	88	2,580	Times approximate.			
			N	P	16	57	43	..	..			
			N	S	17	01	48	..	..			
			N	M	17	06	06	8	15					
			N	P	5	18	02	..	..			
83	Do	30	N	P	5	18	02	1,640				

No.	Date	Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks				
				h.	m.	s.								
1944 September 30—(contd.)														
84	Do	30	N	S	5	20	45	2,620				
			N	M	5	22	13	11	3					
			N	P	7	45	55	..	..			
			N	cS	7	50	03	..	..			
			N	L	7	52	47	..	..			
85	October	6	N	M	7	54	17	10	4	5,480				
			N	P	2	43	39	..	..			
			N	S	2	50	45	..	..			
			N	M	3	07	59	11	2					
			86	Do	17	N	P	18	40		17	1,590
N	eS	18				42	54	..	..			
N	SS	18				43	13	..	..			
87	Do	24	M	M	1	16	10	16	2	..				
			88	Do	29	N	P	0	14		53	1,550
						N	S	0	17		27	
89	Do	29	N	M	0	19	19	5	44	..				
			N	P	15	19	40	..	..			
			N	M	15	26	18	6	3					
90	Do	29	N	M	17	34	10	8	2	..				
			91	November	10	N	M	8	16		16	10	1	..
						N	M	14	16		25	15	4	
92	Do	10	N	M	14	16	25	15	4	..				
			93	Do	11	N	S	3	28		05
						N	M	3	31		11	6	2	
94	Do	14	N	S	23	26	03				
			95	Do	15	N	eP	20	55		51	5,460
						N	iP	20	56		02	
N	PeP	20				56	45	..	..			
96	Do	16	N	PP	20	58	15	10,290				
			N	eS	21	03	00	..	..			
			N	iS	21	03	07	..	..			
			N	ScS	21	05	15	..	..			
			N	SS	21	06	58	..	..			
			N	L	21	12	04	..	..			
			N	M	21	15	55	15	19					
			N	F	23	45	..	..	..		
			N	P	12	24	05	..	..			
			N	SKS	12	34	57	..	..			
N	S	12	35	13	..	..						

No.	Date	Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks
				h.	m.	s.				
1944 November 16—(contd.)										
		N	SS	12	41	05	..	..	..
		N	L	12	54	07	..	..	..
		N	M	13	01	59	15	19	..	
		N	F	16	10	..	..	..	..
97	Do 18	N	M	9	24	29	16	3	..	
98	Do 20	N	eS	17	17	28	..	..	..
		N	M	17	19	52	10	3	..	
99	Do 20	N	eS	17	36	38	..	..	..
		N	M	17	40	10	8	2	..	
100	Do 20	N	eS	22	07	42	..	..	..
		N	M	22	10	28	6	2	..	
101	Do 21	N	M	11	34	27	14	2	..	
102	Do 23	N	S	11	10	12	..	..	..
		N	M	11	15	41	8	2	..	
103	Do 24	N	P	5	02	55	..	..	8,380
		N	PP	5	05	45	..	..	..
		N	S	5	12	36	..	..	..
		N	PS	5	13	22	..	..	..
		N	L	5	27	29	..	..	..
		N	M	5	34	53	13	4	..	
104	Do 26	N	M	0	29	06	16	5	..	
105	Do 26	N	eP	9	11	57	..	..	3,200
		N	S	9	16	46	..	..	..
		N	M	9	23	43	9	2	..	
106	Do 26	N	M	9	34	54	6	2	..	
107	Do 29	N	S	19	14	54	..	..	..
		N	M	19	22	16	16	4	..	
108	December 4	N	M	20	54	39	8	2	..	
109	Do 7	N	eP	4	45	01	..	..	6,140
		N	iP	4	45	12	..	..	..
		N	PP	4	47	15	..	..	..
		N	S	4	52	56	..	..	..
		N	SS	4	56	33	..	..	..
		N	M	5	06	15	15	371	..	
		N	F	9	58	..	..	..	..
110	Do 7	N	M	21	31	14	15	3	..	
111	Do 8	N	P	6	48	41	..	..	2,180

No.	Date	Comp.	Phase	G.M.T.			Period	Amp.	Dist.	Remarks
				h.	m.	s.				
1944 December 8—(contd.)										
		N	S	6	52	13	..	..	..
112	Do 8	N	M	18	54	02	15	2	..	
113	Do 10	N	P	5	19	32	..	..	4,760
		N	PP	5	21	17	..	..	..
		N	S	5	25	56	..	..	..
		N	ScS	5	29	22	..	..	..
		N	L	5	32	15	..	..	..
		N	M	5	33	13	15	4	..	
114	Do 10	N	M	17	23	00	15	3	..	
115	Do 12	N	P	4	29	42	..	..	9,140
		N	SKS	4	40	02	..	..	..
		N	S	4	40	15	..	..	..
		N	PS	4	40	38	..	..	..
		N	SS	4	46	08	..	..	..
		N	M	5	04	32	18	9	..	
116	Do 12	N	eP	10	34	47	..	..	5,960
		N	S	10	42	20	..	..	..
		N	M	10	56	01	12	3	..	
117	Do 18	N	P	3	05	01	..	..	2,290
		N	S	3	08	43	..	..	..
		N	M	3	13	03	5	2	..	
118	Do 18	N	eP	3	18	41	..	..	600
		N	S	3	19	42	..	..	..
		N	M	3	21	00	8	2	..	
119	Do 19	N	P	14	17	17	..	..	4,920
		N	S	14	23	51	..	..	..
		N	ScS	14	27	25	..	..	..
		N	M	14	37	03	9	4	..	
120	Do 20	N	M	21	51	51	15	4	..	
121	Do 21	N	eP	20	31	39	..	..	12,220
		N	SKS	20	42	32	..	..	..
		N	L	21	08	11	..	..	..
		N	M	21	15	20	18	5	..	
122	Do 21	N	M	23	29	36	15	4	..	
123	Do 22	N	M	6	42	05	15	2	..	
124	Do 22	N	M	23	52	14	18	5	..	
125	Do 23	N	M	17	43	48	15	4	..	

No.	Date	Comp.	Phase	G.M.T.	Period	Amp.	Dist.	Remarks
				h. m. s.	Sec.	Micron	Km.	
	1944							
	December—(contd.)							
126	Do 24	N	P	14 50 11	..	..	1,580	
		N	S	14 52 46	..	..	..
		N	M	14 54 59	10	89	..	
		N	F	16 03 38	..	..	..
127	Do 24	N	eS	22 24 38	..	..	..
		N	M	22 29 44	9	2	..	
128	Do 27	N	P	15 37 29	..	..	8,810	
		N	PP	15 40 00	..	..	..
		N	S	15 47 07	..	..	..
		N	SS	15 51 54	..	..	..
		N	L	16 02 01	..	..	..
		N	M	16 07 56	15	3	..	
129	Do 28	N	eP	1 16 42	..	..	9,220	
		N	PP	1 19 16	..	..	..
		N	eS	1 27 04	..	..	..
		N	L	1 44 44	..	..	..
		N	M	1 51 12	21	8	..	
130	Do 29	N	M	14 20 26	14	2	..	
131	Do 30	N	M	23 02 25	22	10	..	