

Station: KBL
 Period: Jun. 08 15 35 To Jul. 01 19 68
 S.P. Mag. 4.00 K. at 1.0 sec. Duration 2
 L.P. Mag. 6 K. at 15.0 sec. Date July 01 1968
 E.A. 54.0 = 10.0 + 44.0

WASS: KBL

Latitude: 34°32.45'N
 Longitude: 69°02.59'W
 Elevation: +1.92KM

S.P. Mag. 4.00 K. at 1.0 sec. Duration 2
 L.P. Mag. 6 K. at 15.0 sec. Date July 01 1968

Period: Jun. 08 15 35 To Jul. 01 19 68

i = Impulsive; e = Emerge; C = Compression; U = Unilateral

Day	Phase	Time(U.T.) hr. min. sec.	T (sec.)	2A (mm)	Day	Phase	Time(U.T.) hr. min. sec.	T (sec.)	2A (mm)
08	e(P) i	06 44 33.0 44 51.7			09	eP	06 25 56.6	0.9	
	e(S)	45 48.1			09	eP	09 11 58.0		
08	eP	10 35 21.0	0.9	11.0	09	eP	09 35 16.0		
	i	35 10.0				e	25 11.0		
08	eP	11 12 59.0			09	eP	11 11 11.0		
08	eP	13 02 45.5				eP	14 11 11.0		
	i	04 17.5			09	eP	11 42 42.5		
08	eP	17 03 56.0			09	eP	13 04 30.7		
	i	04 13.8			09	eP	13 36 01.3	1.0	
08	e(P)	20 25 09.2			09	eP	14 11 20.7	1.0	
09	eP	20 57 09.2			09	eP	20 02 21.7		
	e	58 33.3				eP	20 58 58.0		
08	eP	21 04 25.5	0.9	11.0	09	eP	21 11 10.0		
	i	04 36.5			09	eP	21 11 10.0		
08	eP	21 02 09.8			09	eP	21 08 21.7		
	eP	51 48.0				eP	21 08 21.7		
08	eP	23 08 13.7	0.9	11.0	09	eP	23 08 13.7		
08	eP	25 35 17.0			09	eP	25 35 17.0		
08	eP	27 03 21.0			09	eP	27 03 21.0		

No.	Time	Lat (N)	Long (E)	M	Depth (km)	Type	Phase	Time (hr:min)	Mag	Depth (km)	Mag	Depth (km)
10	10	35 03.0	0.0	1.5	10	1P0	01 31 37.5	0.1	10.0			
							35					
							37					
10	10	35 10 33.5			11	1P0	01 31 37.5					
							11 32.5					
10	10	35 13 23.5			11	1P0	01 31 37.5					
10	10	35 50 50.6			12	1P	01 32 01.0	1.2	10.0			
11	10	35 53 25.3			13	oP	01 32 30.0					
10	10	35 53 51.5	0.8	22.0	12	oP	01 32 49.5	0.7	10.0			
							53 57.0					
10	10	35 43 10.5	0.8	10.6	12	1P	01 33 07.5					
10	10	35 38 08.5			12	1P0	01 33 10.2	1.0	10.0			
							38 26.0					
10	10	35 36 21.3			13	1P0	01 33 50.3					
							36 56.5					
							38 56.5					
11	11	32 05.8			12	1P0	01 33 37.5					
							32 37.0					
11	11	31 09 52.7			12	oP	01 34 11.0					
11	11	31 19 52.0	0.8	6.0	12	oP	01 34 31.3					
11	11	31 53 22.5	1.2	7.5	12	o	01 34 40.0					
11	11	31 12 22.2			12	oP	01 34 17.0					
							12 50 25.0					
11	11	31 10 31.0	0.9	50.5	12	o	01 34 39.5					
12	12	30 35 23.3			12	oP	01 35 07.0					
							35 37.5					
12	12	30 00 17.2			12	oP	01 35 07.0					
							00 39.5					
							01 10.7					
12	12	30 05 23.4			12	oP	01 35 17.5					
							05 47.0					
12	12	30 30 31.5			12	oP	01 35 01.0					

Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)
12	1PD	23 35 19.5			13	eP	23 07 40.5		
12	1PD	00 14 53.0	0.8	87.5	13	1P	23 50 32.5	1.0	8.5
13	ePD	02 15 32.2			14	1PC	00 27 52.2	0.4	2.0
13	1PC	03 42 46.0	1.0	3.5	14	1PD	00 55 55.2		
13	eP	04 40 9.0	0.9	1.5	14	eP	01 07 40.7		
13	1PC	12 06 13.3			14	eP	01 19 44.8		
	eS	14 24 09.5			14	1PD	01 46 22.0	0.4	9.0
13	1PD	15 06 05.5			14	eP	02 34 08.0	0.9	3.5
	e(S)	06 25.0			14	1P	02 48 22.4	0.3	5.5
13	eP	15 40 07.8	0.8	13.0		1	48 35.0		
13	1PD	16 26 30.4	0.7	7.5	14	eP	03 05 24.5		
13	1PC	16 46 11.7	0.6	9.0	14	eP	03 28 04.5		
13	1PC	17 28 07.4			14	eP	04 03 15.0		
	1(S)	28 48.0			14	ePD	09 30 29.6		
13	eP	17 56 27.3				e(S)	30 54.0		
	eS	58 19.5			14	ePC	10 05 01.3	1.0	5.0
13	1PD	18 02 42.5			14	eP	12 02 28.0		
13	eP	18 47 06.2			14	1PC	12 27 50.5		
	e	47 54.0			14	1PD	13 34 06.5		
13	ePD	19 10 54.0	0.7	7.5	14	eP	15 29 31.5	1.0	3.5
13	1PD	20 39 16.3			14	eP	18 29 46.6	1.0	2.0
	e(S)	39 28.0			14	1PC	18 52 20.8	0.5	4.4
13	1PC	21 20 24.6			14	1PC	19 22 17.0	0.9	11.0
	eS	28 22.5			14	eP	19 30 08.4	0.9	2.0
13	1PC	21 34 18.0	1.0	4.0	14	1P	21 02 35.0	0.9	1.0
13	eP	21 54 25.0	1.2	2.5	14	eP	22 32 30.2	0.9	2.0
13	eP	22 06 30.0							
	e	07 02.0							
13	1PD	22 30 49.0							

Year	Phase	Time (U.T.) hr min. sec.	M (local)	M (int)	Day	Phase	Time (U.T.) hr min. sec.	M (local)	M (int)
14	eP	03 13 34.4	0.9	2.5	15	eP	15 45 15.0	1.0	3.0
14	eP e	23 03 20.8 30 30.5	0.9	2.5	15	eP e(S)	17 17 40.5 18 07.5		
15	1PD	06 33 55.7	0.9	2.4	15	eP e	18 05 24.2 06 09.0		
15	1PD e	06 41 56.5 42 04.5	0.8 0.2	4.0	15	eP e	18 15 20.0 15 51.6		
15	eP	06 54 14.5	0.9	3.0	15	eP eS	19 37 13.0 37 58.5		
15	eSB	02 23 42.0	1.1	11.9	15	1PD i	26 02 51.0 03 03.0	0.8	14.0
15	1PD	03 41 08.3			15	e(P)	20 03 26.2	0.8	4.0
15	eP	07 57 15.2			15	e(P) 1P e(S)	20 25 43.0 26 19.0 27 52.0		
15	1PD	01 40 17.8							
15	eP eS	07 27 20.2 28 02.0			15	e(P) e	22 39 31.2 46 32.5		
15	eP	07 40 24.0			15	eP	23 24 03.5	0.8	4.0
15	e(P)	06 50 03.5			16	eP	01 16 20.2	1.0	1.5
15	1P eS	10 01 15.8 01 47.0			16	1P	02 38 11.3		
15	eP e	10 24 35.0 25 05.5			16	eP	11 47 43.4	1.0	3.0
15	1PD	11 27 24.0			16	1P	11 54 52.0		
15	e(P) eS	11 35 17.5 36 18.5			16	1PD	12 14 28.5	0.8	9.0
15	1PD	11 38 01.7			16	e(P) e	12 20 17.8 20 52.6		
15	1P	12 13 25.6			16	eP	12 25 01.3		
15	eP i	14 06 39.0 07 33.0	0.8	2.5	16	eP	13 16 57.5		
15	eP e(S)	15 17 45.0 18 25.2			16	e(P)	13 48 29.5		
15	eP				16	eP	15 50 48.0	0.8	3.0
15					16	eP	16 09 24.7		

Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)
16	1PD 1	17 06 31.3 06 39.3	0.9	8.0	17	eP	19 00 23.0		
16	eP	19 01 17.3	0.9	5.0	17	1PD	19 07 23.5		
16	eP	20 48 34.0	1.0	9.5	17	eP	19 41 06.5		
17	eP IS	00 03 09.8 04 10.5			17	eP e	20 16 02.5 16 43.4		
17	1PD	01 19 49.2			17	eP	22 24 53.5		
17	eP e(S)	04 57 32.5 58 02.5			17	eP e	23 30 45.2 31 15.5		
17	eP	05 00 37.0			18	eP	00 20 26.0	0.7	7.5
17	1PC	05 03 10.0			18	e(P)	02 59 40.4		
17	1PC	06 27 56.0	0.8	88.0	18	1P	12 26 43.3		
17	eP e	07 24 55.5 25 28.5			18	eP	13 47 48.4		
17	e(P) e	07 27 39.5 28 03.3			18	eP e	16 14 31.1 16 43 15.2 43 48.0	0.8	1.5
17	eP e	07 40 33.0 41 06.5			18	1PD	17 20 23.3	0.8	5.0
17	eP	07 45 11.2			18	1P e	20 13 30.2 14 05.3		
17	eP	09 58 40.7			18	1PD	21 30 18.2		
17	1PD eS	12 02 44.4 10 46.0			18	eP e	23 19 47.5 20 46.0		
17	ePD	13 18 57.5			18	1PC e	23 22 40.2 22 44.5		
17	1P	16 25 05.5			19	1PC	01 48 06.2	0.8	23.0
17	1PD	16 54 46.5			19	1PD	01 54 52.8		
17	1PD e eS	17 06 08.4 08 06.0 14 10.3			19	eP e eS	08 32 53.8 33 01.0 36 21.0		
17	1PC e	18 01 59.4 02 33.5	0.7	14.0					

Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (km)	Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (km)
19	eP e	11 07 56.0 08 27.0			21	eP i	17 24 23.5 24 41.0		
19	eP	13 02 55.5			21	eP e	19 01 43.5 04 33.5		
19	iP i	13 29 08.5 29 40.3	0.6	7.0	21	eP	20 26 29.5	1.1	1.5
19	e(P)	15 08 27.0			21	eP	21 34 11.8		
19	eP	16 30 58.5			21	ePD	22 19 42.8		
19	iP	18 13 10.2	0.9	2.0	22	ePD i	03 36 37.0 37 01.5		
19	eP	19 22 49.5	0.9	2.0	22	iP eS	01 22 24.4 20 27.7		
19	eP	20 17 54.5			22	eP	02 57 00.5		
20	eP	01 02 20.3			22	eP	03 12 34.5	0.8	2.0
20	eP	02 58 02.3			22	eP	04 13 57.0 14 16.5		
20	eP e	05 10 47.5 01 18.0			22	eP e	05 59 25.0 06 09 47.5	0.6	3.0
21	iP i	07 43 05.8	0.9		22	e(P)	08 49 05.0	0.7	2.1
21	eP e	08 40 59.4 42 17.3			22	ePD	09 17 56.5	0.8	3.0
21	eP e	10 37 09.7 37 45.5			22	eP i	09 22 46.5 23 21.5		
21	iP i	11 32 21.6 33 05.5	0.6	3.0	22	e(P)	10 05 12.8		
21	eP e	11 44 55.6 45 25.5			22	e(P)	10 30 35.0		
21	iPD	13 59 15.4			22	eP	10 45 34.5		
21	eP	15 00 17.0			22	eP iPeP	11 15 34.5 17 16 40.5		
21	eP e e	15 51 47.4 52 25.0 54 27.0			22	e(P)	11 25 39.0		
21	e(P)	16 32 33.5			22	e(P)	11 30 45.0		
					22	eP	11 40 11.5		

Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	Z ₀ (km)	Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	Z ₀ (km)
22	eP	36 00 32.0	1.0	19.3	23	eP	19 14 45.7		
22	eP	18 37 24.3			23	e	15 40.7		
	e	37 43.5			23	e(P)	21 12 51.0		
22	eP	20 20 41.5			23	e	13 36.0		
	e	21 16.0			23	e(P)	23 40 27.0		
	e	21 27.5			24	eP	00 47 36.0		
22	ePD	22 12 26.2				i	48 11.8		
	e	12 56.5			24	eP	03 07 23.3		
23	eP	06 51 27.5				e	07 47.0		
23	eP	07 05 13.5			25	e(P)	03 22 03.5		
23	e(P)	01 21 13.0				e	22 37.0		
23	e(P)	02 11 14.0			26	IFC	03 30 59.0		
23	IFD	03 08 17.5			26	e(P)	06 47 25.2	0.8	4.0
	e	08 47.5			27	e(P)	07 51 01.6		
23	e(P)	03 46 06.3			27	IFD	08 38 07.8	1.0	16.0
	e	46 32.5				e	38 18.0		
23	eP	08 14 19.0	0.5	7.0	27	IFD	09 31 28.7	0.6	4.0
23	ePD	09 20 02.5	1.2	77.0		e	32 43.5		
	e	22 46.5			27	eP	12 29 03.3	0.7	4.0
	e	24 41.5			27	eP	15 21 26.2		
23	IFP	12 54 02.0			28	IFD	16 03 34.7		
23	eP	14 36 30.8	0.8	7.0		e	09 02.2		
23	eP	15 19 37.0			28	eP	16 30 24.8		
	e(S)	20 08.5				i	30 56.5		
23	eP	15 41 12.0			28	eP	16 41 32.4		
	i	41 53.0			29	e(P)	17 01 51.5		
23	eP	17 06 10.7			29	eP	18 32 48.5		
	e	09 20.7			29	IFD	21 52 45.7		
23	eP	18 39 23.7				i	53 20.0		
	e	40 18.5							

Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)
24	e(S)	22 35 59.0			25	iPD e(S)	23 13 12.0 51 11.5		
24	e(P)	23 31 40.0							
25	eP	00 02 57.5			26	eP	01 57 58.0		
25	e(P) e(S)	02 08 03.5 03 35.5			26	eP	05 32 32.0		
25	e(P)	04 16 11.3			26	eP e	05 16 16.2 47 21.0		
25	e(P)	06 23 09.0			26	iPC e	09 21 46.2 25 17.5		
25	e(S)	07 38 25.0	0.6	3.0	26	eP e	10 33 28.7 13 16.0		
25	e(P)	08 43 10.8			26	e(P) e	12 35 25.4 12 56.5		
25	e(P)	09 23 26.9			26	eP e	12 10 20.5 11 22.0		
25	eP	10 17 48.2	1.0	4.0	26	e(P)	13 53 37.0		
25	iP	11 18 25.0	1.0	6.0	26	eP	15 58 57.0	2.0	11.0
25	e(P) e	12 33 49.4 34 31.4			26	eP	16 26 10.0 26 37.0		
25	e(P) e	13 07 14.6 07 57.0			26	iPD e	16 14 13.2 12 37.0		
25	e(P)	13 13 18.5			26	e(P)	18 04 39.3		
25	eP e	14 24 37.0 25 22.5			26	iPC i	18 22 18.2 23 20.0		
25	e(P)	17 14 34.0			26	eP	19 06 11.7	2.0	14.0
25	iPD i	17 26 47.7 54 28.5			26	e(P) i	19 45 03.4 43 29.5		
25	eP	20 16 09.5			26	iPD	20 02 57.7	0.6	11.0
25	iP e	21 16 17.4 18 05.0			26	e(P) i	20 25 27.5 24 10.3		
25	e(P)	21 25 35.0			26	eP	20 36 02.4		

Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)
26	eP	21 14 52.5			27	iP	19 50 11.0		
26	eP	21 22 46.6				e	50 28.5		
	e	23 15.5			27	eP	22 03 33.0		
26	e(P)	21 28 20.5				e	03 56.0		
26	iP	21 38 32.5	0.5	2.5	27	iPC	22 19 34.3		
	i	39 17.0			27	iPC	22 24 28.3	0.9	50.5
	e(P)	23 53 02.5				e(S)	32 50.5		
	e	53 41.0			27	eP	23 23 41.3		
27	eP	00 58 43.4			28	iPD	01 05 03.8		
	i	59 15.0			28	iPD	01 35 35.3	0.8	9.0
27	iPC	02 20 23.8	0.8	17.0	28	eP	02 21 03.5		
	i	23 06.8			28	eP	06 43 04.2		
27	ePD	06 13 21.6			28	e(P)	07 25 07.2		
	iS	14 46.0			28	eP	07 33 17.3		
27	eP	06 34 03.5			28	eP	09 28 06.8		
	i	34 38.4				i	28 51.0		
27	eP	08 55 54.5			28	iPD	09 40 17.5	0.8	24.0
	e	56 24.5			28	iPC	09 53 56.2	0.8	13.5
27	eP	09 31 28.0			28	eP	11 13 17.0		
27	e(P)	09 57 50.0			28	eP	11 42 34.9		
	e	58 13.2				e	42 55.1		
27	eP	11 00 19.8	0.7	6.0	28	e(P)	12 23 52.0		
27	eP	12 02 01.5				i	24 17.5		
27	e(P)	14 01 25.0			28	iPD	13 40 26.1	0.7	5.0
	e	01 56.0			28	eP	14 02 57.8		
27	ePD	15 37 14.5				e	03 28.0		
	e	37 45.3			28	e(P)	14 31 34.0		
27	e(P)	17 00 40.0				e	32 20.0		
27	iPD	17 21 39.8				i(S)	33 51.0		

Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	
28	1PD	15 11 23.0			29	1P	16 18 53.0		
28	e(P)	17 37 50.0			29	e	19 23.0		
28	eP	18 26 16.7			29	e(P)	16 39 31.5		
28	1PG	19 40 14.4			29	i	39 56.5		
28	1P	20 15 52.6			29	e(P)	18 17 09.2		
	e	16 34.0			29	e(P)	18 44 01.3		
28	eP	20 39 49.6			29	e	44 20.0		
	e	43 55.5			29	eP	19 10 26.0		
28	eP	21 28 08.4	0.9	14.5	29	i	10 48.7		
28	eP	21 42 49.0			29	eP	21 42 24.6		
28	1P	22 11 07.0			29	i	42 39.6		
	i	11 42.1			29	1P	21 48 54.2		
29	e(P)	00 01 06.2				e	49 24.7		
29	eP	00 11 11.3	1.0	6.0	29	1P	22 47 32.8		
29	eP	01 27 09.8	0.9	7.0	29	i	48 10.0		
29	eP	03 23 10.5			30	e(P)	00 35 39.5		
	e	23 52.5				e	36 03.5		
29	1PD	04 30 32.0	1.0	27.0	30	e(P)	01 25 51.0		
29	1PD	06 29 53.5	0.7	26.5	30	1PD	03 28 10.7		
29	e(P)	06 38 54.0				i	28 27.5		
29	e(P)	06 40 46.7			30	e(P)	04 28 39.5		
29	1PG	07 56 57.0				i	29 27.0		
29	eP	08 19 35.0	1.0	3.5	30	eP	05 09 04.2	1.0	21.0
29	eP	10 10 26.0				e	13 08.7		
29	e(P)	10 23 31.5			30	eP	09 02 12.2	0.8	11.0
	e	21 05.5			30	eP	09 46 49.0	0.7	27.0
29	eP	11 57 23.3				e	47 13.0		
29	e(P)	11 52 30.0				eP	56 16.0		
	e	53 31.0			30	e(P)	10 37 51.7		
29	eP	11 57 23.3			30	eP	11 55 40.0		
29	e(P)	11 52 30.0			30	e(P)	12 44 01.5		
	e	53 31.0				e	44 34.5		

Day	Phase	Time(U.T.) hr. min. sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)
30	eP	13 24 20.5	0.9	4.5					
30	iND i	14 18 47.5 19 06.0							
30	eP	14 22 13.0							
30	iPC e e	14 58 28.0 58 41.0 06 35.0	1.0	34.0					
30	eP e e	15 24 03.0 24 10.5 24 34.8							
30	e(P) e	16 15 46.0 16 09.0							
30	iP i	16 59 16.3 59 37.5							
30	e(P) i i	18 30 36.0 31 04.5 31 26.0							
30	e(P)	18 54 19.0							
30	iP e	20 27 14.5 27 24.0							
30	eP i	20 40 13.3 40 34.6	0.5	7.0					
30	e(P) e	22 18 11.7 18 24.7							
30	e(P)	22 36 19.5 36 58.0							



ALL P, S PPKR PPKR

27 NOV 1968

PAKISTANISTAN GEOLOGICAL SURVEY
FACULTY OF ENGINEERING - RAJPUT UNIVERSITY
R.A. KHAN - DIRECTOR

WSSNS: KHL

Latitude: 25° 32' 15" N
Longitude: 69° 02' 59" E
Elevation: 41.92 KM

S.P. Mag. 4.00 K. at 1.0 sec. Bulletin# 1111
L.P. Mag. 6 K. at 15.0 sec. Dated Aug 05 1968

Sta No: 1011

Period: Jul 01 19 68 To Aug 01 19 68

i = Impulsive; e = Emergent; C = Compression; D = Dilatation

Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)
01	e(P) i	01 09 48.6 10 24.0			01	eP	17 30 01.7		
					01	eP	18 15 02.1		
01	e(P) e	02 57 28.0 58 11.0			01	eP e	19 17 52.5 20 38.0		
01	iPD i i i	03 16 04.0 16 08.0 16 37.5 16 53.0			01	eP e	19 56 21.0 57 02.0		
01	iPD e	04 06 41.9 07 52.5			01	eP e	20 39 30.0 40 09.0		
01	eP e e(S)	08 25 38.0 25 46.5 30 58.5			01	e(P)	21 23 49.0		
					01	eP	23 46 05.5		
01	e(P)	09 45 15.0			01	iP	23 55 28.2		
01	eP e	10 10 52.0 11 21.0			02	iD i	04 49 46.8 49 53.5		
01	eP e	10 26 21.0 28 33.5			02	e(P) i	09 40 54.5 41 42.2		
01	iPD eS	10 54 46.2 02 27.0			02	eP	10 26 08.0	0.3	13.7
01	iPD	12 32 19.0			02	e i	14 11 52.2 12 15.0		
01	e(P)	13 36 32.0			02	eP	16 00 37.7	0.3	13.5
01	e(P) e e(S)	14 50 05.8 52 02.0 52 16.5			02	e(P)	16 53 49.5		
01	e(P) i	15 40 44.5 41 12.5			01	e(P) i i	18 50 36.3 50 42.0 51 23.0		

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (sec)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (sec)
02	e(P)	19 16 14.8			03	eP e	12 39 35.6 40 25.6 40 39.5		
02	1FD	22 21 20.7	0.7	22.5					
02	eP	22 54 30.5			03	1P	13 22 28.1		
02	1P e	23 42 13.8 43 14.0			03	e(S)	16 20 01.0		
03	e(P) e	23 16 50.0 47 37.2			03	eP e	16 59 12.5 59 31.0		
03	eP	00 05 11.5			03	1FD	17 41 45.0		
03	e(P)	00 32 25.5			03	eP e	19 23 56.2 24 30.3		
03	e(P)	01 09 34.5			03	1FD	19 48 03.5		
03	eP	01 53 05.3			03	1FC	21 34 16.7		
03	eP i	01 59 31.5 00 11.3			04	1FD e	00 43 13.3 44 40.5		
03	eP i	02 04 54.5 05 26.2			04	e(P)	02 28 20.0		
03	eP	02 49 30.5	0.8	5.5	04	eP	03 50 02.0		
03	eP e	02 54 02.6 54 56.3			04	e(S) 13	06 50 53.5 55 00.0		
03	e(P)	03 05 22.2			04	1FD e(S)	07 22 19.0 30 12.0		
03	1P i	03 12 11.3 12 47.4			04	1FD	09 23 35.0		
03	e(P) e	03 15 47.2 16 25.0			04	eP	10 23 56.5		
03	1FC	06 52 13.5			04	e(S)	12 56 24.2		
03	eP e(S)	10 00 31.5 03 12.5			04	eP	13 28 06.2		
03	eP	11 35 32.0			04	eP	14 02 35.0		
03	eP e	11 58 52.0 58 27.0			04	eP e	18 02 32.0 03 01.0		
					04	eP	20 52 36.0		

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
04	iFC es	21 04 12.5 09 13.5			05	ePD	13 56 49.8		
04	eP es	21 55 02.5 56 31.0			05	eP es	14 35 35.5 38 07.5		
04	eP	22 15 27.5	1.0	4.0	05	e(P) e	17 45 52.5 46 21.0		
04	eP	23 24 32.0			05	eP	20 52 40.6		
05	iFC	00 43 20.0			05	eP	22 54 24.0	1.0	17.0
05	eP e	05 46 44.0 47 03.5			05	iFD	23 07 19.5	0.9	6.0
05	e(P)	05 51 18.3			05	e(P)	23 09 53.3		
05	e(P) e	06 11 11.5 11 40.8			06	eP e	00 35 29.5 36 07.0		
05	e(P)	06 36 53.0			06	eP e	01 17 16.0 18 17.5	0.8	7.0
05	e(P)	07 04 13.3			06	eP	03 08 37.3	1.0	17.0
05	eP e	07 24 31.5 25 08.0			06	e(P)	05 51 24.2		
05	eP e	07 52 10.6 52 39.8			06	eP e	09 35 11.0 38 32.5		
05	eP	08 25 53.9			06	eP	14 04 37.2		
05	eP	08 59 39.5	0.9	11.5	06	eP e	14 49 57.5 50 17.2		
05	e(P)	09 04 14.0	1.0	4.0	06	ePD	15 57 04.7	1.2	20.5
05	e(P) e	10 46 19.7 48 27.0			06	eP	16 54 16.5	0.8	3.0
05	e(P)	11 27 35.9			06	e(P) e	17 07 33.0 08 03.5		
05	eP es	11 37 57.1 45 52.0	0.6	89.0	06	iFD	17 21 03.4		
05	e(P) e	12 53 36.0 53 58.8			06	eP	17 25 47.7		
					06	eP e es	17 33 46.3 36 01.7 41 18.5	1.0	13.7

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
06	e(P)	17 46 43.7			07	eP	15 00 55.7		
06	eP i	18 35 05.0 35 43.0			07	eP	17 00 19.7	0.8	30.5
06	e(P)	19 30 41.8			07	eP	17 25 07.0		
06	1PC e(S)	19 40 27.0 49 49.6			07	1PC	17 56 15.0		
06	eP	20 15 04.5	0.8	23.0	07	1PD	21 43 53.0	0.9	12.5
06	eP	21 13 50.3	0.7	7.7	07	eP	21 52 20.1	0.8	8.5
06	eP e	22 56 30.5 57 04.5			07	eP	22 09 20.8		
07	eP e	00 03 27.4 04 01.0			07	eP	23 15 24.8		
07	eP	01 22 27.7			08	eP	00 07 31.4		
07	e(P) e	02 31 45.5 32 20.0			08	e(P) e	00 10 02.0 10 36.5		
07	e(P) e	03 29 49.0 30 23.0			08	ePD	00 13 29.7		
07	e(P)	05 09 14.8			08	ePD	00 28 26.4		
07	eP	06 48 37.0	0.5	3.5	08	eP	03 17 26.0	0.8	7.5
07	eP	08 17 09.7			08	eP	03 27 44.8		
07	eP	09 46 03.8	0.4	6.0	08	eP	03 55 40.0	0.4	6.5
07	eP e	10 18 14.5 13 41.0			08	ePD	04 03 09.2	0.7	14.0
07	ePD	13 26 02.8	0.9	12.5	08	eP e	04 33 45.2 34 22.5		
07	ePD i e(S)	13 33 42.0 36 19.2 37 50.0	0.4	26.5	08	e(P) e	06 33 26.5 33 58.5		
07	eP	14 38 52.4			08	eP	06 44 09.3	0.7	10.5
07	eP	14 42 28.5			08	1PD	07 08 00.0	0.7	10.5
					08	ePD	08 11 40.0	1.0	12.5
					08	e(P)	08 34 42.0		
					08	eP e(S)	11 30 25.7 34 05.0		

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
08	iP	11 49 52.0			10	e(P) eS	00 51 39.2 00 34.0		
08	ePD	12 27 10.5	1.0	22.0	10	e(P)	02 20 57.3		
08	iPD	13 15 31.7			10	e(P)	04 00 32.0		
08	eP e eL	17 19 12.3 22 10.0 24 21.7			10	e(P)	06 21 27.6		
08	e(P)	17 48 06.7			10	eP	06 49 31.5		
08	eP	20 58 59.5			10	eP	07 50 54.6		
08	eP	21 35 04.5			10	eP	09 13 45.5		
09	iPG	01 00 35.0			10	eP e	11 22 12.7 22 45.0		
09	iPD	03 23 50.1			10	eP eS	11 28 04.2 37 23.0		
09	e(P)	03 51 15.0			10	e(P) e	15 57 00.0 57 45.5		
09	eP	04 37 44.0			10	e(P)	18 51 28.0		
09	eP e	08 15 56.5 17 53.0			10	i	18 12 14.0		
09	e(P)	08 38 09.5			10	ePD	19 46 11.2		
09	eP e	09 13 49.5 14 20.0			10	iPD eS	20 50 20.0 58 18.0		
09	e(P)	09 44 03.3			10	eP	21 54 50.3	0.8	7.5
09	eP	11 49 35.0			10	iPD	22 30 59.3		
09	eP	12 51 04.1			11	e P	06 59 42.9		
09	e(P)	14 59 21.5			11	eP	07 27 22.0		
09	e(P)	15 07 46.0			11	e(P)	12 06 31.3	1.0	4.0
09	iP	21 25 31.4			11	eP	23 08 43.7	0.9	3.5
09	eP	23 38 00.5			12	iPD eS	00 54 26.5 02 35.0		

Day	Phase	Time (U.T.) hr:min,sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr:min,sec.	T (sec.)	2A (mm)
11	eP	01 29 06.2	0.8	5.0	13	eP	06 51 02.6		
11	eP	01 40 22.0			13	ePD eS	06 58 42.5 01 27.5		
12	eP	01 52 51.5			13	eP	11 02 53.3	0.9	5.0
12	1PD 1S	04 06 18.2 14 12.5			13	e(P)	12 08 58.0		
12	1PD 1S	09 21 11.9 28 28.0			13	eP	12 12 51.0		
12	eP e(S)	10 37 53.5 43 20.5			13	eP e	14 14 59.2 16 28.5		
12	e(P)	11 37 17.5			13	eP	15 31 53.8		
12	e(P)	11 48 22.7	0.9	5.0	13	ePD	16 05 02.7		
12	e(P)	12 11 51.6			13	eP i	21 02 52.8 03 31.8		
12	1P	12 27 41.3			13	eP	23 35 36.3	1.0	5.0
12	e(P)	13 47 42.4			13	eP	23 51 30.0		
12	e(P)	14 44 33.5			14	1PD	00 13 21.3		
12	1PD	16 52 33.0			14	e(P)	03 06 12.0		
12	eP	17 38 31.0			14	1P	04 33 46.8		
12	eP e	18 32 26.5 33 25.0			14	1PD	05 34 31.7	0.9	5.0
12	eP	20 26 56.5	0.8	2.5	14	1P	07 01 55.2		
12	eP e	22 11 30.0 12 44.5			14	eP	07 33 20.7	0.8	5.0
13	eP	00 53 51.0			14	1PD	07 39 36.6	0.8	5.0
13	eP	01 09 59.1			14	ePD	08 13 51.0	0.9	5.0
13	1PD	02 04 05.0			14	eP	12 03 22.3	0.9	5.0
13	eP	04 14 19.0			14	ePD	14 21 10.5		
13	eP eS	06 10 48.0 14 50.5			14	eP i	17 13 07.5 14 22.0		

Day	Phase	Time (U.T.) hr, min, sec.	T (sec.)	2A (km)	Day	Phase	Time (U.T.) hr, min, sec.	T (sec.)	2A (km)
14	eP eS	15 17 37.5 21 41.6	1.0	65.0	14	eP	03 00 51.0		
14	eP	10 23 50.2			16	ePD e	06 23 02.8 23 21.0		
14	eP e	15 05 28.2 06 01.0			16	ePD	11 05 20.5	0.8	3.5
14	eP	20 43 38.0	0.8	3.5	16	1PC e	11 14 36.2 19 34.5		
14	eP	21 02 26.2	0.9	3.5	16	1P e	12 32 21.3 33 42.0		
14	eP	22 37 23.0			16	1PD	19 13 49.7	0.7	7.0
14	eP	23 59 18.0	1.0	2.5	16	eP eS	22 20 01.0 32 06.3		
15	eP	00 02 35.2	1.0	21.0	16	eP eS	22 49 58.3	1.0	21.0
15	ePD	01 26 04.2							
15	eP 1	01 55 14.5 57 25.1			17	e(P)	01 08 32.0		
15	eP e	02 30 09.5 31 28.0	0.8	4.5	17	ePD eS	05 35 15.0 44 08.5		
15	eP	05 03 36.2			17	eP	10 10 01.3		
15	ePD eS	05 14 03.0 16 08.2			17	ePD e	15 53 34.0 20 12 01.0 22 34.0		
15	eP	07 09 20.6	1.0	3.5	17	eP	22 37 03.3	1.0	3.5
15	e(P)	08 37 36.7							
15	eP	19 10 28.0			18	eP	01 36 51.7		
15	e(P)	16 09 12.0			18	ePD	01 10 02.5		
15	1PC	15 27 08.5	0.6	7.0	18	e(P)	05 23 27.2	1.0	7.0
15	eP	10 28 18.5	0.8	7.0	18	eP 1	00 46 10.3 57 01.0		
15	eP	13 20 01.3	1.0	12.5	18	e(P)	11 30 50.5		
15	eP e	20 40 31.2 45 19.0							

Day	Phase	Time (U.T.) hr:min:sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr:min:sec.	T (sec.)	2A (mm)
14	e(P)	13 22 24.7			14	e(S)	03 23 41.3		
14	e(S)	17 27 24.3			14	e(P)	04 42 37.8	1.0	3.0
14	e(P)	17 50 09.5	0.8	9.5	14	1P	12 57 19.0		
14	e(P)	20 58 24.2			14	e(P) e	15 59 20.3 00 17.5		
14	e(P) e	23 31 10.0 31 45.5			14	e(P)	19 16 27.0		
14	e(P)	23 37 25.8	3.0	3.0	14	e(P)	20 14 46.0		
14	e(P) e	00 20 08.5 20 33.5			14	e(P) e	00 13 04.8 13 40.5		
14	1P e	05 14 06.0 20 14.1	0.9	11.5	14	e(S) e	01 47 58.2 49 25.0		
14	1P	05 23 10.1			14	e(P)	04 56 57.5		
14	1P	05 05 07.0	0.9	3.0	14	e(P)	05 04 06.4		
14	1P e	09 01 07.4 01 43.5			14	e(P)	05 04 49.5		
14	e(P)	09 30 31.5			14	e(P)	06 22 14.5		
14	1P	09 55 19.0	0.1	7.5	14	e(P)	06 37 21.5		
14	e(P)	11 47 31.5			14	1P	06 51 33.5		
14	1P	13 06 40.5	0.9	4.0	14	1P	16 27 23.5		
14	e(P)	16 49 04.2			14	1P e(S)	21 11 23.0 10 43.5		
14	1P e(S)	21 53 54.5 50 01.0			14	e(P)	00 43 32.5		
14	1P	17 12 01.0			14	e(P) e	05 04 52.5 05 23.0		
14	1P	20 19 27.0			14	e(P) e	05 10 31.0 21 01.0		
14	e(P) e	06 33 16.7 38 20.8			14	e(P)	13 43 49.5		
14	1P	07 01 36.0	0.5	13.5	14	1P	21 20 41.7	0.5	7.0

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2a (km)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2a (km)
22	e(P)	18 16 18.0			24	e(P)	16 05 28.0		
22	iPC	19 55 26.0			24	ePD	16 35 27.3		
22	iPD	20 31 06.3			24	iP	20 01 34.4		
22	eP	21 35 07.5			24	iPC	20 39 42.0	1.0	20.0
22	iPC	22 42 51.5			25	ePD	02 39 07.8		
	eS	50 07.5				eS	43 12.0		
22	eP	23 32 28.0			25	iPC	07 00 23.2		
23	eP	07 15 55.8			25	ePD	07 42 01.0		
	e	16 29.5			25	eP	08 06 41.5		
23	eP	14 01 35.0			25	eP	08 10 45.5		
	e	01 57.0			25	iPD	11 00 26.0		
23	ePD	18 19 10.0				eS	08 29.5		
23	iPD	20 56 43.3			25	e(P)	13 39 58.6		
	eS	00 47.8				e	40 19.5		
23	ePD	23 10 01.3	1.0	5.0	25	eP	21 30 38.6		
23	eP	23 12 27.3				e	31 06.0		
	eS	20 23.5			25	eP	22 45 06.5		
24	eP	06 04 07.8	0.7	5.0	25	eP	22 53 36.0		
24	e(P)	06 02 40.5			26	eP	06 53 09.0		
24	e(P)	09 01 24.5			26	eP	07 24 59.0		
	e	01 54.5			26	eP	07 46 23.3		
24	ePD	09 30 54.0			26	eP	11 35 17.3		
	e(S)	38 11.5			26	eP	12 27 51.7		
24	eP	10 13 22.1			26	eP	12 49 02.2		
24	eP	11 43 11.6				eS	53 07.5		
	t	43 40.4			26	eP	14 19 12.2	1.0	20.0
24	e(P)	13 27 26.7							
	e	17 55.4							

Day	Phase	Time (U.T.) hr, min, sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr, min, sec.	T (sec.)	2A (mm)
25	eP e	16 29 32.0 24 02.2			26	eP	00 29 57.2		
26	eP e	16 11 31.6 12 11.0			26	1P	01 57 16.0		
26	eP	18 17 36.6			26	eP	03 36 11.0		
26	1FD	20 13 15.8			28	eP	07 26 17.2	0.8	9.0
26	1FG	22 05 03.5	0.8	9.5	28	e(P) e	08 07 51.7 09 16.0		
27	eP	00 14 15.5			28	eP	11 17 22.5		
27	e(P)	02 50 51.5			28	e(P) e	12 03 21.8 04 22.0		
27	eP e(S)	02 52 30.8 57 17.0			28	eP	13 18 52.7		
27	eFG	07 35 23.5	0.8	13.0	28	1P	14 13 18.2	0.8	12.0
27	1FD	08 12 31.0	0.9	5.5	28	e(P) i	14 55 57.8 56 28.5		
27	eP	09 51 29.5			28	eP e	15 16 32.1 17 21.7		
27	e(P) e	10 21 19.5 22 31.0			28	e(P)	15 01 13.2		
27	eP e	10 16 22.3 18 57.3			28	1FD eS	21 23 21.2 22 11.0	0.8	7.5
27	eP	12 14 50.3			28	1FG	21 33 53.2	2.0	12.5
27	eP e	16 09 03.1 09 14.0			28	1FG e	22 10 21.1 10 14.0		
27	eP e	17 13 10.2 11 22.7			28	eP	02 24 01.5		
27	eP	17 53 13.4	0.8	9.0	29	eP	03 05 08.2		
27	eP e	22 19 50.3 30 23.0			29	1P	06 36 57.3	1.2	12.0
27	eP	22 38 21.5			29	1P	07 18 36.6	1.2	12.0
27	eP	23 07 20.3			29	eP	09 02 00.7	0.8	7.5
					29	e(P)	11 30 35.6	1.8	12.5

Day	Phase	Time (U.T.) hr min sec	γ (sec.)	β (sec)	Day	Phase	Time (U.T.) hr min sec	γ (sec.)	β (sec)
29	eP	12 11 36.7			30	e(S)	11 33 40.1		
29	eP	12 50 13.0			30	SP	11 56 46.5		
29	eP e	13 00 34.4 50 57.0			30	APG	17 14 36.7		
29	SP	13 29 27.7			30	eP	17 52 14.5		
29	e(S) e(S)	13 43 07.2 45 58.6	0.8	11.0	30	SP e	20 16 51.2 39 18.0		
29	e(S)	15 25 00.0			30	eP e	26 58 04.0 01 07.0		
29	APG	15 32 32.7	0.7	15.0					
29	APG	15 06 14.6	1.0	8.0	31	eP i	01 47 16.5 50 27.0		
29	eP	16 49 02.7	0.8	15.0	31	e(P)	03 35 13.5		
29	SP	17 33 30.0	0.8	20.5					
29	eP	21 52 37.5	1.0	6.5					
29	eP	22 34 14.2							
30	e(S) e(S) i	03 03 24.6 12 33.8 31 32.5							
30	eP e	05 10 00.5 40 33.0							
30	eP e	06 14 33.2 14 50.5							
30	eP	07 24 15.7							
30	eP	08 23 16.0							
30	eP e	09 05 45.3 06 30.5							
30	eP e	09 20 07.1 21 15.2							
30	eP	09 50 10.7	0.7	13.0					
30	eP e	10 59 06.5 30 19.5							



PRELIMINARY SEISMOGRAM ANALYSIS
KABUL/AFGHANISTAN SEISMOLOGICAL OBSERVATORY Page 1 of 12
FACULTY OF ENGINEERING - KABUL UNIVERSITY
R.A.KARIM - DIRECTOR

Via Air Mail

WWSS: KBL

Latitude: $34^{\circ}32.45'N$ Longitude: $69^{\circ}02.59'E$

Elevation: +1.92KM

S.P.Mag. 4.00

K. at 1.0 sec.

Bulletin# 3L.P.Mag. 5

K. at 15.0 sec.

Dated: Sept. 01 19 68Period: Aug. 01 19 68 To Sept. 01 19 68

i = Impulsive; e = Emergent; C = Compression; D = Dilatation

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
01	iPD	13 41 50.2	1.1	20.5	02	iPC	00 44 40.9	1.0	7.5
01	iPC i	13 49 56.8 50 32.0			02	eP	00 49 20.4		
01	iP e	16 51 02.7 51 34.0			02	eP	01 07 07.3		
01	iP	17 19 12.4			02	eP	01 14 49.3	0.9	16.0
01	eP	18 36 50.8			02	eP	01 31 31.3		
01	eP	18 54 04.2			02	eP	01 36 34.2		
01	iPD	20 28 19.5	1.0	169.5	02	iPD	02 04 33.6		
01	eP	22 10 33.6			02	iP	02 19 15.0		
01	eP	22 32 50.7	0.8	8.0	02	iP	02 21 23.0		
01	eP	22 40 27.7			02	eP	02 46 18.5		
01	eP	23 10 47.8			02	eP	03 25 10.5		
01	eP i	23 14 00.7 15 50.0			02	iPD	03 52 10.0		
01	eP	23 22 33.5			02	iPD	03 57 20.0		
01	iP	23 25 27.2			02	ePC	04 03 15.2	1.0	7.5
01	eP	23 33 50.0			02	iP	04 04 38.0		
01	eP	23 44 13.2			02	iP	04 06 04.2		
01	eP	23 54 11.9	0.8	11.0	02	iP	05 53 30.5	0.9	5.0
01	eP	23 57 31.0			02	eP	06 30 11.3		

Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)
02	eP	06 32 04.8	1.0	4.0	02	iPD	23 56 13.1	0.8	12.0
02	eP	06 37 27.9	0.7	3.0	03	iPD	00 48 36.3	0.7	12.5
02	eP	07 30 16.4	0.8	3.0	03	eP	01 59 22.0	1.0	2.5
02	iPG	07 20 50.7	0.8	3.5	03	iP	02 19 25.7	1.0	8.5
02	e(P) i	08 50 12.8 50 58.7			03	iPG	05 03 40.0		
02	iP	09 46 16.8	0.8	5.5	03	eP	05 26 10.0		
02	iPG	11 05 57.8			03	e(P)	06 13 16.2		
02	eP	12 11 57.7	0.8	3.5	03	iPD eS	06 34 04.4 41 15.7		
02	eP e	12 35 09.7 36 36.5			03	eP	07 56 41.8	0.8	14.0
02	eP i	13 12 33.5 13 05.7			03	eP e	08 29 52.0 30 31.0		
02	eP	13 32 46.5			03	eP	12 26 34.2		
02	iPD	13 44 34.5			03	iPD	13 01 54.7	0.8	10.5
02	eP e(S)	14 23 01.3 25 47.0			03	iPG eS	14 04 14.5 08 11.8		
02	iP	16 36 32.0	0.9	3.0	03	eP	14 26 36.5		
02	iP	17 26 54.6	0.9	5.0	03	iPD	15 35 11.0		
02	eP	17 55 16.0			03	iPD	15 47 37.3	1.0	23.5
02	iP	18 03 28.5	0.8	2.5	03	eP	16 00 50.0	0.9	11.0
02	eP	18 10 27.1			03	e(P)	17 17 29.3	0.8	6.5
02	iP	19 42 17.0			03	iPD eS	19 28 03.0 35 26.5	0.9	46.0
02	eP	21 00 00.2			03	eP e	21 14 44.5 15 23.5		
02	iP	21 20 51.0			03	ePG	21 20 00.5		
02	eP	21 54 43.9			03	iPG	22 09 13.5	0.8	7.0
02	iP i	23 25 04.5 25 35.5							

Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)
04	iP	00 24 33.8			05	iPD	02 41 42.0		
04	eP	01 28 01.3	1.0	6.0	05	e(P)	06 40 02.5		
04	iPD	02 13 43.6	1.0	30.0	05	eP	11 39 38.6		
04	eP	05 27 40.0			05	iPD	15 00 07.2		
04	eP	05 50 24.6			05	iPD eS	16 26 08.4 33 23.4		
04	eP	06 10 54.3			05	eP	20 01 00.1		
04	eP	06 15 05.5							
04	iPD i	08 14 15.8 17 32.0	1.0	41.5	06	eP	01 18 24.9		
04	eP	08 22 56.6			06	eP	02 47 14.0		
04	e(P) e	09 40 13.2 40 44.2			06	eP e	02 50 33.1 51 07.1		
04	eP	10 27 11.9			06	e(P)	03 15 14.1		
04	iPD eS	11 51 21.5 59 25.0			06	iPD	03 25 25.0		
04	eP	12 48 33.4			06	eP	04 30 06.4		
04	iPD	15 31 39.2			06	iPC	04 44 24.2		
04	eP e	16 28 41.8 29 16.5			06	eP	05 02 02.0		
04	iPD	16 59 23.0			06	e(P)	05 18 38.3		
04	iPD	18 09 11.4	1.0	26.0	06	eP	07 30 57.0		
04	eP	18 25 17.5			06	iP e	07 35 17.0 35 41.5		
04	eP i	19 04 54.5 05 06.5			06	eP e(S)	08 40 15.2 44 58.5	1.0	13.5
04	eP	19 49 02.7			06	iPC	09 37 09.1		
04	eP	23 26 17.8	0.9	6.5	06	iP	10 17 05.7		
05	eP	01 17 36.5			06	iPD	13 48 42.3	1.0	8.5
05	eP	02 20 39.0 21 15.7			06	iPC i	18 07 46.2 08 17.0		

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
06	iPD i	20 22 30.5 23 09.0	0.8	10.5	08	eP e	02 57 03.5 57 36.5		
06	eP e	21 46 20.2 46 59.3			08	eP	04 00 23.0		
06	iPD	21 57 30.0			08	iPD	05 04 57.5		
06	e(P)	22 16 10.7	1.0	6.5	08	eP e	08 04 50.0 05 21.5		
06	eP	23 22 51.4	1.0	3.0	08	eP	08 08 32.0		
06	iPD	23 53 34.8	1.0	24.5	08	ePC	09 13 58.2		
07	eP	01 39 46.2	0.8	4.0	08	iPD	11 12 31.4	1.0	13.8
07	iPD	04 02 25.9			08	eP	14 16 45.5		
07	eP eS	08 10 00.2 17 51.2			08	eP	15 54 12.8		
07	eP	10 22 12.8			08	eP	16 17 30.3		
07	iPD	11 19 28.8			08	eP	17 31 15.0		
07	eP	12 21 13.8			08	iPD	18 41 31.3		
07	eP	13 10 50.1			08	iP	19 12 28.7		
07	iP	13 38 02.2			08	eP e	20 03 33.5 04 09.0		
07	eP	13 54 57.3			08	iP	20 44 27.7		
07	eP e	15 12 36.6 13 08.0			08	eP	22 03 14.3		
07	eP	16 41 06.5			08	eP i	22 22 33.8 23 04.0		
07	e(P)	18 20 20.3			09	eP	00 29 18.5		
07	e(P)	18 42 27.5			09	e(P)	01 57 27.3	1.0	6.0
07	iPD	20 43 35.8	0.8	10.5	09	iPD e(S)	02 30 04.5 34 15.3		
08	eP	00 12 33.8	0.7	18.0	09	e(P)	03 28 13.5		
08	eP e	02 20 52.8 21 17.5			09	e(P)	03 53 50.4		

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
09	eP	07 33 02.4			10	eP	12 05 51.3	0.7	17.0
09	iPD	10 48 03.0			10	eP	12 35 15.3	0.7	7.5
09	eP	12 26 41.3			10	iPD	13 00 20.8		
09	eP	13 07 01.3			10	eP	15 32 06.3		
	e	07 31.0			10	e(P)	15 55 59.3		
09	eP	15 15 49.0			10	iPD	16 50 23.6	0.7	26.0
	e	16 18.0				e(S)	57 56.2		
09	eP	18 17 54.7			10	eP	17 58 27.0		
09	eP	18 22 42.2			10	eP	18 09 46.0		
09	eP	23 27 46.2			10	eP	18 15 35.1		
10	iPD	02 17 26.7			10	iPD	19 58 55.3		
10	e(P)	04 32 44.5			10	eP	23 29 16.0	0.8	8.0
10	e(P)	06 02 09.5			11	eP	01 00 33.8	1.0	3.0
	e(S)	10 32.5				i	01 26.2		
10	eP	07 01 00.7	0.8	4.5	11	eP	02 36 51.6		
10	eP	07 28 10.5			11	eP	02 56 16.0		
10	eP	07 47 13.7				e	58 42.0		
10	eP	08 18 52.0			11	e(P)	03 20 16.9		
10	eP	08 20 03.4			11	eP	03 30 42.8		
	e	20 37.2			11	e(P)	04 48 04.2		
	e(S)	29 02.6			11	iPC	09 10 44.9	1.0	15.0
10	eP	09 00 18.7			11	e(P)	09 32 35.0		
10	e(P)	09 02 27.0				e	33 43.0		
10	e(P)	09 28 41.0			11	eP	10 13 02.5		
10	iP	10 16 15.5			11	eP	11 30 02.0		
10	eP	10 39 21.5			11	iP	11 47 05.5		
10	eP	11 27 11.5			11	eP	12 43 05.5		

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
11	iPD i	12 48 51.2 49 30.5	0.8	35.5	12	iP i	14 53 12.0 53 42.3		
11	eP	15 18 14.7			12	eP	17 58 02.6		
11	eP	16 34 43.0	0.6	8.0	12	iPC	18 26 07.7		
11	eP e	17 37 45.8 38 21.0			12	iP	20 41 32.1	0.8	22.5
11	e(P)	18 57 32.0			12	eP	20 48 28.5		
11	ePD e e(S)	20 11 04.5 17 45.8 19 40.0			12	e(P) e	22 12 04.8 12 51.0		
11	e(P) e	21 15 12.8 17 11.5			13	iPD	00 23 57.3	1.0	17.3
11	eP	21 40 43.9			13	e(P)	00 43 44.0		
11	eP	22 15 54.0			13	iP	00 47 01.5		
11	eP	22 18 18.5			13	iP	01 11 48.0		
11	e(P)	22 33 27.6			13	eP	01 33 40.6		
11	eP e	23 29 25.2 29 56.7			13	iP	01 38 48.8		
12	iPC	00 22 08.0			13	eP	01 48 47.8		
12	eP	02 49 47.8			13	iPD e(S)	03 03 12.6 11 36.0		
12	iPC	03 49 04.2	0.7	87.0	13	eP	04 15 48.8		
12	e(P)	09 20 36.5			13	e(P)	04 44 32.5		
12	eP	11 57 57.5			13	eP	06 59 30.6		
12	eP	13 08 24.0	1.0	4.5	13	e(P)	07 01 19.5		
12	iPC	13 54 08.2			13	eP	09 02 52.6	0.6	4.0
12	eP	14 15 03.0	0.8	9.5	13	eP i	09 06 44.0 07 25.4		
12	iPD	14 17 20.1			13	eP	09 13 11.3		

Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)
13	eP i	10 40 38.0 41 15.5			14	e(P)	21 53 35.5		
13	eP	10 50 37.2	0.7	10.0	14	iPC e(S)	22 24 14.8 32 20.7		
13	e(P)	12 05 58.2			15	e(P)	00 58 50.5		
13	eP	12 43 44.3			15	eP	01 48 27.9		
13	e(P)	15 23 19.7			15	iPD	02 36 30.1		
13	eP	16 29 57.2			15	iP	04 22 54.5		
13	eP	18 20 14.7	0.8	5.5	15	iPD	05 15 40.2		
13	eP	18 38 40.3	0.7	17.5	15	iPC	07 43 15.6		
13	eP e	22 25 58.0 26 28.0			15	e(P)	08 41 27.0		
13	iPD	22 30 27.2			15	eP	09 37 34.6	0.7	10.0
14	iPC	00 34 53.0	0.8	5.0	15	iPD	10 10 52.0	0.9	12.5
14	eP	00 52 13.7			15	eP	11 50 27.4		
14	eP	01 24 09.5			15	eP	19 08 29.3		
14	e	27 22.1			15	iPC eS	21 35 56.4 44 00.5		
14	eP	02 23 24.8			15	eP	21 56 02.7		
14	eP	04 10 02.0			15	eP	23 23 24.0		
14	e(P)	10 24 08.8			16	iP	07 53 25.0		
14	eP	14 52 30.8	0.9	4.5	16	ePD eS	10 49 11.2 57 14.5		
14	iPC	16 26 27.4			16	eP	11 19 01.0		
14	eP e	18 16 15.8 17 00.7			16	iPC	11 51 55.6		
14	iPD	20 52 06.3			16	e(P)	17 31 31.0		
14	eP e	20 55 48.6 56 12.0			16	e(P)	18 44 56.5		
14	e(P)	21 00 50.5			16	eP	21 39 37.0	0.8	4.0
14	iPD	21 13 33.7							



Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
16	eP	22 10 34.0			18	e(P)	11 03 48.1		
16	iP	23 19 06.5				e	03 21.5		
17	eP	01 03 00.3	0.9	5.0	18	iPG	11 26 19.5		
17	iPG	04 10 59.0			18	iPG	12 05 33.0	0.9	21.0
	eS	19 27.1			18	eP	12 10 18.8		
17	e(P)	04 40 05.5				e	10 52.7		
17	eP	04 47 58.0			18	ePD	14 23 35.0		
17	e(P)	08 45 31.3			18	e(P)	17 45 58.0		
	i	46 49.7			18	e(P)	18 51 02.0		
17	eP	12 12 02.0				e(S)	00 44.0		
17	eP	12 17 16.6			18	e(P)	19 36 19.8		
17	e(P)	13 25 29.6			18	eP	20 54 57.6		
17	eP	13 39 14.0	0.7	7.5	19	e(P)	02 35 51.6		
17	eP	13 49 05.7			19	eP	09 08 28.4	0.7	11.5
17	eP	14 48 20.9			19	eP	09 35 57.2		
17	e(P)	17 25 02.0				i	36 45.6		
17	eP	18 14 54.0			19	eP	09 45 42.0		
17	eP	18 57 51.8			19	eP	09 52 59.0		
17	e(P)	20 55 18.0			19	e(P)	10 10 47.5		
17	eP	21 57 19.7			19	iPD	10 31 04.4		
17	eP	22 42 12.7			19	eP	11 32 07.0		
17	eP	23 58 20.2			19	eP	13 57 39.5		
18	eP	02 20 53.5			19	eP	14 30 53.5		
18	e(P)	03 08 43.5			19	iPD	14 38 40.7		
	e	09 05.0			19	iPD	16 01 06.4		
					19	iPD	17 12 05.6	0.7	23.0

Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
19	e(P) e	20 17 00.5 17 32.4			21	eP e	00 01 31.0 02 04.0		
19	eP	21 33 12.0			21	e(P) i	00 49 40.7 50 18.0		
19	eP	23 11 02.4			21	eP i	05 03 38.8 05 19.0		
20	iPD	00 23 05.1			21	iPD i	07 07 12.5 07 44.6		
20	eP	02 25 06.5			21	eP	08 26 47.0		
20	e(P)	02 45 06.0			21	eP i	08 35 28.7 36 12.4		
20	iP	03 13 33.8			21	eP	10 18 11.7		
20	iPG	03 34 00.4			21	eP i	10 46 56.1 47 41.0		
20	e(P)	04 09 56.8			21	iP	14 54 01.2		
20	eP	04 29 50.6			21	iPG	18 15 43.7		
20	eP e(S)	09 35 54.0 39 58.0			21	eP i	19 04 10.4 04 43.0		
20	eP	10 22 48.0			21	iPG	23 10 05.1		
20	e(P)	11 28 51.3			22	eP	00 22 31.2		
20	eP	12 53 46.5			22	iPD	00 38 28.8		
20	e(P)	14 01 19.3			22	eP	02 27 08.8	0.7	6.0
20	iP	15 44 28.0			22	e(P)	03 36 03.5		
20	eP	19 31 48.2	0.9	11.5	22	eP	04 53 33.0		
20	eP i	19 34 51.0 35 21.0			22	eP i	06 58 56.2 59 35.1		
20	eP	20 00 57.4			22	eP	07 39 02.4		
20	ePD eS	20 12 25.0 16 31.0	1.0	47.0	22	iPD e	10 13 43.5 14 06.2	0.6	8.5
20	e(P) i	21 33 48.0 34 56.8							
20	e(P) i	23 57 21.0 59 18.0							

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
22	1PC e	11 04 47.2 05 19.3			23	eP e(S)	12 06 11.5 10 15.5		
22	eP	11 24 47.5			23	1PD	15 40 08.8		
22	eP	13 22 40.4			23	eP e	17 15 16.8 16 01.0		
22	eP	13 43 33.3			23	eP	21 04 47.0		
22	1PD eS	14 11 14.7 19 56.2	1.0	27.0	23	eP e(S)	22 55 02.5 03 57.7		
22	eP	15 19 14.4	0.9	9.5	23	eP	23 15 12.6		
22	eP	16 14 09.1	1.0	16.0	23	e(P)	23 33 00.0		
22	1P	16 51 13.0	0.8	11.5	23	e(P)	23 35 57.2		
22	eP	17 30 58.1	0.9	12.5	24	eP	04 41 35.5		
22	1PD	18 11 56.5			25	1PD eS	09 17 20.8 25 18.2		
22	1PD	21 04 55.5			25	1PD eS	09 23 37.7 31 35.7		
22	eP	23 10 49.8			25	1PD	10 15 13.8	1.0	6.5
23	eP i	00 43 19.5 43 32.5			25	eP	10 21 47.8		
23	e(P)	00 49 12.0			25	1PC	11 34 32.0		
23	eP e	01 06 05.7 08 27.8			25	1PD	13 33 32.6		
23	1PC	04 00 13.00	0.7	40.0	25	eP	15 12 20.4		
23	eP	04 25 10.5			25	eP	15 48 04.5		
23	1PD	05 19 10.7			25	1PD eS	18 00 01.5 04 05.6		
23	eP	06 34 14.6			25	eP	18 20 33.1	1.0	9.5
23	1PD e(S)	06 51 16.5 59 36.0	1.0	61.5	25	eP e	21 37 38.2 38 09.8		
23	eP e	08 07 02.5 07 36.5			26	eP	02 52 57.6		
23	1PD i	08 45 38.8 47 59.5							

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
26	iPD	02 56 07.0			27	eP	09 24 18.2		
26	eP	03 59 02.5	1.0	11.5	27	iPC	10 03 20.0		
26	eP	06 02 34.3	1.1	6.0	27	iPC	10 44 24.0		
26	eP	06 23 42.2			27	iPD	13 57 07.8		
26	e(P)	07 11 23.8				eS	06 23.3		
26	e(P)	09 03 30.6			27	eP	14 20 06.4		
26	eP	11 10 10.7				e	20 39.2		
26	eP	13 50 29.8			27	eP	17 07 45.7		
26	eP	14 36 58.5			27	iPD	17 29 43.5		
	e	36 42.2			27	eP	19 21 46.0		
26	iPC	14 44 47.6			27	eP	20 01 12.5		
	i	45 49.4			27	eP	21 27 59.5		
26	eP	15 16 32.7			27	eP	23 43 57.9		
26	e(P)	16 24 38.2			28	eP	00 05 40.1		
26	eP	16 40 08.5			28	iPD	00 54 57.4		
26	eP	17 32 20.2			28	eP	02 13 10.6		
26	iPD	18 24 24.0			28	eP	02 24 21.5		
26	eP	20 02 46.0			28	iPD	03 17 16.2		
26	eP	20 30 18.8			28	eP	08 38 16.6		
26	eP	20 51 17.7			28	eP	09 10 35.5		
26	e(P)	21 48 16.7			28	eP	09 48 18.9		
26	eP	22 12 32.4			28	eP	12 09 08.4		
26	eP	22 41 32.0			28	e(P)	15 35 56.6		
27	eP	00 08 33.9			28	eP	17 30 49.2		
27	e(P)	00 12 03.8			28	iPD	20 51 19.6		
	e	14 02.7				eS	58 30.5		
27	eP	08 59 05.0							

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
29	eP	01 45 18.5			30	ePD	11 12 35.3		
29	eP	02 01 25.6			30	eP	12 26 42.9		
29	eP	02 20 26.7				e(S)	34 11.5		
29	eP	04 50 46.6			30	e(P)	13 04 21.8		
29	iPD	08 14 33.1	1.0	28.0	30	eP	17 33 19.4		
29	eP	09 01 43.3			30	eP	17 48 08.9		
29	e(P)	12 39 16.2			30	eP	20 22 13.7		
29	eP	16 24 18.2			30	eP	21 07 23.5		
29	eP	17 53 55.3				e	09 50.0		
29	eP	18 36 15.5			30	eP	21 13 13.0		
29	eP	19 55 20.7			30	eP	22 07 24.5		
	e	56 19.6				e(S)	11 23.8		
	eS	00 25.0			31	e(P)	01 18 27.4		
29	iPD	21 17 05.6			31	e(P)	02 57 47.2		
	eS	24 16.5			31	e(P)	04 54 16.0		
29	e(P)	21 32 24.3			31	e(P)	05 09 21.2		
29	eP	22 30 52.9			31	e(P)	07 18 02.6		
29	eP	23 24 42.7			31	e(P)	07 25 48.0		
30	e(P)	02 53 47.3			31	iPD	09 12 07.0	0.8	10.5
	eS	02 34.0			31	e(P)	10 31 18.8		
30	eP	03 17 31.7			31	eP	10 49 41.7		
30	eP	03 55 58.8							
30	eP	05 35 10.1							
30	eP	06 28 50.5							
30	eP	07 00 21.4							
30	e(P)	08 09 20.5							
	e	10 18.5							
30	eP	08 13 38.0							

PRELIMINARY SEISMOGRAM ANALYSIS
 KABUL/AFGHANISTAN SEISMOLOGICAL OBSERVATORY
 FACULTY OF ENGINEERING - KABUL UNIVERSITY
 R.A.KARIM - DIRECTOR

WNSS: KBL

Via Air Mail

Latitude: $34^{\circ}32.45'N$

Longitude: $69^{\circ}02.59'E$

Elevation: +1.92KM

S.P.Mag. 4.00 K.at 1.0 sec. Bulletin# 4

L.P.Mag. 6 K.at 15.0 sec. Dated Oct. 05, 1968

Period: <u>Sep. 01</u> 19 <u>68</u> To <u>Sep. 30</u> , 19 <u>68</u>									
i = Impulsive; e = Emergent; C = Compression; D = Dilatation									
Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
01	eP	11 05 54.2			02	eP	01 24 17.7		
01	e(P)	11 40 56.7			02	eP	01 27 50.2		
01	e(P)	12 36 31.2			02	iP	05 08 45.3		
01	e(P)	13 07 10.0			02	eP	10 58 02.7		
01	e(P)	13 57 09.1			02	eP	12 11 51.7		
01	e(P)	14 54 50.0				e	16 15.8		
01	e(P)	15 32 22.6			02	e(P)	13 26 55.0		
01	e(P)	16 07 37.0			02	eP	13 38 17.3		
01	eP	19 18 07.8			02	iPC	13 47 53.6		
01	eP	21 17 48.8			02	eP	13 55 47.0		
01	eP	22 04 13.3			02	eP	15 12 09.1		
01	iPD	22 25 27.6			02	eP	16 11 06.1		
01	eP	22 31 45.6			02	eP	17 58 00.7		
02	eP	00 17 40.4			02	eP	18 32 06.4		
02	e(P)	01 04 37.5			02	eP	19 02 47.5		
02	e(P)	01 09 16.9			02	eP	19 07 55.8		
02	eP	01 16 06.4				i	08 16.7		
02	iPD	03 17 31.2			02	eP	19 40 10.3	0.9	8.5
02	eP	03 34 55.5			02	eP	21 59 45.7		
					03	e(P)	00 54 37.9		



Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
03	eP	01 24 22.9			04	e(P)	05 44 27.1		
03	e(P)	03 10 25.8			04	eP	05 56 15.5		
03	e(P)	04 44 50.2			04	iPD	07 33 25.4		
03	eP	05 21 01.2			04	eP e(S)	08 10 45.3 13 24.0		
03	iPD	05 33 21.5			04	eP	09 38 41.3		
03	eP	07 11 17.5			04	eP	10 44 55.0		
03	eP	07 19 10.0			04	e(P)	11 20 17.4 21 36.2		
03	eP e(S)	08 25 59.2 30 05.7			04	eP	15 29 09.5		
03	e(P)	09 55 53.7			04	eP	16 30 33.5		
03	e(P)	11 02 22.5			04	ePD	16 36 08.6	1.0	14.0
03	e(P)	12 11 34.7			04	eP	20 52 56.2		
03	eP	14 44 26.5			04	e(P)	21 00 30.2		
03	eP	15 02 42.3			04	e(P)	23 27 01.5		
03	eP	16 42 38.1			04				
03	eP e	17 50 47.2 53 44.0			05	e(P)	03 03 04.2		
03	iPD	18 48 45.2			05	eP	05 02 34.5		
03	eP	19 47 48.1			05	eP	05 38 27.0	0.8	12.0
03	eP	20 33 03.7			05	e(P)	06 42 50.7		
03	e(P)	21 26 31.0			05	e(P)	09 01 19.2		
03	iPC	22 31 25.7			05	e(P)	11 07 06.7		
03	iPD	23 35 12.9			05	eP	11 45 42.2	0.8	7.5
04	eP	00 25 47.6			05	eP	12 05 00.0		
04	e(P)	00 53 11.0			05	eP	13 42 59.0		
04	eP	01 45 14.0			05	e(P)	13 54 51.0		
					05	e(P)	17 01 13.4		

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
05	eP	17 14 59.1			07	eP	08 22 46.3		
06	eP	02 18 51.5	0.8	11.0	07	eP	11 06 17.0		
06	eP	02 29 37.8			07	e(P)	11 44 36.8		
06	eP	06 40 55.2			07	eP	16 03 33.4		
06	e(P)	07 48 59.6			07	eP	18 21 44.0		
06	eP	08 09 04.7			07	eP	20 15 34.8		
06	eP	08 29 35.5			07	eP	20 35 08.5		
06	iP	12 07 59.4			08	iPC	02 11 27.5		
06	eP	13 13 56.1			08	eP	07 55 15.0		
06	e(P)	14 18 41.7			08	iPD	08 54 42.8	1.0	9.5
06	e(P)	15 03 02.5			08	e(P)	10 07 05.6		
06	e(P)	15 26 56.0			08	eP	14 37 43.0		
06	eP	16 01 57.8			08	iPD	15 24 26.5		
	e	02 42.3			08	e(P)	15 44 12.2		
06	e(P)	18 49 35.5			08	eP	19 03 03.0		
06	eP	19 08 05.7			08	eP	19 19 59.4		
06	eP	19 31 56.5			08	eP	19 53 57.8		
06	iPD	21 43 58.3			08	e(S)	20 02 00.0		
06	e(P)	23 26 50.0			08	eP	20 20 05.0		
07	e(P)	00 01 56.1			08	eP	23 09 15.6		
	e	02 40.0							
07	e(P)	00 52 23.7			09	e(P)	00 54 28.0		
07	iPD	02 47 31.0			09	eP	02 21 20.9		
07	eP	03 27 45.2			09	ePD	02 30 06.9		
07	eP	05 26 06.8			09	iPD	07 39 36.3		

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
09	eP	08 44 32.7			11	iPC	08 27 43.8		
09	ePD	09 05 25.1			11	e(P)	08 51 58.7		
09	e(P)	11 18 15.1			11	e(P)	11 42 04.1		
09	e(P)	11 18 15.1			11	eP	18 46 23.2		
09	eP	15 15 27.5			11	eP	19 19 11.2		
09	eP	16 06 09.4			11	eP	19 55 08.3		
09	iPC	21 28 36.8			11	e(P)	20 14 05.5		
					11	iPD	21 55 53.3		
10	eP	00 26 12.9							
10	eP	02 28 54.2	1.0	14.0	12	eP	01 40 25.7		
10	e(P)	05 10 59.0			12	eP	03 06 01.6		
10	e(P)	05 24 04.7			12	eP	04 26 08.7		
10	eP	05 37 02.8			12	eP	06 52 29.8		
10	e(P)	06 15 10.4			12	eP	06 59 13.3		
10	eP	06 31 29.5			12	eP	08 01 29.3		
10	eP	11 28 43.2			12	e(P)	12 30 19.2		
10	eP	14 49 58.2			12	eP	12 57 06.8		
10	iPD	15 14 16.0			12	iPD	13 46 22.5		
10	iPD	17 18 53.0			12	eP	15 38 58.8		
10	eP	20 33 58.7			12	eP	18 03 37.5		
10	e(P)	21 34 44.2			12	eP	23 01 46.7		
10	eP	22 30 49.5							
10	eP				13	e(P)	00 23 46.3		
11	eP	03 12 26.3			13	eP	05 20 45.5		
11	iPC	04 41 28.4			13	eP	05 59 14.3		
11	e(P)	04 46 46.5				e	59 46.5		

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
13	e(P)	06 41 30.5			15	eP	09 44 13.7		
13	e(P)	07 40 09.3			15	eP	11 00 01.0		
13	eP	07 49 14.6			15	eP	12 08 12.3		
13	eP	12 22 26.5	0.9	7.0	15	eP	14 11 04.7		
13	eP	19 06 08.6			15	eP	14 17 56.7		
13	e(P)	20 05 30.5			15	e(P)	14 30 58.3		
14	iFD	01 35 21.5	1.0	46.5	15	eP	15 02 28.8		
14	e(P) e	01 48 33.5 49 33.8			15	e(P)	15 27 11.0		
14	iFD	07 07 07.4			15	eP	17 37 44.0	0.7	19.5
14	iPC	10 19 12.4			15	eP	18 28 07.1		
14	eP	11 05 01.9			15	eP	21 36 48.0		
14	eP	12 52 34.6			15	eP	22 06 42.3		
14	e(P) e	13 18 24.5 20 43.8			15	eP	23 21 13.3		
14	eP	13 52 01.4			16	eP	03 17 29.2	1.0	15.0
14	eP	15 25 45.1			16	eP	05 32 31.1		
14	eP	19 23 52.8	1.0	41.0	16	eP	06 45 55.7		
14	iPC	20 31 18.2			16	e(P)	06 55 26.3		
14	e(P)	21 18 42.4			16	e(P)	07 14 27.2		
14	eP	22 00 21.8			16	eP	14 08 02.0		
14	e(P)	23 27 34.8			16	eP	16 13 19.5		
15	eP	03 21 46.0			16	eP	16 58 21.5		
15	eP	05 02 59.6			16	eP e	17 07 48.5 12 03.3	0.8	14.5
15	eP	05 57 45.6			16	eP	18 14 06.4		
15	eP	06 18 30.0			16	eP	18 37 23.0	0.9	9.5
					16	e(P)	20 23 15.4		

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
16	eP	20 41 28.8			18	e(P)	19 06 29.0		
16	eP	21 21 52.6			18	e(P)	20 36 34.1		
16	eP	22 30 18.5	0.9	9.0	18	eP	23 21 11.2		
17	e(P)	02 23 53.0			19	eP	02 41 51.7		
17	eP	05 32 09.0	0.8	16.0	19	eP	03 57 08.5	0.8	9.0
17	eP	05 49 53.3			19	eP	05 06 55.2		
17	iPD	11 11 08.7			19	eP	05 17 27.0		
17	iPC	13 48 33.0			19	eP	07 34 23.5		
17	eP	15 24 27.6				e	34 54.3		
17	eP	15 46 31.3			19	eP	09 14 43.2		
	e	47 12.5			19	e(P)	09 49 08.4		
17	e(P)	17 10 36.0			19	iPC	10 02 29.7		
17	eP	18 30 03.0			19	e(P)	12 56 05.8		
17	eP	19 17 19.0			19	eP	14 48 29.8		
17	eP	20 36 10.0			19	eP	15 46 34.6		
18	eP	04 08 59.4			19	eP	16 19 57.0		
18	eP	04 20 56.0				e	20 33.0		
18	e(P)	06 22 14.3			19	eP	17 08 39.0		
18	iP	07 38 15.7			19	iP	19 31 06.8		
18	e(P)	09 32 00.6			19	eP	20 05 44.6		
18	eP	10 19 25.6			19	eP	22 16 09.4		
18	eP	12 19 07.2			19	eP	23 39 27.6		
18	eP	14 13 27.6			20	iPD	00 00 35.1		
18	iPC	16 20 30.9	0.7	18.0	20	e(P)	06 14 52.5		
18	e(P)	18 40 18.4				e(S)	19 34.3		
					20	e(P)	09 06 59.5		

Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
20	e(P)	12 35 59.5			23	eP	03 03 06.4		
20	iPD	14 03 25.7	0.8	51.0	23	iP	03 15 27.3		
20	eP	16 15 34.7			23	iPD	05 13 40.6		
20	eP	16 57 55.7			23	eP	05 56 38.9		
20	eP	18 48 02.3			23	eP	10 59 48.0		
20	iPD	22 10 18.7			23	iPC	14 59 31.8		
20	iPD	22 35 04.2	1.1	16.8	23	e(P)	18 58 09.4		
20	eP	22 37 19.9			23	eP	19 34 22.3		
20	eP	23 11 20.9			23	e(P)	21 32 26.2		
21	eP	05 33 54.4			23	eP i	22 15 57.0 16 50.9		
21	eP	10 46 07.6			23	eP	23 50 41.6		
21	e(P)	11 54 47.6			24	e(P) i	00 19 12.2 19 41.8		
21	iPD eS	13 15 38.5 23 27.5			24	iPD	01 14 40.7		
21	iPC	15 30 53.5			24	iPD	01 38 41.5		
21	e(P)	20 26 39.5			24	iPD e e(S)	03 44 40.7 52 15.3 52 39.4		
22	eP	07 03 10.2			24	e(P)	04 18 47.2		
22	eP e(S)	09 29 26.8 36 46.4			24	i(P)	04 25 05.7		
22	eP	13 50 43.0			24	iPD	04 55 55.5		
22	iPD e	19 22 27.0 22 57.6			24	e(P)	06 44 10.0		
22	eP	20 25 51.0			24	eP	09 18 40.2		
22	eP	22 12 02.9			24	eP	09 27 39.1		
23	eP	01 10 25.0			24	eP	12 40 09.8		
23	e(P)	02 07 02.0			24	eP	17 44 04.5		

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
24	eP	19 11 50.1			26	iPC	14 56 10.5		
25	iPC	01 53 57.0			26	eP	18 21 46.3		
25	eP	02 33 09.6			26	eP	18 53 22.7		
25	eP	04 11 31.7			26	eP	20 42 35.3		
25	eP	07 21 40.6	1.0	13.5	26	e(P)	22 18 47.4		
25	eP	10 57 29.2			27	eP	00 01 27.5		
25	iPC	14 30 24.8				e	02 10.8		
25	e(P)	14 52 50.0	0.7	10.5	27	iPD	04 09 56.1		
25	iPC	16 38 14.5	0.7	9.8		e(S)	18 50.2		
25	e(P)	16 42 31.0			27	iPC	06 44 23.0		
25	e(P)	17 12 13.0			27	e(P)	07 47 45.6		
25	eP	17 33 37.8			27	e(P)	09 38 24.0		
25	eP	18 10 40.2	1.0	17.0	27	eP	10 31 04.9		
25	eP	18 41 05.2			27	eP	10 39 01.1		
25	e(P)	20 57 24.2	1.0	13.5	27	iPD	13 51 47.6		
25	eP	21 46 25.0	1.0	15.5	27	iPC	14 00 22.7		
26	iPC	00 46 30.8			27	eP	15 35 27.4	0.7	8.0
26	e(P)	02 56 43.9			27	eP	17 00 04.4		
	1	57 44.2			27	eP	17 08 10.4		
26	eP	08 16 09.5			27	eP	17 49 15.6		
26	iPD	08 33 53.6	0.7	46.0	27	eP	19 18 49.8		
26	eP	08 59 05.3				eS	28 56.2		
26	eP	11 10 54.3			27	eP	21 11 03.8		
26	eP	11 32 21.0	0.9	29.5	27	eP	23 06 33.3		
26	eP	13 36 30.0			28	e(P)	00 12 35.7		
						e	12 55.2		
					28	e(P)	02 06 21.0		

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
28	iPD	02 21 38.8			29	e(P)	08 49 40.5		
28	e(P)	04 10 17.9			29	e(P)	08 57 17.6		
28	e(P)	04 48 36.0			29	e(P)	10 36 38.9		
28	e(P)	05 14 34.7			29	eP	13 37 09.0	0.8	69.5
28	e(P)	07 50 29.9			29	eP	14 44 58.8		
28	eP	07 58 35.4			29	e(P)	16 33 23.8		
28	eP	08 57 31.2			29	eP	17 30 28.0		
28	eP	09 27 21.0	1.0	20.2	29	e(P)	17 49 49.8		
28	eP	10 03 49.0	0.9	54.5	29	e(P)	18 34 46.7		
28	e(P)	10 51 13.7			29	iPD	18 58 12.9		
28	eP	11 43 55.4			29	eP	19 52 44.7		
28	eP	13 19 00.3			29	e(P)	20 01 38.0		
28	eP	13 34 46.5			29	ePD	21 59 09.2	0.8	21.5
28	eP	14 12 58.7			29	eP	22 06 39.8		
28	ePD	18 30 04.5	1.0	20.0	29	e(P)	22 54 09.1		
28	iPD	19 14 09.6	0.7	63.5	29	e(P)	22 59 02.1		
28	eP	19 39 45.8							
	e	40 18.0			30	eP	01 26 20.3		
28	iPD	22 12 42.3			30	e(P)	01 36 33.2		
28	eP	22 58 46.4				e	37 09.9		
29	eP	01 38 45.8	1.0	13.5	30	e(P)	04 17 13.2		
29	eP	03 46 52.0			30	e(P)	04 29 21.5		
29	eP	05 07 30.1			30	eP	05 15 31.4		
	e	08 14.4			30	eP	09 37 58.6		
29	eP	08 22 14.2			30	eP	10 16 55.0		
29	e(P)	08 32 25.9			30	eP	11 56 18.2		

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
30	eP	14 15 37.8	0.8	20.5					
30	iPD eS	14 26 10.7 34 28.5							
30	eP	17 22 43.8							
30	eP	19 16 13.7							
30	e(P)	19 43 14.7							
30	eP	20 10 45.5							
30	eP	21 53 05.1							



PRELIMINARY SEISMOGRAM ANALYSIS
 BUL/AFGHANISTAN SEISMOLOGICAL OBSERVATORY
 FACULTY OF ENGINEERING - KABUL UNIVERSITY
 R.A. KARIM - DIRECTOR

WWSS: KBL

Latitude: $34^{\circ}32.45'N$ S.P. Mag. 4.00 K. at 1.0 sec.
 Longitude: $69^{\circ}02.59'E$ L.P. Mag. 5 K. at 15.0 sec.
 Elevation: +1.92KM

Via Air Mail

Bulletin# 5
 Dated: NOV. 12. 1968

Period: Oct. 01, 1968 To Oct. 31, 1968

i = Impulsive; e = Emergent; C = Compression; D = Dilatation

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
01	eP	02 05 29.5			02	eP	20 01 50.0		
01	eP	09 12 26.0			02	iPC	21 12 07.4		
01	eP	09 16 56.6			02	eP	22 31 23.9		
	e(S)	17 54.8				e	31 50.7		
01	eP	11 10 37.0			02	e(P)	23 50 55.7		
	e	11 13.6							
01	e(P)	15 35 16.5			03	e(P)	00 25 52.9		
	e	35 54.3			03	eP	01 30 37.6		
01	eP	18 20 27.6			03	e(P)	01 42 53.4		
01	eP	20 02 23.0				e	43 30.0		
	i	02 38.2			03	eP	02 45 46.3		
01	e(P)	21 44 20.0			03	eP	03 32 26.7		
02	e(P)	04 01 13.7			03	e(P)	04 46 11.3		
02	e(P)	06 10 42.0			03	eP	04 56 32.8		
02	e(P)	06 53 38.7			03	iPC	08 15 43.8	1.0	124.0
						eS	24 28.6		
02	eP	09 19 17.9	0.8	93.5	03	eP	11 20 33.0		
02	e(P)	09 26 57.3			03	eP	11 30 01.6		
02	eP	09 31 37.8			03	e(P)	11 39 21.6		
02	e(P)	12 42 00.8			03	eP	12 33 58.7		
02	e(P)	15 46 47.8			03	e(P)	13 10 03.9		
02	eP	19 04 53.9			03	eP	13 32 20.9		



Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
03	eP	15 26 40.4			04	eP	16 12 58.3		
03	e(P)	15 49 20.3			04	eP	16 39 30.2	1.0	8.5
03	eP e	16 47 50.2 48 23.5			04	e(P) e	17 43 57.7 44 48.2		
03	eP	18 20 08.2			04	eP e	18 11 27.6 11 53.0		
03	eP e	18 58 30.8 59 02.5			04	iPD e(S)	19 22 26.7 31 35.5		
03	eP	19 10 49.8			04	eP	19 54 05.8		
03	e(P)	19 23 18.6			04	eP	20 20 55.4		
03	eP	20 44 17.3			05	eP	00 13 01.0		
03	e(P)	20 49 14.4			05	eP	03 30 54.7		
03	e(P)	20 53 23.4			05	eP	09 34 21.6	0.7	14.2
03	eP	21 10 09.0			05	eP	11 42 41.6		
03	eP	23 35 32.7			05	e(P)	12 42 05.5		
04	eP eS	00 49 42.9 57 33.5			05	eP	12 56 12.5		
04	eP	02 30 07.9			05	e(P)	13 51 36.4		
04	iPD	04 33 59.2	1.0	20.0	05	ePD	15 16 47.3		
04	ePC	05 54 07.0	1.2	37.5	05	ePC	19 37 45.5		
04	eP	05 59 24.5	1.1	20.5	05	eP	19 44 01.8		
04	eP	06 23 17.7			05	eP	20 15 47.3		
04	ePD e(S)	07 02 04.2 11 12.2	0.8	66.5	05	eP	20 32 04.0		
04	ePD e(S)	07 38 16.6 47 20.2			05	eP	21 30 14.3		
04	eP	11 47 39.7			05	eP	21 50 19.2		
04	e(P)	14 09 59.0			05	ePD	22 14 14.5	1.0	8.5
04	eP	15 20 37.5			05	e(P) e	23 44 12.6 46 24.5		

		.T.)		2A (mm)	Day	Phase	Time (U.T.)		T (sec.)	2A (mm)			
		hr.	min.				sec.	hr.			min.	sec.	
06	eP	00	56	42.9			07	e(P)	00	24	20.2		
06	eP	01	00	00.3	1.0	8.5	07	eP	00	36	29.2		
06	e(P)	01	19	39.5			07	eP	04	11	17.5		
06	eP	03	10	30.7	0.9	8.5	07	eP	05	44	33.5		
06	e(P)	05	34	00.5				e	45	06.3			
06	eP	05	48	03.9			07	eP	07	13	56.7		
	e	48	30.6				07	iPD	08	03	19.7		
06	eP	07	21	02.9			07	eP	10	27	33.8		
	e	21	40.5										
06	iPD	07	48	53.8			07	eP	13	55	11.7		
	e(S)	54	02.5					e	55	42.2			
06	e(P)	07	58	41.5			07	eP	14	24	09.2		
								e	24	59.5			
06	eP	08	25	59.8			07	eP	15	02	16.2		
06	eP	09	05	50.4			07	eP	16	40	09.5		
06	eP	09	43	26.9	0.9	7.0		e	40	51.5			
06	eP	10	28	49.0			07	eP	19	29	46.5		
	e	29	18.8					e(S)	37	22.5			
06	e(P)	10	38	31.7			07	ePD	20	42	30.7		
	e	39	12.0				07	iPD	20	58	42.0		
06	e(P)	13	04	19.1				e(S)	06	44.7			
06	e(P)	15	03	44.0			07	eP	23	53	22.2		
06	e(P)	15	13	33.2			07	eP	23	59	09.7		
06	eP	17	27	58.5			08	eP	00	22	53.6		
	e	28	23.7					e	23	23.2			
06	ePC	19	50	11.2			08	ePD	01	00	19.7		
06	eP	20	08	15.7			08	eP	01	47	02.2		
	e	08	48.5										
06	eP	21	34	55.6			08	eP	03	33	49.3		
06	eP	22	13	13.2			08	e(P)	04	39	26.0		
							08	eP	04	54	11.4		

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
08	e(P)	06 20 18.5			09	eP	01 04 35.8		
08	eP	06 32 49.2			09	eP	02 26 01.2		
08	iPC	07 55 07.1			09	eP	03 57 32.0		
08	e(S)	08 04 45.5			09	eP	07 02 22.8		
08	eP e	08 49 20.0 49 55.4			09	e eP	02 58.5 10 07 09.2		
08	eP e	09 59 21.2 59 46.7			09	eP	14 05 05.0		
08	eP e	10 23 54.8 24 17.0			09	eP	14 20 26.0		
08	eP	13 46 05.5			09	eP	15 47 09.0	0.9	1.5
08	ePC	14 26 37.8			09	eP	15 58 08.2		
08	eP e(S)	15 12 35.0 22 23.2			09	eP	16 42 08.6		
08	eP e(S)	17 51 35.0			09	e(P)	17 08 43.3		
08	eP i	20 20 51.3 21 22.5			09	e(P)	17 29 27.0		
08	eP	21 06 31.3			09	eP	18 09 26.0		
08	eP e	22 04 13.6 04 40.2			09	iPD	18 42 46.2		
08	eP	22 07 29.2			09	e(P)	20 04 15.5		
08	eP	22 41 15.0			09	eP	20 42 33.0		
08	eP	23 08 00.3			09	e(P)	21 28 28.5		
08	eP e	23 51 48.5 52 27.4			09	e(P)	21 42 04.3		
08	eP	23 56 23.2			09	eP e	21 53 23.2 54 02.8		
09	eP	00 16 17.2			09	eP	23 06 24.5		
09	eP	00 50 59.3			09	eP	23 15 21.5		
					10	eP	00 30 57.5		
					10	e(P)	02 37 20.8		
					10	iPD	03 35 24.8		

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
10	eP	12 14 00.2			11	eP	14 07 51.0		
10	eP	12 38 37.8			11	e(P)	14 37 18.3		
10	iP	14 13 14.2			11	eP	15 32 10.3		
10	eP eS	15 18 05.6 28 50.3			11	e(P)	16 22 02.2		
10	eP	16 27 05.5			11	eP	16 53 02.5		
10	eP e	16 39 31.9 40 08.7			11	eP	16 56 28.7		
10	eP	17 14 12.7			11	eP e	17 18 22.7 18 58.2		
10	eP	18 00 25.7			11	eP	17 30 32.7	0.8	11.8
10	eP	19 13 43.1			11	e(P)	19 18 10.4		
10	eP	19 38 36.7			11	eP	20 29 41.8		
10	eP	19 55 18.2			11	iP	22 35 14.5		
10	iP	21 15 00.0			11	eP	23 02 41.0		
10	e(P)	22 37 45.5							
10	iPD	22 49 52.2			12	eP	00 19 18.6		
10	eP	23 31 24.5			12	eP e	00 46 54.7 47 31.7		
11	eP	00 05 26.2	0.9	20.0	12	eP	00 55 48.5		
11	iPC	03 17 20.8			12	ePD	02 12 05.8	0.8	8.0
11	eP	04 17 14.2	0.9	4.5	12	e(P)	03 16 03.2		
11	eP	05 10 34.5			12	iPD	03 59 21.9		
11	e(P)	07 51 22.1			12	eP	05 23 32.4		
11	e(P)	08 09 55.2			12	ePG	08 08 44.5	1.0	15.0
11	e(P)	09 22 45.0			12	eP	08 28 01.1		
11	ePG	12 41 34.4	0.7	60.0	12	eP	09 33 23.3		
11	e(P)	13 04 04.1			12	eP	09 40 20.2		

		Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
12	eP	11 07 58.5			13	eP	12 59 47.9	0.8	8.0
12	eP	12 23 32.7			13	eP	14 59 21.4		
12	eP	15 29 07.4			13	eP	15 27 02.6		
12	eP	15 38 22.0			13	eP	17 59 08.0		
12	e(P)	16 04 53.8			13	eP	18 33 55.2		
12	eP	16 23 10.4				e	34 32.5		
12	ePD	17 04 52.3	1.0	8.0	13	iP	20 36 14.3		
12	ePC	17 25 33.6			13	e(P)	23 50 54.2		
	e	25 52.0			13	eP	23 59 12.5		
12	eP	17 36 15.7							
12	eP	19 07 56.2			14	ePD	03 10 58.2		
						eS	20 57.0		
12	iPC	19 35 23.3	1.0	55.5	14	eP	05 29 11.1		
12	eP	20 28 51.7			14	iPD	07 00 29.1		
	e	29 19.6			14	ePC	07 38 17.6	0.8	43.0
12	eP	21 08 22.5			14	e(P)	07 47 08.0		
12	e(P)	22 11 49.4			14	ePD	09 21 11.1	1.1	42.0
12	iPD	23 21 02.4				eS	29 18.5		
13	eP	01 36 57.4			14	ePC	10 04 00.3		
						e	04 40.8		
13	eP	04 02 12.5			14	eP	11 05 17.9		
13	eP	04 29 22.3			14	eP	11 23 29.1		
13	e(P)	04 58 30.7				e	24 22.0		
13	eP	07 43 42.2			14	eP	11 37 40.7		
13	eP	08 24 02.2			14	eP	12 22 52.5	1.0	3.5
13	eP	08 38 26.8			14	e(P)	13 58 18.8		
	e	38 58.6			14	eP	14 49 30.5		
13	iPD	10 33 29.4	1.0	33.0	14	e(P)	15 45 01.2		
13	eP	12 24 02.5							

Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)
14	ePD	17 07 56.8	1.0	12.5	15	eP	15 56 06.3		
14	eP	17 34 18.0			15	eP	17 05 47.5		
	i	34 59.3			15	eP	17 06 47.4		
14	eP	17 41 03.5	1.0	14.0		i	08 01.8		
14	eP	18 51 49.5			15	eP	17 49 10.5		
14	e(P)	19 52 40.0			15	eP	17 54 51.9		
14	eP	20 50 35.7			15	eP	18 22 26.2		
14	e(P)	21 34 31.4				e	23 30.2		
15	e(P)	00 03 31.5			15	e(P)	18 31 38.8		
15	eP	02 05 08.0			15	eP	20 18 57.0		
15	iPD	02 18 47.9				eS	26 52.8		
	e(S)	25 23.5			15	eP	21 01 31.0		
15	eP	03 03 28.2	1.1	24.0	15	e(P)	21 53 50.0		
15	iPD	03 37 24.8			15	eP	22 54 25.3		
15	ePD	03 42 15.2	0.8	9.5	16	eP	00 43 59.0		
15	eP	06 07 15.7			16	e(P)	03 33 34.5		
15	ePD	06 17 20.1			16	eP	03 57 41.2		
15	e(P)	06 34 16.0				i	58 17.8		
15	eP	06 52 59.3			16	eP	04 18 39.7		
15	eP	07 25 20.9			16	eP	05 26 40.2		
15	eP	08 02 50.0			16	eP	05 50 09.9		
15	eP	09 23 29.2			16	e(P)	06 59 10.3		
15	e(P)	10 49 28.4				e	59 40.1		
15	eP	12 15 26.1			16	eP	07 54 49.5		
15	eP	12 43 37.7			16	e(P)	09 15 18.7		
15	eP	14 41 05.5				e	15 47.4		
15	eP	14 47 26.3			16	eP	10 08 26.8		
					16	eP	14 22 28.0		
					16	eP	14 52 52.7		
						e	53 34.5		

Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)
16	eP	15 31 26.8			17	eP	21 08 08.7	1.0	10.5
16	eP	15 57 08.0				e(S)	10 35.4		
16	eP	17 05 21.4			17	ePC	23 30 23.1	0.7	13.0
16	eP	17 40 22.4			17	e(P)	23 52 53.0		
16	eP	17 49 41.7			18	eP	01 49 32.8		
16	e(P)	20 06 03.0				e	50 01.3		
16	eP	20 19 56.0			18	eP	02 58 06.2	1.0	12.0
16	eP	23 05 21.5			18	e(P)	03 03 35.0		
17	eP	00 38 05.4			18	eP	05 24 03.2		
17	eP	02 04 34.5			18	eP	05 52 02.6	0.6	7.5
17	eP	03 19 07.1			18	eP	06 02 18.0		
17	e(P)	03 26 56.8				e	02 34.2		
	e	27 43.7			18	ePD	06 27 05.0	0.8	14.0
17	eP	05 21 55.0			18	e(P)	06 33 07.1		
17	eP	05 31 06.8			18	eP	08 05 22.2		
17	eP	07 04 19.0	1.0	21.0		e	06 01.3		
17	eP	09 05 42.2			18	eP	10 06 41.3	0.8	20.5
	e	06 14.5			18	iFD	11 18 52.0		
17	eP	09 48 41.5			18	eP	11 31 25.4		
	e	49 13.5			18	eP	11 45 27.6		
17	eP	11 26 10.5			18	eP	12 18 20.5		
	e	26 37.8			18	eP	13 06 57.6		
17	eP	12 36 24.5			18	eP	14 00 49.0		
	e	36 57.5			18	eP	14 18 41.5		
17	eP	13 38 04.5	0.9	13.5	18	iFD	15 05 25.5		
17	eP	15 52 34.6	1.0	4.0	18	e(P)	15 29 13.2		
17	eP	17 32 04.2			18	eP	16 01 58.3		
17	eP	17 49 31.0				e	06 43.4		
	e	50 01.8			18	eP	16 40 49.7		

		J.T. hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
18	eP	17 05 26.4			19	eP	14 14 17.7		
18	eP e	17 20 47.8 21 47.8			19	e(P)	14 34 27.3		
18	e(P) e	18 03 15.8 03 58.7			19	eP	15 42 06.5		
18	eP	18 59 41.8			19	eP	15 50 23.2		
18	e(P)	19 50 13.3			19	e(P)	16 49 51.7		
18	e(P)	20 05 07.0			19	e(P)	17 23 12.5		
18	eP	22 35 09.3			19	eP	17 34 40.8		
19	eP	00 30 25.0			19	eP	17 47 36.3		
19	e(P)	02 10 51.0			19	eP	17 59 48.7		
19	eP	02 21 24.7			19	eP	18 26 57.3		
19	ePD	02 34 35.6			19	eP	18 53 44.4		
19	eP	02 53 53.4			19	eP	19 26 25.1		
19	eP	03 41 53.9			19	e(P)	20 08 57.3		
19	e(P)	03 56 19.0			19	e(P)	22 00 32.3		
19	eP	04 50 47.6			19	eP e	22 16 35.2 23 06 50.0 07 13.2		
19	e(P)	08 06 47.1			19	e(P)	23 30 33.0		
19	eP	09 04 45.0			20	eP	00 13 02.0		
19	eP e	09 53 21.8 08 45.0			20	eP e	00 34 21.0 34 47.8		
19	eP	10 39 16.0			20	eP	01 56 55.3		
19	eP	11 08 51.7			20	e(P) e	04 19 20.2 19 53.1		
19	e(P)	11 40 50.2			20	eP	06 04 29.5		
19	e(P)	12 54 30.2			20	e(P) e	06 58 43.0 59 20.6		
19	e(P)	13 20 46.5			20	ePD e e(S)	07 16 48.9 18 46.0 23 40.7		
19	e(P) e	14 08 23.4 09 05.0							

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
20	eP e	08 46 23.3 46 57.4	0.5	11.5	21	iPD	00 13 34.3	0.8	20.5
20	iPD e	09 47 18.5 47 51.5			21	eP	01 24 03.5		
20	eP	10 23 13.2			21	eP	02 24 48.6		
20	eP	11 24 12.0			21	eP	03 58 05.0		
20	e(P) e	12 30 24.5 31 43.0			21	eP	07 55 07.6		
20	e(P)	12 43 46.9			21	eP e	09 34 24.2 11 10 00.7 10 40.4		
20	iPC e	14 53 00.0 53 30.3			21	eP	12 15 47.7		
20	eP	16 54 41.9			21	e(P) 1	14 16 05.0 16 48.4		
20	eP e	18 11 26.0 12 01.5			21	e(P)	16 21 57.0		
20	eP e	19 32 13.9 32 59.3			21	eP	17 11 14.4		
20	e(P)	20 19 17.0			21	eP	17 48 30.7		
20	eP e	20 38 21.2 38 54.0			21	eP e	18 22 49.5 23 55.8		
20	eP	21 10 00.8			21	iPC	19 06 17.0		
20	eP	21 23 37.9			21	eP	19 15 12.0		
20	eP	21 57 02.0			21	iPD e	19 18 32.2 19 02.6		
20	eP	22 46 54.6			21	e(P)	20 11 28.9		
20	eP	23 10 20.0			21	eP	22 30 01.0		
20	eP	23 21 39.5			21	eP	23 07 05.5		
20	e(P) e	23 30 40.0 31 20.3			21	eP e	23 24 11.6 25 09.3		
20	eP	23 54 03.0	21	eP	23 41 40.3				
			21	eP	23 55 19.2				

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
22	eP e	00 36 56.5 37 28.3			22	eP	20 54 21.0		
22	eP e	01 47 37.5 48 03.4			22	eP e	21 22 23.3 22 45.6		
22	eP	02 04 01.4			22	eP	21 35 36.8		
22	eP e	02 10 51.6 11 26.3			22	eP e	22 21 57.8 22 59.0		
22	eP	02 27 45.2			22	eP e	22 52 14.1 53 07.5		
22	e(P)	04 14 52.0			22	e(P)	23 53 11.1		
22	eP e	07 12 57.4 13 02.1			23	eP	02 46 58.3		
22	eP i	07 37 10.9 37 39.0			23	e(P) e	03 48 16.0 49 23.6		
22	eP	07 43 23.4			23	eP	05 27 00.3		
22	e(P)	08 05 38.0			23	eP	05 38 24.7		
22	e(P)	09 00 31.0			23	e(P) e	07 26 32.3 27 13.3		
22	e(P)	09 32 23.0			23	eP e	09 31 06.4 31 37.6		
22	eP	10 39 49.7			23	e(P)	11 10 27.5		
22	ePD e	10 52 51.5 53 21.5			23	e(P)	11 56 25.0		
22	e(P) e	11 42 28.5 43 24.3			23	e(P)	12 22 54.2		
22	eP	15 12 43.0			23	eP	13 17 37.9	0.8	6.5
22	e(P)	15 18 00.5			23	ePD	13 35 57.8		
22	eP e	16 54 37.2 55 08.2			23	eP e	14 27 45.3 28 20.1		
22	eP i	18 58 05.4 58 23.5			23	eP	14 58 09.0		
22	eP e	19 04 19.2 04 33.2			23	e(P)	15 35 47.3		
22	eP	19 49 29.0			23	e(P)	15 49 06.1		
22	eP				23	e(P)	17 20 21.0		

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
23	eP	19 03 54.0			24	eP	14 46 16.7		
23	e(P)	19 15 54.0				e	46 54.2		
23	eP	19 28 28.7			24	eP	15 13 43.0		
23	eP	20 38 03.0				e	14 17.5		
23	eP	20 38 03.0			24	eP	15 43 02.4		
23	ePD	20 45 38.4			24	iPD	16 01 22.4		
23	eP	21 16 46.3				eS	09 37.0		
	e	26 23.2			24	e(P)	17 31 32.2		
23	eP	23 26 48.5			24	eP	17 54 00.8		
23	eP	23 31 26.1			24	e(P)	18 53 42.2		
23	e(P)	23 58 45.3				e	55 26.7		
24	eP	00 52 18.0	0.7	37.4	24	eP	18 58 53.7		
24	e(P)	01 49 01.4			24	eP	20 06 20.2		
24	eP	02 00 02.4			24	eP	20 28 04.7		
24	eP	02 14 29.3	0.9	17.0		i	28 46.5		
24	e(P)	03 05 02.7			24	ePD	21 05 22.5	0.8	17.5
24	eP	03 16 49.9			24	eP	21 54 48.2	1.1	11.3
24	eP	04 23 27.8			24	eP	22 46 12.4	0.8	20.5
24	eP	05 18 03.0			25	eP	00 13 26.7		
24	eP	05 20 32.5				e	17 04.5		
24	eP	08 31 34.0			25	eP	00 23 51.8		
24	eP	08 34 18.0			25	eP	02 05 55.5		
24	eP	09 41 26.8			25	eP	02 13 27.1		
24	eP	10 12 32.2			25	ePD	02 42 02.6		
	e	12 57.3			25	eP	03 13 36.0		
24	iPD	11 20 11.7			25	eP	03 41 50.8		
24	ePD	14 08 56.1			25	ePD	04 14 56.0		
	e(S)	17 21.6			25	eP	05 44 01.9		

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
25	eP	07 55 14.0			25	eP	21 28 48.0		
25	eP	08 18 34.2			25	e(P)	21 37 43.0		
25	eP	09 41 35.7			25	e(P)	22 13 18.5		
25	eP	10 07 21.6			25	eP	23 08 50.3		
25	eP	10 36 20.5				e	10 01.1		
	e	36 47.5			25	e(P)	23 32 43.7		
25	e(P)	11 47 19.0			26	eP	00 31 07.0		
	e	47 53.3			26	eP	00 46 17.6		
25	ePG	11 49 51.7	1.0	51.5	26	eP	00 50 48.0	0.6	11.0
25	eP	12 07 47.2	0.7	6.0		e	51 17.2		
25	eP	13 00 45.5	0.8	12.3	26	eP	01 02 16.0		
25	eP	13 35 57.0			26	eP	01 21 09.5		
25	eP	13 39 52.3			26	eP	04 30 32.4		
25	eP	13 46 19.5			26	eP	04 34 37.6		
25	eP	13 49 48.0			26	eP	05 04 19.3		
25	eP	13 57 51.9				e	04 52.4		
25	eP	14 00 07.0			26	e(P)	06 12 27.3		
25	eP	14 09 31.2	1.1	14.4	26	eP	08 08 17.8		
25	eP	14 13 29.2				e	11 26.5		
25	eP	15 48 09.5			26	eP	10 08 03.9		
25	eP	16 01 17.6			26	eP	10 16 10.0		
25	eP	18 20 33.5			26	eP	11 02 57.1		
	e	20 56.0			26	ePD	16 06 18.7	0.8	44.0
25	e(P)	19 17 22.7			26	eP	19 28 54.4	0.6	19.0
	e	18 07.5			26	e(P)	19 49 08.0		
25	eP	20 17 43.5				e	49 45.5		
25	eP	20 20 38.5			26	eP	20 18 27.2		
25	e(P)	21 11 20.0			26	e(P)	20 44 41.9		

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
26	e(P) e	21 52 06.0 52 31.1			27	eP	20 10 21.6		
26	eP	22 03 10.3			27	eP	20 44 19.4		
26	eP	23 06 05.8			27	eP	20 48 26.3	0.9	12.5
26	e(P)	23 12 31.0			27	e(P)	21 06 53.2		
27	eP	00 29 46.0			27	ePD	21 36 39.7		
27	eP	00 56 18.5			27	eP	21 58 10.0		
27	eP	01 49 36.3			27	e(P)	22 20 44.5		
27	eP	04 39 53.1 40 33.6			28	eP	00 18 45.4	0.6	7.5
27	e(P) e	07 41 11.5 58 10.0			28	ePC	01 33 49.3		
27	eP	08 19 38.1			28	eP	01 57 04.1		
27	eP	08 51 38.5			28	eP	02 22 09.4		
27	eP	09 21 27.9			28	eP	02 30 03.5		
27	e(P) e	10 27 38.3 28 09.0			28	eP	02 39 34.2		
27	eP	11 29 48.9			28	eP	03 12 39.2		
27	e(P)	11 34 22.8			28	eP	03 19 27.9 20 04.0		
27	eP e	12 49 16.4 50 03.4			28	eP e	03 41 33.5 42 17.9		
27	eP	13 24 21.3	1.1	69.0	28	e(P)	05 12 20.7		
27	eP eS	13 52 09.4 00 05.3			28	eP e	06 57 00.9 57 43.7		
27	e(P)	14 31 52.9			28	eP	08 52 32.6		
27	eP	15 57 10.5			28	eP	09 18 15.5		
27	eP e	18 29 27.2 30 11.6			28	eP	10 24 11.5		
27	eP	19 56 55.7			28	eP	10 35 42.5		
					28	e(P)	11 23 24.2		
					28	e(P)	11 26 23.8		

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
28	e(P) e	12 12 13.7 12 45.8			29	e(P) e	11 01 25.0 01 56.6		
28	ePD e(S)	14 50 31.8 58 28.0	1.0	44.5	29	eP	11 45 47.0		
28	eP	15 53 41.0			29	eP	11 58 15.4		
28	eP	17 34 45.7			29	ePC	12 53 27.5	0.7	43.0
28	eP e	17 52 13.8 55 08.7			29	e(P) e	13 26 43.0 27 20.5		
28	eP	19 16 26.8			29	eP e	13 58 28.5 59 05.0		
28	eP	20 10 00.7			29	eP	14 56 13.6 56 44.2		
28	eP e	20 30 44.0 31 49.2			29	e(P)	16 54 37.3		
28	eP	21 40 36.9			29	eP e(S)	17 11 01.6 19 28.5	0.5	38.5
28	eP e(S)	23 46 21.9 57 02.1			29	eP e	17 30 38.9 30 50.2		
29	eP	00 30 46.4			29	eP e	17 34 13.5 34 28.5		
29	eP	01 11 22.3			29	eP	18 01 14.0		
29	eP	03 57 57.4			29	eP e	18 26 51.9 27 28.5		
29	eP	04 16 09.3	0.9	44.5	29	eP	18 42 47.0		
29	eP	04 46 16.2			29	e(P) e	19 22 34.8 23 28.2		
29	e(P)	05 47 48.6			29	eP	20 42 10.0		
29	eP	06 42 52.0			29	eP	20 49 03.0		
29	eP	06 55 19.5	0.8	18.4	29	eP e	21 14 43.0 15 13.8		
29	eP	07 39 00.7			29	ePC	21 47 23.7		
29	e(P) e	08 38 42.8 39 10.6			29	eP	22 09 17.0		
29	eP	09 32 49.5			29	eP e(S)	22 28 02.5 37 38.0		
29	eP eS	10 04 08.8 09 49.0	1.2	39.5					

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
29	e(P)	23 12 44.0			30	eP	21 08 37.7		
30	eP	00 17 38.6	1.0	39.0	30	e(P) e	21 21 28.2 21 59.1		
30	eP	00 51 43.8			30	ePD	21 43 11.0		
30	e(P)	01 07 03.2			30	eP e	22 41 46.5 41 55.5		
30	eP e	01 42 17.0 42 50.4			30	eP	23 11 03.5		
30	eP	04 07 37.9			30	e(P)	23 36 12.6		
30	e(P)	05 10 40.2			30	e(P)	23 50 45.3		
30	eP	06 06 18.0			31	eP	00 10 03.5		
30	e(P)	07 00 53.0			31	eP i	00 16 58.4 17 18.5		
30	eP	07 05 56.5			31	eP e	00 37 31.2 39 43.0		
30	eP	07 13 48.2			31	eP e	01 02 47.2 03 18.5		
30	eP	08 23 43.0			31	e(P) e	01 49 17.7 49 53.2		
30	e(P)	09 17 46.5			31	eP	02 18 56.5		
30	eP	09 44 44.8			31	eP	03 24 51.6		
30	ePD e	09 56 19.4 56 55.1	0.5	19.0	31	e(P) e	03 27 07.1 27 36.2		
30	eP	10 00 28.1	0.8	47.0	31	eP e	03 29 02.2 30 17.0		
30	e(P)	10 46 38.1			31	ePD	07 50 03.6	0.8	12.5
30	e(P)	11 01 51.0			31	eP	08 41 51.6	0.7	16.0
30	e(P)	12 39 34.2			31	eP e(S)	09 16 59.5 25 26.5		
30	e(P) e	15 24 46.0 25 40.5			31	eP e(S)	09 35 09.3 46 08.0		
30	eP	16 18 50.0			31	LPD	11 52 48.5	1.1	24.0
30	eP	16 57 00.6							
30	eP	18 27 37.0							
30	eP e	19 05 02.5 05 30.0							

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
31	eP e	13 37 15.9 37 50.3							
31	e(P) e	14 26 35.5 27 16.9							
31	eP e	15 06 22.5 06 59.3							
31	eP e e	17 44 13.5 44 55.5 45 10.0							
31	eP	19 40 38.0							
31	e(P) e	21 50 46.2 51 02.5							

PRELIMINARY SEISMOGRAM ANALYSIS
 KABUL/AFGHANISTAN SEISMOLOGICAL OBSERVATORY
 FACULTY OF ENGINEERING - KABUL UNIVERSITY
 R.A.KARIM - DIRECTOR

WVNSS: KBL

Via Air Mail

Latitude: $34^{\circ}32.45'N$ S.P. Mag. 4.00 K.at 1.0 sec. Bulletin# 6
 Longitude: $69^{\circ}02.59'E$ L.P. Mag. 6 K.at 15.0 sec. Dated Dec 11 1968
 Elevation: +1.92KM

Period: <u>Nov 01, 1968</u> To <u>Nov 30, 1968</u>									
i = Impulsive; e = Emergent; C = Compression; D = Dilatation									
Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)
01	eP e	00 40 08.0 40 43.9			01	eP	14 08 02.0	1.1	4.4
01	eP	00 56 55.7			01	e(P)	14 22 55.8		
01	eP	01 51 17.5			01	eP	15 05 46.5	0.7	12.3
01	e(P) e	01 59 46.5 00 26.6			01	eP	17 56 12.8		
01	iFD	02 23 45.7			01	eP e	18 58 44.5 59 20.7		
01	e(P)	02 36 14.2			01	e(P) e	19 42 31.2 43 09.5		
01	eP	03 23 16.6	0.5	26.5	01	eP	20 21 17.5		
01	eP e e	03 48 20.3 49 00.0 52 51.1	0.6	10.5	01	e(P)	20 29 12.4		
01	eP	05 09 00.0			01	iPC	20 50 18.0		
01	eP	05 21 02.2			01	e(P)	21 41 34.5		
01	eP e	05 24 45.6 25 17.0			01	eP	22 42 28.5	0.6	16.0
01	eP e	05 49 00.0 49 39.2			01	eP	23 25 10.2		
01	eP	06 39 17.0			01	e(P)	23 33 25.4		
01	eFD e	06 39 17.0 39 44.8			02	e(P) e	03 23 02.0 24 50.7		
01	eP	10 38 19.2			02	eP e	06 56 29.5 56 37.5		
01	e(P)	11 51 10.3			02	eFD	09 43 54.0	1.0	32.5
01	eFD e(S)	13 29 29.3 38 16.5			02	e(P)	10 48 46.5		

Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
02	eP e	11 48 51.4 49 59.5			03	e(P)	03 14 07.7		
02	eP	12 12 14.4			03	eP	03 24 04.9		
02	e(P) e	12 25 28.3 26 54.5			03	eP e	03 32 36.6 32 59.0		
02	eP	12 31 57.4			03	eP	04 57 01.0		
02	iFD	12 51 31.4	0.7	11.5	03	eP e	05 32 21.3 32 58.0		
02	eP	13 29 28.5			03	e(P) i e	07 27 10.0 28 15.7 28 47.2		
02	eP e	14 26 11.5 26 34.9			03	oP	07 44 23.0		
02	eP e	17 14 06.5 14 12.4			03	eP	07 49 24.4		
02	eP e	17 55 30.7 56 12.6			03	eP	08 10 15.3		
02	eP e	18 44 47.4 45 29.9			03	ePD	08 19 46.5		
02	eP e	19 59 15.9 59 50.3			03	eP	08 30 03.2		
02	eP	20 13 46.4			03	eP	08 59 54.4 00 16.0		
02	eP	20 20 37.8			03	eP	13 31 44.3		
02	e(P) e	20 37 05.4 37 41.5			03	eP	15 03 27.5	0.7	9.9
02	e(P) e	21 32 02.0 32 38.4			03	eP e	15 22 28.9 22 36.0		
02	eP	22 42 42.9	1.1	22.0	03	eP e	15 39 44.5 40 21.5		
02	eP	23 34 15.4			03	eP	16 37 28.3 37 46.4		
03	ePC	01 08 45.0			03	eP e	16 47 50.0 48 27.7		
03	eP	01 21 51.9			03	eP	18 46 30.0		
03	ePC	01 42 45.2			03	eP	18 58 21.0		
03	o(P) e	02 53 18.3 53 44.4			03	eP e	20 07 03.3 07 53.4		

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
03	eP	20 27 10.1			04	eP	18 10 28.7		
03	eP	21 26 44.1			04	eP	18 21 48.2		
03	eP	22 30 47.2			e	22 22.7			
03	e(P)	23 42 53.8			04	e(P)	18 51 04.5		
	e	43 41.3			e	51 50.2			
04	e(P)	00 25 40.6			04	eP	19 36 10.0		
04	eP	01 10 04.0			04	eP	20 12 43.7		
	e	10 36.0			04	e(P)	22 24 38.3		
04	eP	01 46 02.8			04	eP	23 24 51.2		
	e	46 38.7			04	eP	23 47 06.4		
04	eP	01 54 47.6			e	47 11.2			
04	eP	06 20 06.1			05	ePB	00 34 23.0		
04	eP	07 16 24.7	0.6	13.0	05	eP	01 18 09.5		
	e	16 58.2			05	ePB	01 47 59.5		
04	ePD	09 07 51.5			05	ePD	02 04 20.3		
04	e(P)	09 21 02.0			05	e(P)	02 39 36.9		
	e	25 04.0			05	eP	03 08 45.0		
	e(S)	30 46.5			05	eP	05 19 51.5	0.7	8.0
04	eP	09 36 13.8			05	eP	05 36 56.9		
04	e(P)	10 10 10.8			05	eP	06 29 04.5		
04	eP	10 18 32.5			05	e(P)	06 39 37.6		
	e	19 28.0			e	40 39.3			
04	iPD	12 45 52.9			05	ePD	07 22 26.4		
	e	46 06.2			e	22 52.0			
04	eP	13 41 33.0			05	e(P)	08 02 47.3		
04	eP	14 28 13.9			e	03 22.3			
04	e(P)	14 50 50.1			05	eP	10 02 36.5		
04	e(P)	17 06 45.7			e	03 13.4			
04	e(P)	17 54 54.9			05	e(P)	12 10 32.3		
	e	55 38.7							

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
05	e(P)	13 10 05.2			06	e(P)	07 46 46.4		
05	e(P) e	13 51 47.4 52 27.3			06	eP e	09 24 36.5 25 18.3		
05	eP	15 12 19.0			06	eP	10 34 25.5		
05	eP	16 33 16.5			06	iPD	10 53 10.3		
05	ePD	17 01 01.9			06	eP	13 47 07.5		
05	eP	17 10 48.0			06	eP	15 21 39.5		
05	e(P)	18 44 28.3			06	eP e	16 50 57.9 52 17.4		
05	e(P)	20 51 11.9			06	eP e(S)	17 09 45.9 15 15.0	1.1	14.5
05	eP e	21 44 56.0 45 26.5			06	eP e	17 27 09.4 27 45.6		
05	eP	22 00 29.6			06	eP	17 43 29.0		
05	eP	22 05 40.4			06	iPD	20 15 33.3		
05	eP	22 15 18.0			06	eP	20 35 58.4		
05	eP	22 48 29.3			06	iPG e	21 16 49.9 17 19.7		
05	eP	23 21 48.4			06	eP	22 30 15.5		
05	e(P)	23 39 43.7			06	iPD e	22 37 31.0 38 02.0		
06	eP	00 53 20.5	0.6	7.4	07	e(P) e	00 48 33.4 50 05.4		
06	eP e	01 07 01.6 07 29.0			07	ePD	01 00 40.3		
06	eP	01 38 37.0	1.0	24.0	07	eP e	03 39 03.9 39 41.4		
06	e(P) e	02 06 18.6 06 47.9			07	eP	03 51 45.2		
06	eP	02 58 39.6			07	e(P) e	04 48 27.4 49 11.0		
06	e(P) e e	06 24 06.5 24 10.4 24 47.6			07	eP e	05 51 52.9 52 24.3		
06	eP	06 31 49.7	0.8	17.0					
06	e(P)	07 16 50.0							

Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)
07	eP e	08 52 14.7 52 58.8			08	e(P)	07 38 13.5		
07	iPD	09 28 47.9			08	e(P)	07 53 40.5		
07	iPD e	10 09 40.1 23 34.4			08	ePC	08 32 40.0		
07	e(P)	10 33 05.4			08	eP	10 08 32.0		
07	e(P)	11 41 35.0			08	e(P)	10 46 12.9		
07	iPC	12 00 24.8			08	eP e	12 21 08.5 21 45.3		
07	eP	12 36 43.5			08	eP	12 54 41.7	0.9	19.5
07	eP e	12 49 42.9 50 19.2			08	eP e	13 39 38.3 40 11.9		
07	eP e	14 21 56.4 22 32.3			08	eP e	13 42 02.8 42 34.1		
07	ePD	14 26 10.2	0.7	18.5	08	iPC	14 36 58.2		
07	ePD	14 46 46.0			08	eP	16 16 56.4		
07	eP e	18 05 13.4 05 27.6			08	eP	16 19 08.7		
07	eP	18 36 37.7			08	eP e	18 10 17.4 10 48.5		
07	e(P)	18 52 41.2			08	eP	18 45 01.6		
07	eP e	20 34 02.7 34 51.1			08	eP e	19 07 39.3 08 10.5		
07	e(P)	21 40 41.6			08	e(P) e	19 39 32.0 40 05.6		
07	eP	22 43 39.4			08	e(P) e	21 05 36.4 06 10.0		
07	eP	23 17 22.5	1.0	12.0	08	eP	21 12 26.6		
08	eP	00 44 55.6			08	eP e	22 36 41.9 37 17.0		
08	eP	03 04 05.6			09	eP	02 12 22.0		
08	eP	03 35 57.4			09	eP	02 28 43.9		
08	e(P)	04 28 36.7							

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)
09	eP	02 57 53.7			10	e(P)	09 10 02.5		
09	eP	04 42 08.0			10	eP	11 02 47.7		
09	eP e	06 03 46.7 04 19.2			10	eP	12 57 52.0		
09	eP e	06 07 08.0 07 39.3			10	e(P)	13 04 41.7		
09	eP e	07 55 10.3 55 31.7			10	eP	13 21 22.3		
09	eP	10 13 21.7	0.8	6.5	10	eP	14 24 02.0		
09	eP e	12 12 07.9 12 40.1			10	ePC e(S)	15 24 20.5 17 10 39.4 17 37.8	0.7	7.5
09	eP	13 46 19.0			10	eP e	21 16 00.3 16 36.0		
09	eP e	14 19 25.4 20 13.4			10	eP	21 33 36.7		
09	eP e	14 29 02.0 29 50.2			10	eP	21 40 37.8		
09	e(P)	14 49 06.5			11	eP	00 29 14.4		
09	e(P)	17 15 57.7			11	eP e	00 32 04.3 32 45.2		
09	ePC e	18 10 44.6 11 14.6			11	iFD	02 36 34.0		
09	eP e(S)	20 41 03.2 49 30.5			11	eP	06 59 45.0		
09	e(P)	20 53 16.0			11	ePD	09 06 02.0		
09	eP e	22 30 08.2 30 42.0			11	iP	09 10 33.3		
09	eP	23 45 11.4			11	eP	09 16 26.2		
09	eP	23 58 16.0			11	eFD	09 44 41.6	1.0	29.0
10	eP	00 09 57.3			11	eP	12 41 13.3		
10	e(P) e	07 04 03.4 04 38.4			11	eP	13 29 32.0		
10	eP	07 57 04.0			11	e(P) e	14 41 02.2 43 32.2		
					11	iFD eS	14 51 03.7 59 19.0		

Year	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
11	eP	15 05 46.3			13	eP	03 32 45.3		
11	eP	17 14 42.3			13	eP	07 30 57.9		
11	e(P)	17 43 03.2			13	1PD	08 01 23.2		
11	e(P)	21 05 03.5			13	eP	12 39 08.5	0.7	4.5
11	eP	22 50 00.3			13	eP	14 01 15.7		
11	eP	23 31 53.4			13	e	01 49.6		
11	e(P)	23 37 07.2			13	eP	15 32 16.5		
11	eP	23 41 05.4			13	e(P)	16 07 02.7		
12	eP	00 53 09.7			13	eP	18 50 07.3		
12	e(P)	02 08 21.8			13	eP	18 51 29.7		
12	eP	03 07 51.2			13	e(S)	59 15.7		
12	eFD	05 56 19.7	0.8	28.0	13	eP	19 08 47.8		
12	ePC	06 58 58.7			13	eP	20 04 48.4		
12	eP	09 01 00.9			13	eP	20 48 04.8		
12	e	01 36.2			13	eP	22 03 02.3		
12	e(P)	09 06 43.5			14	eP	00 01 38.5		
12	e	07 18.5			14	eP	01 18 54.5		
12	e(P)	10 02 42.4			14	eF	01 53 28.2	0.7	5.5
12	eP	14 07 05.3			14	e(P)	07 25 19.9		
12	i	07 35.4			14	e	25 58.5		
12	ePD	14 14 18.3			14	eP	09 35 47.3		
12	e(P)	14 46 13.0			14	eP	11 53 41.0	0.7	44.0
12	e	47 03.2			14	eP	12 21 00.2	0.7	26.5
12	eP	16 16 08.2			14	e(P)	14 47 46.4		
12	eP	19 03 29.6			14	ePC	17 39 11.8		
12	e	04 02.5			14	eP	19 15 18.0		
12	eP	20 49 26.3			14	e	15 58.7		
12	eP	21 28 25.9			14	e(P)	19 45 35.4		
12	e	29 02.6			14	e	46 12.0		
12	eP	22 19 29.7							
12	e(P)	22 44 32.2							
12	e(P)	23 33 06.0							
13	eP	02 15 38.7							
13	e(P)	03 08 40.7							
13	e	09 02.8							
13	eP	03 13 30.0							

Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)
14	e(P) e	20 54 32.4 55 14.5			15	eP e	23 58 31.8 58 56.2		
14	eP	21 03 18.0			16	eP e	00 38 47.0 39 11.3		
14	eP e	21 52 26.8 52 51.0			16	e(P)	00 41 49.1		
14	eP	22 05 59.3			16	e(P) e	02 17 36.1 18 11.1		
14	ePD	22 32 20.0			16	eP	04 49 46.4		
14	eP	22 51 17.5			16	e(P) e	07 49 27.0 51 10.8		
14	e(P) e	23 22 14.6 27 42.3			16	eP	08 04 23.6		
15	eP e	00 19 26.2 22 33.7			16	eP e	09 12 08.7 12 53.4		
15	eP	01 56 55.4	1.0	28.0	16	e(P)	09 32 58.8		
15	eP	05 38 30.2	0.8	7.0	16	eP e	11 22 03.0 22 26.7		
15	eP e	05 42 14.1 42 46.6			16	e(P) e	12 41 02.0 43 36.9		
15	eP	06 27 44.4			16	e(P) e	13 33 30.5 34 07.0		
15	eP	08 08 33.7			16	eP	13 39 01.6		
15	eP e	12 15 41.9 15 46.7			16	eP	15 07 48.0		
15	ePD	14 25 33.8	0.7	10.5	16	eP	15 33 19.7		
15	eP e	14 57 25.2 57 32.2			16	eP	16 51 12.6		
15	eP	15 06 08.2			16	eP	18 19 54.3		
15	eP	15 18 36.0			16	eP	21 27 42.0		
15	eP	17 37 51.3			16	e(P)	21 30 17.0		
15	eP	19 55 20.7			16	eP e	23 39 36.0 40 08.2		
15	e(P)	21 37 15.6							
15	eP	22 31 33.0							

Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2Δ (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2Δ (mm)
17	e(P)	00 19 13.0			17	eP	20 39 10.7		
						e	39 56.2		
17	eP	00 34 46.6			17	eP	23 10 44.0		
	i	37 57.0							
	i	43 25.6			17	eP	23 32 22.5		
17	e(P)	01 54 36.6							
17	eP	04 23 01.2			18	eP	00 35 30.5		
	e	23 38.0			18	eP	01 50 38.5		
17	ePD	05 29 49.0			18	eP	02 16 08.7		
17	e(P)	07 36 36.7			18	ePD	02 54 58.3	0.8	14.5
	e	37 11.9			18	iPD	05 05 40.6		
17	eP	07 53 53.1			18	eP	06 12 16.0	1.1	14.5
17	e(P)	08 53 30.2				e	12 59.5		
17	e(P)	09 43 14.3				e	15 17.0		
17	e(P)	10 08 16.1			18	ePD	08 53 53.8		
17	e(P)	10 46 09.2			18	eP	11 33 53.1		
	e	46 51.5				e	34 35.6		
17	eP	10 48 28.5			18	e(P)	12 47 58.3		
						e	48 30.7		
17	iPD	13 08 59.2	1.0	34.0	18	e(P)	13 31 25.1		
17	eP	13 16 35.5	0.7	12.0		e	31 53.3		
17	eP	14 34 37.0			18	eP	13 49 20.0	0.5	5.6
						e	49 41.7		
17	eP	17 09 39.9			18	eP	14 26 36.3	1.2	22.5
	e	10 02.7							
17	eP	17 34 17.0			18	eP	14 56 02.0		
	i	34 21.8				e	56 06.9		
17	eP	17 36 17.3			18	eP	15 32 00.2		
	e	37 02.6			18	e(P)	20 30 18.3		
17	e(P)	18 39 08.3			18	e(P)	20 39 54.9		
17	eP	19 33 06.5			18	eP	21 27 05.7		
17	eP	19 48 19.7			18	eP	21 54 59.0		
17	eP	20 05 21.6			18	e(P)	23 49 47.7		

Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)
19	ePG	00 26 22.1			20	e(P)	10 48 35.6		
19	e(P)	01 05 33.1				e	49 13.0		
	e	06 02.5			20	eP	11 19 11.5		
19	e(P)	03 21 02.0				e	19 46.7		
	e	21 30.3			20	eP	14 07 54.8		
19	eP	04 04 52.6				i	08 22.6		
19	e(P)	10 16 13.0			20	ePD	17 46 08.0		
19	eP	11 21 15.0	0.8	16.9		i	46 44.7		
19	iPD	14 01 36.0			20	e(P)	18 42 14.4		
19	eP	14 17 12.6				e	43 03.5		
	e	17 31.0			20	iP	18 45 09.4		
19	eFD	14 19 40.0			20	e(P)	19 18 55.5		
19	iFD	15 26 45.6				e	19 35.2		
19	eP	18 10 45.0			20	eP	20 16 38.8	1.2	9.0
19	eP	18 15 50.6			20	e(P)	22 34 12.6		
	e	16 23.5			21	eP	00 30 31.5		
19	eP	18 46 05.2	0.7	13.5		e	31 00.0		
19	eP	21 07 47.7			21	eP	02 55 18.5		
	e	07 52.6			21	iPG	03 05 21.7		
19	eP	21 55 15.5			21	e(P)	03 50 32.6		
19	eF	22 54 51.4			21	eP	06 03 34.0		
19	e(P)	23 17 23.5			21	eP	11 07 11.5		
19	eP	23 45 29.3			21	e(P)	11 14 39.5	1.0	18.5
20	e(P)	04 34 19.5			21	eP	11 48 53.9		
20	eP	05 37 59.3			21	eP	14 36 34.0		
20	eP	05 59 25.5			21	eP	14 42 45.1		
20	eP	09 36 23.2			21	iPG	14 54 51.0		
20	eP	10 23 42.9			21	eP	15 10 34.3		
	e	23 46.6			21	e(P)	18 02 25.0		

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
21	eP e	18 50 09.0 51 09.3			22	eP	14 15 31.4		
21	eP	19 41 13.4			22	e(P)	14 29 07.5		
21	e(P)	20 13 36.6			22	e(P)	14 49 17.0		
21	ePG	20 49 59.2			22	eP	16 01 57.3		
21	e(P)	21 02 02.0			22	eP e	16 21 53.2 22 54.5		
21	eP	21 33 02.5			22	eP e	17 08 08.7 08 44.6		
21	iPD	21 45 51.0			22	e(P) e	17 41 07.5 42 20.3		
21	e(P) e	23 06 29.4 07 07.2			22	eP	18 04 52.6		
21	e(P)	23 09 19.6			22	iPD	19 49 47.1		
21	eP	23 50 14.5			22	iPD e	20 06 39.5 07 10.0		
22	eP e	02 45 46.8 46 17.8			22	eFD	23 30 28.4	0.9	18.5
22	eP	04 01 56.6			23	e(P)	00 56 17.4		
22	e(P)	04 12 57.8			23	eP	03 08 11.8		
22	eP	04 34 54.2			23	eP e	04 38 59.4 39 19.0		
22	eP	06 27 06.0			23	ePD e	05 31 54.1 35 04.4		
22	e(P)	07 21 08.4			23	eP	10 35 48.9	0.7	10.0
22	ePD	07 32 59.6			23	e(P) e	11 19 54.0 20 43.5		
22	eP eS	09 08 23.0 15 40.0			23	eP e	14 00 56.9 01 32.8		
22	eP	09 50 15.2			23	e(P)	14 34 42.5		
22	e(P)	10 28 42.2			23	eP	14 53 06.5		
22	eFD	10 42 07.8			23	eP e	15 09 39.4 10 14.6		
22	eP	10 57 30.0							
22	eFD	11 47 33.1							
22	eP e	12 44 17.9 44 52.0							

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
23	eP	15 23 49.3			25	eP	01 11 54.7		
23	eP e	16 51 27.0 52 04.6			25	e(P)	08 53 13.1		
23	ePC	17 59 43.6			25	eP	09 02 08.0		
23	eP	20 53 21.1			25	eP	15 22 40.5		
23	eP	21 54 10.6			25	eP	15 40 23.3		
23	e(P)	23 06 38.1			25	eP	17 09 02.0		
24	eP	00 37 27.1			25	e(P) e	17 10 41.9 11 26.0		
24	e(P)	00 44 37.4			25	eP e(S)	18 47 02.0 55 17.0		
24	e(P)	03 03 40.6			25	eP	19 38 04.0		
24	e(P)	03 24 27.1			26	e(P)	00 21 57.0		
24	e(P)	05 48 17.3			26	ePD e(S)	01 22 52.0 33 07.7		
24	eP e	07 48 18.6 48 52.6			26	e(P)	02 58 36.3		
24	iPD	10 33 56.3			26	e(P)	03 47 19.9		
24	e(P) e	11 49 28.5 49 52.5			26	eP	06 16 37.5		
24	e(P) e	13 42 08.0 42 44.7			26	eP e	07 16 52.5 17 37.4		
24	eP	13 51 21.5			26	eP	07 47 43.3		
24	e(P) e	14 06 50.5 07 24.3			26	eP	08 36 54.5		
24	eP	17 38 15.4			26	e(P)	09 02 01.4		
24	eP	19 02 00.0			26	eP e	09 34 36.6 35 10.2		
24	ePD	19 58 34.4			26	eP e	09 48 06.4 48 42.1		
24	eP	20 48 01.0			26	eP	12 32 36.3		
24	e(P)	21 28 35.8			26	e(P)	13 19 43.5		
24	ePD eS	21 30 41.5 38 43.5			26	eP	13 42 21.0		

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
26	e(P) e	16 06 47.2 10 33.0			28	eP	01 19 17.4		
26	ePD	18 38 57.2			28	e(P)	01 37 44.2		
26	eP	22 06 20.2			28	e(P)	03 00 23.3		
26	eP	22 57 51.0			28	e(P)	05 24 31.4		
27	eP	01 14 58.5			28	eP	05 38 27.4		
27	e(P)	03 29 11.5			28	eP	06 27 26.8		
27	e(P)	03 47 13.5			28	ePD	07 09 51.1		
27	eP	05 55 12.5			28	ePD	08 12 13.5		
27	eP	07 22 51.3			28	eP	09 47 53.5		
27	eP	08 07 09.8			28	eP e	09 54 11.2 54 47.5		
27	eP	10 40 50.2			28	e(P)	10 55 12.2		
27	eP	12 32 53.0			28	eP	12 15 30.2		
27	ePD	13 08 04.5			28	eP e	14 01 56.8 02 28.2		
27	eP	14 57 02.0			28	eP	15 06 24.3		
27	eP	15 38 12.1			28	eP	15 25 27.5		
27	ePD	15 48 02.5			28	eP	16 43 20.5		
27	e(P) e	18 59 33.3 03 31.2			28	e(P)	18 04 42.8		
27	ePD	19 26 51.2			28	ePC e	18 42 06.7 42 37.5		
27	eP	20 55 05.0			28	ePC	19 39 28.6		
27	eP	22 28 12.8			28	e(P)	20 08 46.6		
28	e(P)	00 49 38.7			28	ePD	22 10 22.1		
28	e(P)	01 01 24.7			29	eP	04 23 39.8		
28	eP e	01 13 27.1 14 06.5			29	eP	04 39 11.0		

Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)
29	eP	06 24 00.0			30	eP	06 26 24.7		
29	eP	07 14 00.5			30	e(P)	08 02 16.9		
29	e(P) e	10 17 53.7 19 06.2			30	e(P)	10 23 54.0		
29	e(F)	12 27 36.7			30	e(P)	10 53 12.8		
29	eP	12 57 48.8			30	e(F)	10 58 42.5		
29	eP	13 02 21.8			30	e(P)	11 39 45.2		
29	eP	13 08 16.2			30	eP e	14 37 45.6 38 21.0		
29	eP	13 34 27.3			30	eP e	15 39 55.9 40 33.5		
29	eP e	14 49 50.0 50 22.8			30	e(P)	16 32 14.1		
29	eP	16 56 38.2			30	eP	17 58 46.5		
29	e(P)	17 08 52.5			30	ePD	18 22 59.5		
29	eP	17 28 43.5			30	eP	18 33 10.9		
29	eP	17 52 48.3			30	eP	19 28 39.4		
29	eP e	19 00 59.5 01 40.4			30	e(P) e	20 19 03.5 20 43.3		
29	eP	20 05 37.3			30	e(P)	21 02 21.2		
29	eP e	21 19 49.7 20 31.5			30	e(P)	23 00 34.0		
29	eP e	21 22 23.8 23 00.6							
29	e(P) e	22 44 49.4 45 17.2							
29	ePC	23 02 55.3							
30	ePD	00 11 57.5							
30	eP	00 28 22.4							
30	eP	02 51 36.9							
30	e(P) e	06 18 01.5 19 25.3							



24 FEB 1969

PRELIMINARY SEISMOGRAM ANALYSIS

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KABUL/AFGHANISTAN SEISMOLOGICAL OBSERVATORY
 FACULTY OF ENGINEERING - KABUL UNIVERSITY
 R.A.KARIM - DIRECTOR

Via Air Mail

WWSS: KBL

Latitude: $34^{\circ}32.45'N$ S.P. Mag. 4.00 K.at 1.0 sec.
 Longitude: $69^{\circ}02.59'E$ L.P. Mag. 6 K.at 15.0 sec.
 Elevation: +1.92KM

Bulletin# 7
 Dated 2.16, 1969

Period: Dec. 01 19 68 To Dec. 31 19 68
 i = Impulsive; e = Emergent; C = Compression; D = Dilatation

Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time(J.T.) hr.min.sec.	T (sec.)	2A (mm)
01	ePD	00 03 09.8			01	eP	19 04 15.5		
01	eP	01 12 02.7			01	eP	20 05 14.0		
01	eP	01 41 50.2			01	eP	21 17 39.5		
01	iPD e	02 06 39.3 07 10.5			01	eP	23 13 39.9		
01	eP	04 16 42.3			02	eP	00 41 38.8		
01	e(P)	04 56 25.5			02	e(P)	02 36 15.0		
01	eP	07 53 13.0			02	eP	02 44 21.3		
01	eP	08 41 13.9			02	ePD	04 51 49.2		
01	eP	10 26 13.5			02	e(P) e	07 54 38.5 54 22.6		
01	e(P)	11 12 33.0			02	eP	08 00 11.6	0.5	6.0
01	e(P)	12 54 47.0			02	eP	10 25 06.5		
01	e(P)	13 34 21.1			02	eP	11 37 27.6		
01	eP e	15 17 05.5 17 36.4			02	e e	37 53.5		
01	e(P)	16 11 38.0			02	eP	13 01 46.5		
01	e(P) e	16 15 11.0 15 18.0			02	eP e e	13 47 34.0 48 04.0 48 44.8		
01	eP	16 31 01.5			02	e(P)	15 43 52.5		
01	eP e	17 32 36.8 33 02.5			02	e(P)	16 34 39.0		
01	eP e	17 38 20.2 38 55.6			02	eP	16 50 10.6		

Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)
02	eP	17 52 48.2			03	1PD	21 16 22.1	0.9	21.0
02	e(P)	18 13 36.6			03	eP e	22 36 07.0 36 26.6		
02	e(P)	18 29 24.0			03	1FC	23 34 15.5	0.7	31.0
02	eP	20 28 10.6			04	eP e	00 23 06.8 23 38.2		
02	e(P)	22 10 50.2			04	1PD	03 36 28.4	0.8	13.0
	e	11 26.2			04	eP	05 15 19.2	0.9	14.5
02	e(P)	22 36 40.3			04	eP e	07 20 37.7 21 07.5		
02	e(P)	23 13 41.0			04	eP	11 55 34.8	0.8	8.0
	e	14 33.2			04	eP e	12 17 21.6 17 52.5		
02	eP	23 44 19.5	0.8	3.0	04	eP	13 45 08.8		
03	e(P)	02 04 03.6			04	eP e	14 12 40.6 43 11.0		
	e	04 15.9			04	eP	15 38 10.0		
03	e(P)	02 38 41.3			04	eP	16 37 19.5		
	e	39 14.5				e	38 05.7		
03	eP	04 57 06.6			04	eP e	17 33 02.4 33 36.5		
03	e(P)	05 09 13.0			04	eP e	18 41 31.7 42 06.4		
	e	09 48.0			04	eP	19 39 30.0		
03	eP	07 07 22.1	0.7	10.0		e	40 10.0		
03	ePD	07 17 46.9	0.8	16.0	04	e(P)	19 44 06.6		
03	eP	10 14 48.5			04	eP	20 05 19.0		
	e	15 31.1			04	e(P)	20 17 38.2		
03	eP	10 47 51.2			04	e(P)	20 55 05.7		
03	ePG	13 19 06.8	0.9	8.0	04	eP	21 25 28.0		
03	eP	13 29 31.8							
03	eP	16 49 05.2							
03	1PD	18 44 26.4	0.8	15.0					
03	eP	19 36 10.4	0.9	12.5					
	e(S)	45 47.5							

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
04	e(P) e	21 46 43.6 47 19.0			07	eP	06 41 19.4		
04	eP e	22 13 20.2 13 52.6			07	eP	09 45 05.5		
05	eP	00 07 44.8			07	eP	11 26 58.2		
05	eP e	00 30 38.5 31 13.0			07	eP e	11 38 20.6 12 43 05.3 43 57.3	0.8	4.5
05	eP	01 04 38.0			07	eP	13 03 03.8		
05	eP e	01 38 05.5 38 29.6			07	ePD	15 52 23.4		
05	e(P) e	04 58 46.0 59 16.3			07	1PD	15 58 08.3		
05	eP	07 58 55.0			07	eP	16 04 32.1		
05	ePG	08 46 34.2	0.7	10.5	07	eP	16 11 51.6		
05	eP	09 08 46.2			07	e(P)	17 03 09.7		
05	eP	09 54 20.1			07	e(P)	17 23 52.5		
05	ePD	13 08 37.6			07	1PD	17 57 15.9		
05	e(P) e	16 31 58.5 33 11.6			07	eP e	18 38 45.4 39 14.9		
05	1PD	19 22 04.5			07	eP	18 50 47.6		
05	eP	21 31 14.8			07	eP	20 55 10.6		
05	e(P)	22 26 15.6			07	e(P)	21 50 20.4		
05	e(P)	22 45 19.6			07	e(P) e	22 33 03.0 35 08.4		
05	eP	22 51 28.5			08	eP	15 54 02.0		
05	eP	22 56 39.3			08	1PD	16 59 46.3		
06	eP e	02 20 19.2 21 07.4			08	eP	18 37 26.9		
07	ePD	06 03 39.0			08	eP	20 17 26.4		
					08	eP	21 51 12.3		

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11/11/7

Day	Phase	Time (U.T.) hr. min. sec.	τ (sec.)	Δ (km)	Day	Phase	Time (U.T.) hr. min. sec.	τ (sec.)	Δ (km)
09	a(P)	01 03 22.0			10	cP	07 12 22.0		
09	eP	01 43 02.6			10	eP	07 37 59.3		
09	eP	03 11 21.0			10	a(P) e	09 49 37.5 20 27.2		
09	eP	04 04 59.1			10	e(P) e	09 31 37.0 32 32.6		
09	eP e	07 11 20.7 11 54.1	0.5	10.0	10	eP	11 35 51.5	1.0	11.0
09	eP e	08 01 49.2 02 10.5			10	eP	13 40 09.5	0.3	1.5
09	a(P) e	08 04 28.5			10	eP e	15 05 12.4 05 37.9	0.5	17.5
09	eP	09 58 07.7			10	eP	15 15 15.0 16 07.0		
09	eP	13 11 52.5			10	eP	15 16 16.1		
09	eP	13 16 08.6			10	eP e	15 35 07.3 17 43.0		
09	eP	14 12 20.5	1.1	11.5	10	eP e	18 11 16.0 11 49.4		
09	eP	15 15 14.1			10	eP e	18 17 16.7 18 15.3		
09	eP e	16 32 14.8 32 57.1			10	e(P) e	19 34 59.0		
09	eP	22 03 25.6			10	eP e	19 05 25.2 20 52.0		
09	eP e	23 31 35.6 31 49.4			10	eP e	23 17 03.0 17 35.4		
09	e(P)	02 13 04.8			10	eP	23 34 11.0		
10	eP e	04 32 32.7 33 21.7			11	eP	00 51 15.4	0.3	21.5
10	eP	04 36 31.5			11	eP	03 10 14.6	0.7	18.0
10	eP	04 59 25.4	0.8	15.5	11	eP	04 00 12.5		
10	e(P)	05 39 54.6			12	eP	05 15 14.8	1.0	10.5
10	eP e	05 45 27.5 45 13.0			12	a(P)	05 18 43.6		

Day	Phase	Time (U.T.) hr. min. sec.	Δ (sec.)	PA (deg.)	Day	Phase	Time (U.T.) hr. min. sec.	Δ (sec.)	PA (deg.)
12	eP e	07 37 13.7 40 33.5	0.2	17.0	13	eP e	07 16 32.5 17 02.0		
12	e(P)	08 13 12.1			13	eP e	09 50 42.3 51 08.8		
12	e(P) e	08 16 42.0 47 08.4			13	eP	13 13 53.9		
12	e(P)	08 53 16.9			13	eP e	14 06 18.6 07 01.0		
12	eP e	12 33 50.6 34 20.2			13	eP	15 17 40.3		
12	eP e	13 56 00.0 55 31.7			13	eP e	17 03 34.5 04 11.7		
12	eP	26 09 26.9			13	e(P) e	18 29 28.5 30 03.5		
12	eP	27 26 43.5			13	eP	19 39 43.1		
12	eP	30 13 06.5	0.1	30.5	13	eP	21 50 11.4		
12	eP	30 37 51.5			13	eP	22 31 56.6 32 54.2		
12	e(P) e	20 20 28.3			14	e(P) e	00 30 49.5 31 24.4		
12	eP e	30 53 58.0 54 30.5			14	e(P) e	00 31 47.2		
12	eP e	28 40 52.2 41 23.5			14	eP	01 15 16.3	0.7	17.5
12	eP e	00 36 29.5 35 53.9			14	e(P) e	03 07 45.7 06 11.0		
12	e(P) e	00 32 30.4 33 29.3	0.5	15.5	14	eP	05 16 57.9		
12	e(P)	01 18 15.0			14	e(P)	06 06 35.5		
12	eP	02 57 52.2			14	eP	08 52 07.8	0.0	11.4
12	e(P)	03 15 16.0			14	eP	10 10 29.0	1.0	11.0
12	eP e	04 57 20.5 57 15.0			14	eP e	12 42 03.5 42 50.0		
12	eP	07 18 02.1			14	eP	21 50 52.1		
12	eP e	08 15 16.6 26 25.7			14	eP e	14 03 15.0 15 46.6		

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No. 10141 7

Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (cm)	Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (cm)
14	eP e	17 52 00.0 52 30.4			16	eP e	10 48 31.5 49 16.6		
14	e(P) e	19 40 21.2 41 14.5			16	e(P) eP	11 04 18.5 45 01.0		
14	e(P)	20 35 38.6			16	eP e	16 49 19.0 49 44.2		
14	1FD	21 03 25.4			16	1FD	17 09 16.2		
15	eP	01 08 25.0			16	eP e	17 16 25.4 16 49.5		
15	e(P) e	02 17 36.0 18 17.6			16	eFD	21 32 49.3		
15	1FD eH	02 25 44.3 35 09.2			16	e(P)	22 23 55.3		
15	eFD	02 39 58.1			17	eP e	00 17 11.1 17 55.1		
15	eFD e	03 31 55.6 34 27.7			17	e(P) e	01 05 38.3 06 23.8		
15	eP	09 36 43.9			17	1FD	06 40 26.9		
15	eP e	11 19 28.6 23 24.6			17	e(P) e(S)	12 14 12.3 24 03.9		
15	eP e	12 49 10.6 49 33.5			17	eFD i	13 17 32.1 17 51.0		
15	eP	14 12 03.4			17	eP e	13 14 04.7		
15	eP e	16 38 55.0 39 05.0			17	e(P)	13 50 48.0		
15	eP e	16 47 03.2 47 18.0			17	eP	15 02 16.5		
15	eP	21 48 20.2	0.7	0.0	17	e(P)	17 25 35.9		
15	e(P)	22 52 16.5			17	eP	21 39 09.8		
15	e(P)	23 23 57.0			17	eP	22 26 15.7		
16	1FD	00 30 06.6			17	eP	22 40 35.1		
16	eFD e	02 52 15.4 52 51.2			17	e(P)	23 23 36.0		

Mag	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)
18	eP	00 03 49.8			19	eP	11 35 24.1		
18	e(P)	03 10 19.0			19	eP e	11 48 09.8 49 46.6		
18	eP	05 05 51.5			19	e(P)	12 52 44.7		
18	e(P)	07 59 57.0				e	53 35.4		
18	eP	08 31 06.5			19	e(P)	12 56 04.3		
	e	31 42.5			19	ePD	15 36 24.4		
18	eP	10 49 27.0			19	eP	16 44 24.2		
	e	49 57.4							
18	eP	13 04 32.1			19	eP	20 28 15.4		
18	eP	16 10 09.4				e	28 46.5		
18	e(P)	16 40 43.6			19	eP	22 05 09.8		
	e	41 11.6				e	05 55.6		
18	e(P)	19 47 30.8			19	e(P)	22 39 49.8		
	e	47 58.6			19	eP	23 05 30.5	0.3	0.5
18	eP	19 50 20.3				e	06 02.0		
18	IFD	20 21 53.1			20	e(P)	01 24 11.4		
18	eP	21 02 38.3				e	25 32.8		
18	eP	21 29 38.5			20	eP	04 23 37.8		
	e	30 09.1			20	eP	04 34 56.3		
18	e(P)	22 29 11.6			20	ePD	07 34 21.0	1.1	13.0
18	eP	23 42 11.2			20	eP	08 30 24.0		
						e	30 43.0		
18	eP	00 05 44.9			20	ePD	09 46 57.0		
18	ePD	00 36 55.4			20	IFD	10 22 52.4		
						e	23 28.5		
18	e(P)	03 44 33.9			20	eP	12 13 39.2		
18	IFD	05 18 25.6				e	14 10.5		
18	eP	08 22 56.0			20	eP	13 46 19.4		
	e	23 08.7			20	e(P)	13 57 05.4		
18	eP	09 34 34.2			20	eP	17 00 30.3	0.8	1.0
18	e(P)	13 50 51.0							

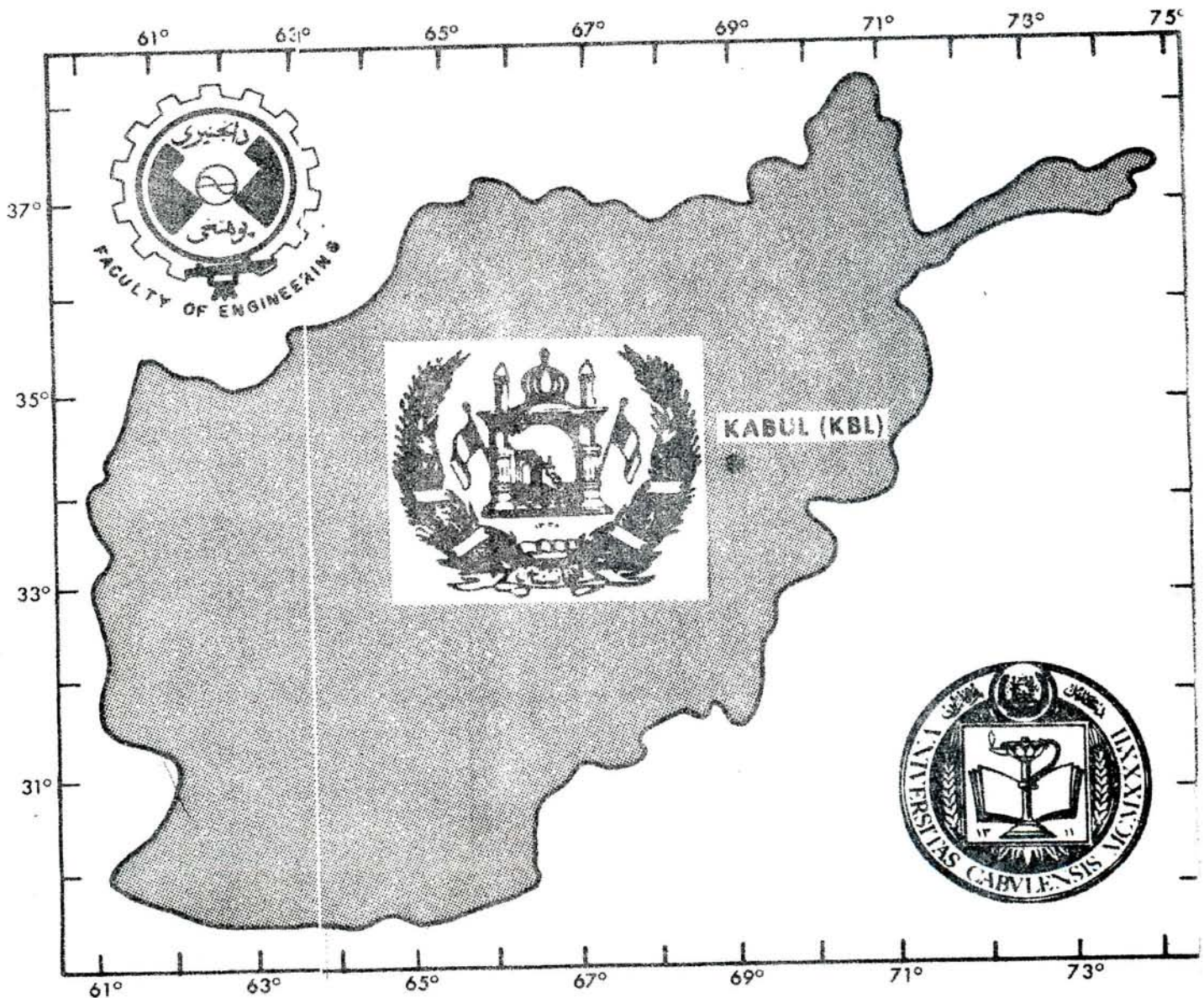
Day	Phase	Time (U.T.) hr, min, sec.	T (sec.)	2s (km)	Day	Phase	Time (U.T.) hr, min, sec.	T (sec.)	2s (km)
20	oP e	17 48 45.2 49 36.4			21	oP	16 09 12.8		
20	oP e	18 48 40.5 49 39.4			21	oP	17 49 35.2		
20	oP e	21 51 40.0	3.0	25.0	21	a(P) e	20 09 48.6 10 17.1		
20	oP	22 12 10.0			22	oP e	02 07 21.4 03 05.6		
20	oP	23 38 40.4			22	oP e	02 09 35.0	2.0	25.0
21	a(P) e e	00 29 40.6 29 47.8 30 11.4			22	oP e	03 46 10.2 46 41.6		
21	oP	00 43 29.2			22	a(P)	04 01 33.8		
21	oP e	00 59 25.1 00 55.2			22	oP	06 39 41.3		
21	oP	02 24 18.3			22	a(P)	06 49 48.6		
21	oP e	04 32 41.0 33 14.0			22	oP e	09 15 34.0		
21	a(P) e	04 39 08.2 39 24.0			22	oP	12 23 54.5		
21	oP	07 32 38.3			22	oP	15 34 40.4		
21	a(P)	08 05 17.0			22	oP	16 51 47.1		
21	oP	08 57 35.0			22	oP	16 57 03.0		
21	oP	09 43 28.4			22	oP	17 05 30.4		
21	a(P)	10 09 08.1			22	oP	17 51 52.1		
21	oP e	10 46 36.7 46 48.0			22	oP	18 11 16.9		
21	oP e	12 12 51.5 13 23.0			22	oP	19 00 04.7		
21	oP e	12 12 51.5 13 23.0			22	a(P) e	21 02 42.7 03 11.0		
21	oP	13 08 24.7	3.6	28.0	22	oP	21 26 27.4		
21	oP	13 14 02.1			22	oP	23 23 38.9		
21	oP	24 45 32.1			22	oP	23 43 05.4		

No	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (m)	No	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (m)
23	eP e	00 28 28.3 28 29.8			24	e(P)	16 01 37.1		
23	eP e	00 46 39.7 47 39.9			24	eP e	16 30 12.0 30 21.0		
23	e(P)	01 50 11.3			24	e(P) e	17 27 24.9 27 51.7		
23	eP	03 00 06.6			24	eP e	17 34 43.3 35 14.5		
23	eP	04 18 00.0			24	e(P)	19 04 01.5		
23	e(P) e(S)	06 03 12.3 11 35.7			24	eP e	20 13 26.2 18 56.9		
23	e(P)	07 16 48.0			24	eP e	22 09 53.1 11 17.1		
23	ePD	08 23 49.1			24	eP e	22 41 30.6 42 12.6		
23	ePD	08 40 14.6			25	ePD eS	04 05 21.0 14 12.0		
23	eP e	09 35 04.8 35 36.0			25	e(P)	04 25 48.6		
23	eP	15 56 51.5	1.0	12.0	25	e(P)	05 39 03.3		
23	ePD	19 36 47.0			25	ePD	06 39 37.1		
23	eP e	22 21 04.0 22 31.2			25	eP	07 56 24.0		
24	e(P)	00 09 43.0			25	eP	08 44 26.0		
24	eP	00 43 12.4	1.1	13.0	25	eP	10 47 07.5		
24	eP e	01 32 59.4 33 37.0			25	e(P) e	12 24 21.2 29 56.6		
24	ePD	09 31 37.6	0.8	6.0	25	eP	15 44 20.5		
24	e(P)	09 50 45.5			25	ePD	16 19 09.2		
24	eP	12 11 26.4	1.0	12.3	25	eP	19 15 43.9		
24	eP	12 50 58.8			25	eP e	19 39 02.0 39 37.6		
24	ePD	13 08 16.5			25	eP	21 04 02.5		
24	eP	15 04 11.1							
24	ePD	15 53 09.6							

Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)
25	eP	21 30 50.1			27	e(P)	16 10 31.8		
25	ePG	23 00 11.1			27	eP	16 13 34.4		
25	e(P) e	00 58 03.6 56 39.8			27	eP	16 17 19.2		
25	eP e	05 20 09.4 20 51.4			27	eP e	18 36 48.0 39 08.4		
25	e(P)	07 41 09.5			27	e(P)	22 37 18.5		
25	e(P)	09 01 09.4			27	eP	22 42 09.2		
25	eP e	12 29 42.4 30 15.3			27	e(P)	22 50 53.3		
25	e(P)	14 06 53.9			27	eP e	23 36 55.5 37 31.0		
25	eP e	16 10 44.4 11 11.3			28	e(P) e	01 30 41.4 31 33.6		
25	eP	17 53 48.9			28	eP	06 39 11.5		
25	e(P)	18 31 35.6			28	e(P)	07 18 00.0		
25	eP e	19 08 52.4 09 23.0			28	eP	08 13 27.3		
25	eP	21 18 10.9			28	eP e	09 57 11.3 57 35.7		
27	eP	02 24 01.5			28	e(P)	10 38 18.8		
27	eP	04 55 59.3			28	e(P)	13 01 09.0		
27	eP	05 09 44.1			28	e(P)	16 53 16.4		
27	eP	06 15 55.0			28	IFD e	20 29 57.7 30 28.7		
27	IFD	10 31 26.7			28	eP	21 52 22.5	0.8	1.0
27	e(P)	14 19 01.2			28	ePD e	22 46 12.1 46 23.0		
27	eP e(S)	14 43 07.6 47 10.8			28	eP	22 55 49.0		
27	eP	15 30 36.9			29	eP e	01 30 26.2 31 12.0		
27	e(P)	15 59 39.5							

Day	Phase	Time(U.T.) hr.min.sec.	τ (sec.)	EA (mm)	Day	Phase	Time(U.T.) hr.min.sec.	τ (sec.)	τ (sec.)
27	eP	02 14 25.0	0.8	14.0	31	eP	08 13 12.8		
27	eP	02 13 26.4			31	e	13 47.0		
27	e(P)	03 44 49.6			31	eP	10 50 15.6		
	e	45 31.5			31	eP	10 58 08.2		
27	eP	04 14 50.0				e	58 50.0		
27	eP	04 27 00.9	0.7	6.5	31	eP	11 22 04.2		
27	eP	07 05 10.5				e	22 37.5		
27	1FD	07 24 50.2			31	e(P)	11 30 15.6		
	e(P)	32 07.0				e	30 43.5		
27	eP	08 08 04.0	0.7	10.4	31	eP	12 48 16.9		
27	e(P)	08 29 03.7			31	e(P)	18 31 12.6		
27	eP	08 51 19.0				e	31 43.5		
27	eP	09 02 27.3			31	eP	20 03 21.0	0.7	2.0
	e	03 01.5							
27	e(P)	12 15 10.6							
27	eP	12 26 08.9							
	e	26 11.5							
27	eP	15 52 30.7							
	e	53 00.5							
27	e(P)	16 00 54.6							
27	e(P)	16 48 32.2							
27	eP	17 55 31.9							
27	eP	18 02 29.3							
27	e(P)	22 51 27.3							
28	eP	00 24 42.7							
28	eP	01 13 54.9							
	e	16 50.4							
28	eP	05 07 35.9	1.0	6.5					

MONTHLY BULLETIN
PRELIMINARY SEISMOLOGICAL ANALYSIS
KABUL, AFGHANISTAN SEISMOLOGICAL OBSERVATORY
FACULTY OF ENGINEERING—KABUL UNIVERSITY
R.A. KARIM, DIRECTOR



MONTH OF DECEMBER
BULLETIN NO. 7 1968



PRELIMINARY SEISMOGRAM ANALYSIS

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KABUL/AFGHANISTAN SEISMOLOGICAL OBSERVATORY
 FACULTY OF ENGINEERING - KABUL UNIVERSITY
 R.A.KARIM - DIRECTOR

Via Air Mail

WWSS: KBL

Latitude: $34^{\circ}32.45'N$ S.P. Mag. 4.00 K.at 1.0 sec.
 Longitude: $69^{\circ}02.59'E$ L.P. Mag. 6 K.at 15.0 sec.
 Elevation: +1.92KM

Bulletin# 7
 Dated 21.12.1968

Period: Dec.01 19 68 To Dec.31 19 68

i = Impulsive; e = Emergent; C = Compression; D = Dilatation

Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time(J.T.) hr.min.sec.	T (sec.)	2A (mm)
01	ePD	00 03 09.8			01	eP	19 04 15.5		
01	eP	01 12 02.7			01	eP	20 05 14.0		
01	eP	01 41 50.2			01	eP	21 17 39.5		
01	iPD	02 06 39.3			01	eP	23 13 39.9		
	e	07 10.5							
01	eP	04 16 42.3			02	eP	00 41 18.8		
01	e(P)	04 56 25.5			02	e(P)	02 36 15.0		
01	eP	07 53 13.0			02	eP	02 44 21.1		
01	eP	08 41 13.9			02	ePD	04 51 49.2		
01	eP	10 26 13.5			02	e(P)	07 54 18.5		
01	e(P)	11 12 33.0				e	54 22.6		
01	e(P)	12 54 47.0			02	eP	08 00 11.6	0.5	6.0
01	e(P)	13 34 21.1			02	eP	10 25 06.5		
01	eP	15 17 05.5			02	eP	11 37 27.6		
	e	17 36.4				e	37 53.5		
01	e(P)	16 11 38.0			02	eP	13 01 46.5		
01	e(P)	16 15 11.0			02	eP	13 47 34.0		
	e	15 18.0				e	48 04.0		
						e	48 44.8		
01	eP	16 31 01.5			02	e(P)	15 43 52.5		
01	eP	17 32 36.8			02	e(P)	16 34 39.0		
	e	33 02.5							
01	eP	17 38 20.2			02	eP	16 50 10.6		
	e	38 55.6							

Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)
02	eP	17 52 48.2			03	1PD	21 16 22.1	0.9	21.0
02	e(P)	18 13 36.6			03	eP e	22 36 07.0 36 26.6		
02	e(P)	18 29 24.0			03	1PC	23 34 15.5	0.7	11.0
02	eP	20 28 10.6			04	eP e	00 23 06.8 23 38.2		
02	eP	22 10 50.2			04	1PD	00 36 28.4	0.8	13.0
02	e	11 26.2			04	eP	05 15 19.2	0.9	14.5
02	e(P)	22 36 40.3			04	eP e	07 20 37.7 21 07.5		
02	e(P)	23 13 41.0			04	eP	11 55 34.8	0.6	8.0
02	e	14 33.2			04	eP e	12 17 21.6 17 52.5		
02	eP	23 44 19.5	0.8	3.0	04	eP	13 45 08.8		
03	e(P)	02 04 03.6			04	eP e	14 42 40.6 43 11.8		
03	e	04 15.9			04	eP	15 38 10.0		
03	e(P)	02 38 41.3			04	eP e	16 37 19.5 38 05.7		
03	e	39 14.5			04	eP e	17 33 02.4 33 36.5		
03	eP	04 57 06.6			04	eP e	18 41 31.7 42 06.4		
03	e(P)	05 09 13.0			04	eP e	19 39 30.0 40 10.0		
03	e	09 46.0			04	e(P)	19 44 06.6		
03	eP	07 07 22.1	0.7	10.0	04	eP	20 06 19.0		
03	ePD	07 17 46.9	0.8	16.0	04	e(P)	20 17 38.2		
03	eP	10 14 48.5			04	e(P)	20 55 05.7		
03	e	15 31.1			04	eP	21 25 28.0		
03	eP	10 47 51.2							
03	ePC	13 19 06.8	0.9	8.0					
03	eP	13 29 31.8							
03	eP	16 49 05.2							
03	1PD	18 44 26.4	0.8	15.0					
03	eP	19 36 10.4	0.9	12.5					
03	e(S)	43 47.5							

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
04	e(P) e	21 46 43.6 47 19.0			07	eP	06 41 19.4		
04	eP e	22 13 20.2 13 52.6			07	eP	09 45 05.5		
05	eP	00 07 44.8			07	eP	11 26 58.2		
05	eP e	00 30 38.5 31 13.0			07	eP	11 38 20.6	0.8	4.5
05	eP	01 04 38.0			07	eP e	12 43 05.3 43 57.3		
05	eP e	01 38 05.5 38 29.6			07	eP	13 03 03.8		
05	e(P) e	04 58 46.0 59 16.3			07	ePD	15 52 23.4		
05	eP	07 58 55.0			07	iPD	15 58 08.3		
05	ePG	08 46 34.2	0.7	10.5	07	eP	16 04 32.1		
05	eP	09 08 46.2			07	eP	16 11 51.6		
05	eP	09 54 20.1			07	eP	17 03 09.7		
05	ePD	13 08 37.6			07	e(P)	17 23 52.5		
05	e(P) e	16 31 58.5 33 11.6			07	iPD	17 57 15.9		
05	iPD	19 22 04.5			07	eP e	18 38 45.4 39 14.9		
05	eP	21 31 14.8			07	eP	18 50 47.6		
05	e(P)	22 26 15.6			07	eP	20 55 10.6		
05	e(P)	22 45 19.6			07	e(P)	21 50 20.4		
05	eP	22 51 28.5			07	e(P) e	22 33 03.0 35 08.4		
05	eP	22 56 39.3			08	eP	15 54 02.0		
06	eP e	02 20 19.2 21 07.4			08	iPD	16 59 46.3		
07	ePD	06 03 39.0			08	eP	18 37 26.9		
					08	eP	20 17 26.4		
					08	eP	21 51 12.1		

Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)
09	a(P)	01 08 22.0			10	eP	07 41 22.0		
09	eP	02 43 02.6			10	eP	07 57 59.3		
09	eP	03 11 24.0			10	e(P) e	09 19 37.5 20 27.2		
09	eP	04 04 59.1			10	e(P) e	09 31 37.0 32 32.6		
09	iPD	07 04 08.9			10	eP	11 35 51.5	1.0	11.0
09	eP e	07 41 20.7 41 54.1	0.5	8.0	10	eP	13 40 09.5	0.8	7.5
09	eP e	08 01 49.2 02 10.0			10	eP e	15 05 12.4 05 37.0	0.5	12.5
09	a(P)	08 04 28.5			10	eP	15 15 15.0		
09	eP	09 58 07.7			10	eP	15 15 15.0 16 07.0		
09	eP	13 11 52.5			10	eP	15 26 16.1		
09	eP	13 16 08.6			10	eP e	15 35 07.4 35 43.0		
09	eP	14 12 20.5	1.1	11.5	10	eP e	18 11 16.9 11 49.4		
09	eP	15 15 16.1			10	eP e	18 17 34.5 18 16.8		
09	eP e	16 32 14.8 32 57.1			10	e(P)	19 32 59.0		
09	eP	20 29 00.0			10	eP i	19 58 25.2 58 52.0		
09	eP e	22 08 26.6 31 40.4			10	eP e	23 17 03.0 17 35.4		
10	e(P)	02 13 04.8			10	iPD	23 34 11.0		
10	eP e	04 32 32.7 33 21.7			11	eP	00 54 15.4	0.8	21.5
10	iPD	04 36 31.5			11	eP	03 10 14.6	0.9	12.0
10	eP	04 59 25.4	0.8	15.5	11	eP	04 00 17.5		
10	e(P)	05 39 54.6			12	iPC	05 35 14.5	1.0	07.5
10	eP e	05 45 27.5 46 13.0			12	e(P)	06 18 43.6		

Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (m/s)	Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (m/s)
12	eP eS	07 37 43.7 40 33.5	0.9	17.0	13	eP e	09 16 32.5 17 04.0		
12	e(P)	08 13 12.1			13	eP e	09 50 42.3 51 08.8		
12	e(P) e	08 46 42.0 47 08.4			13	eP	13 13 53.9		
12	e(P)	08 53 18.9			13	eP e	14 06 18.4 07 01.0		
12	eP e	12 33 50.6 34 20.2			13	eP	15 17 40.3	0.9	7.0
12	eP i	13 56 00.0 56 31.7			13	eP e	17 03 34.5 04 11.7		
12	eP	16 09 26.9			13	e(P) e	18 29 29.4 30 03.5		
12	eP	17 36 43.9			13	eP	19 39 43.1		
12	iPD	18 13 06.6	0.5	67.5	13	eP	21 50 11.4		
12	eP	18 57 51.5			13	eP e	22 01 56.6 02 54.9		
12	e(P)	20 20 28.3			14	e(P) e	00 30 49.5 31 24.4		
12	eP e	20 53 58.0 54 30.5			14	e(P)	00 34 47.2		
12	eP e	20 40 52.2 41 23.5			14	ePC	01 33 15.5	0.9	20.5
13	eP i	00 06 29.5 06 53.9			14	e(P) e	03 05 56.8 06 41.0		
13	iPD i	00 12 30.4 13 28.9	0.6	15.5	14	ePD	05 06 57.9		
13	e(P)	01 35 46.0			14	e(P)	06 06 15.5		
13	eP	02 57 52.2			14	ePC	08 52 07.8	0.6	30.0
13	e(P)	03 15 46.0			14	iPD	10 10 29.0	1.0	16.0
13	eP e	04 57 20.5 57 56.0			14	eP e	11 42 03.5 42 50.8		
13	eP	07 38 22.1			14	eP	11 50 52.0		
13	eP e	08 25 36.6 26 05.7			14	eP e	14 23 18.0 23 46.6		

Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)
14	eP e	17 52 00.0 52 30.4			16	eP e	10 43 31.5 49 16.6		
14	e(P) e	19 40 21.2 41 14.5			16	e(P)	11 04 18.5		
14	e(P)	20 35 38.6			16	eP	11 45 01.0		
14	iPD	21 03 25.4			16	eP e	16 49 19.0 49 44.2		
15	eP	01 08 25.0			16	iPC	17 09 16.2		
15	e(P) e	02 17 36.0 18 17.6			16	eP e	17 16 25.4 16 49.5		
15	iPD eS	02 25 44.3 35 09.2			16	ePD	21 32 19.3		
15	ePD	02 39 58.1			16	e(P)	22 23 55.3		
15	ePD e	03 31 55.6 34 21.7			17	eP e	00 17 11.1 17 55.1		
15	eP	09 36 43.9			17	e(P) e	01 05 38.3 06 23.8		
15	eP e	11 19 28.6 23 24.6			17	iPC	06 40 26.9		
15	eP e	12 49 18.6 49 33.5			17	e(P) e(S)	12 14 12.3 24 03.9		
15	eP	14 12 03.4			17	ePD i	13 17 32.1 17 51.0		
15	eP e	16 38 55.0 39 05.0			17	eP	13 44 04.7		
15	eP e	16 47 03.3 47 13.0			17	e(P)	13 58 48.0		
15	eP	21 48 20.2	0.7	8.0	17	eP	16 02 10.5		
15	e(P)	22 52 16.5			17	e(P)	17 25 35.2		
15	e(P)	23 23 52.0			17	eP	21 39 09.8		
16	iPC	00 30 06.6			17	eP	22 26 15.7		
16	ePD e	02 52 19.2 52 51.2			17	eP	22 40 35.1		
					17	e(P)	23 23 36.0		

Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)
18	eP	00 03 49.8			19	eP	11 35 24.1		
18	e(P)	03 10 19.0			19	eP e	11 48 09.8 19 46.6		
18	eP	05 05 51.5			19	e(P) e	12 52 44.7 53 35.4		
18	e(P)	07 59 57.0			19	e(P)	12 56 04.3		
18	eP e	08 31 06.5 31 42.5			19	ePD	15 26 24.4		
18	eP e	10 49 27.0 49 57.4			19	eP	16 44 24.2		
18	eP	13 04 32.1			19	eP e	20 28 15.4 28 46.5		
18	eP	16 10 09.4			19	eP e	22 05 09.8 05 55.6		
18	e(P) e	16 40 41.6 41 11.6			19	e(P)	22 19 49.8		
18	e(P) e	19 47 30.8 47 58.6			19	eP e	23 05 30.5 06 02.8	0.8	0.5
18	eP	19 50 20.3							
18	iPD	20 21 53.1			20	e(P) e	01 24 11.4 25 32.8		
18	eP	21 02 38.3			20	eP	04 23 37.8		
18	eP e	21 29 38.3 30 09.1			20	eP	04 34 56.3		
18	e(P)	22 29 11.6			20	ePD	07 34 21.0	1.1	23.0
18	eP	23 42 11.2			20	eP e	08 30 24.0 30 43.0		
19	eP	00 05 44.9			20	ePC	09 56 57.0		
19	ePD	00 36 55.4			20	iPD e	10 22 52.4 23 28.5		
19	e(P)	03 44 33.9			20	eP e	12 13 39.2 14 10.5		
19	iPC	05 18 25.6			20	eP	13 48 19.4		
19	eP e	08 22 56.0 23 08.7			20	e(P)	13 57 05.4		
19	eP	09 34 34.2			20	eP	17 00 33.3	0.8	7.0
19	e(P)	10 50 51.0							

Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr.min.sec.	T (sec.)	2A (mm)
20	eP e	17 48 45.2 49 26.4			21	eP	16 09 12.8		
20	eP e	18 48 49.5 49 39.4			21	eP	17 42 35.2		
20	ePC	21 51 40.0	1.0	25.0	21	e(P) e	20 09 48.6 10 17.1		
20	eP	22 12 18.0			22	eP e	02 01 23.4 02 05.6		
20	IPD	23 38 40.4			22	ePD	02 05 35.8	1.0	11.0
21	e(P) e e	00 29 40.8 29 47.8 30 11.4			22	ePC e	03 46 10.2 46 41.6		
21	ePD	00 43 23.2			22	e(P)	04 01 33.8		
21	eP e	00 59 25.1 00 05.2			22	eP	06 39 41.3		
21	eP	02 24 18.0			22	e(P)	06 43 48.6		
21	eP e	04 32 41.0 33 14.0			22	eID	09 12 10.9		
21	e(P) e	04 39 08.2 39 24.0			22	eP e	12 00 11.8 00 51.2		
21	eP	07 32 38.3			22	IPD	12 21 56.5		
21	e(P)	08 09 21.0			22	eP	15 38 43.7		
21	eP	08 57 33.0			22	IPG	16 51 47.1		
21	eP	09 43 28.4			22	ePD	16 57 03.8		
21	e(P)	10 09 08.1			22	eP	17 00 20.4		
21	eP e	10 40 36.7 40 44.0			22	eP	17 50 35.1		
21	eP e	12 12 54.5 13 27.0			22	ePC	18 36 26.9		
21	ePD	13 08 04.7	0.8	28.0	22	IPG	19 00 06.7		
21	eP	13 16 02.1			22	e(P) e	21 22 42.7 23 11.0		
21	eP	14 48 12.7			22	eP	21 26 27.4		
					22	eP	23 23 38.9		
					22	ePC	23 45 05.4		

Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)
23	eP e	00 28 28.3 28 29.8			24	e(P) e	16 01 37.1 30 21.0		
23	eP e	00 46 39.7 47 19.9			24	e(P) e	17 27 24.9 27 51.7		
23	e(P)	01 50 11.3			24	eP e	17 34 43.3 35 14.5		
23	eP	03 00 06.6			24	e(P)	19 04 01.5		
23	eP	04 18 00.0			24	eP e	20 18 26.2 18 56.9		
23	iPD e(S)	06 03 12.3 11 35.7			24	eP e	22 09 53.1 11 17.1		
23	e(P)	07 16 48.0			24	eP e	22 41 30.6 42 12.6		
23	ePD	08 23 41.1			25	ePC eS	04 06 21.0 14 12.0		
23	ePD	08 40 46.6			25	e(P)	04 25 48.6		
23	eP e	09 35 04.8 35 36.0			25	e(P)	05 39 01.3		
23	eP	15 56 51.5	1.0	12.0	25	ePD	06 39 37.1		
23	ePC	19 36 47.0			25	eP	07 56 24.0	0.9	0.5
23	eP u	22 21 04.0 22 31.2			25	eP	08 44 26.0		
24	e(P)	00 09 43.0			25	eP	10 40 07.5		
24	eP	00 43 12.4	1.1	13.0	25	e(P) e	12 24 21.2 29 56.6		
24	eP e	01 32 59.4 33 37.0			25	eP	15 44 20.5		
24	ePC	09 31 37.6	0.8	6.0	25	ePD	16 19 09.2		
24	e(P)	09 50 45.5			25	eP	19 15 43.9		
24	eP	12 11 24.4	1.0	12.3	25	eP e	19 39 02.0 39 37.6		
24	eP	12 58 58.8			25	eP	21 04 02.5		
24	iPD	13 08 16.5							
24	eP	15 04 11.1							
24	ePD	15 53 09.6							

Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)	Day	Phase	Time(U.T.) hr.min.sec.	T (sec.)	2A (mm)
25	eP	21 30 50.1			27	e(P)	16 10 31.8		
25	ePC	23 00 11.1			27	eP	16 13 34.4		
26	e(P) e	00 58 03.6 58 39.8			27	eP	16 47 49.2		
26	eP e	05 20 09.4 20 51.4			27	eP e	18 36 48.0 39 08.4		
26	e(P)	07 41 09.5			27	e(P)	22 37 18.5		
26	e(P)	09 01 09.4			27	eP	22 42 09.2		
26	eP e	12 29 42.4 30 15.3			27	e(P)	22 50 53.3		
26	e(P)	14 06 53.9			27	eP e	23 36 55.5 37 31.0		
26	eP e	16 10 44.4 11 11.3			28	e(P) e	01 30 41.4 31 33.6		
26	eP	17 53 48.9			28	eP	06 39 11.5		
26	e(P)	18 31 35.6			28	e(P)	07 18 00.0		
26	eP e	19 08 52.4 09 23.0			28	eP	08 13 27.3		
26	eP	21 16 10.9			28	eP e	09 57 11.3 57 35.7		
27	eP	02 24 01.5			28	e(P)	10 38 18.2		
27	eP	04 55 59.3			28	e(P)	13 01 09.0		
27	eP	05 09 44.1			28	e(P)	16 58 16.4		
27	eP	06 15 55.0			28	iPD e	20 29 57.7 30 28.7		
27	iPD	10 31 26.7			28	eP	21 52 22.5	0.8	15.0
27	e(P)	14 19 01.2			28	ePD e	22 46 12.1 46 23.0		
27	eP e(S)	14 43 07.8 47 10.8			28	eP	22 55 49.0		
27	eP	15 30 36.9							
27	e(P)	15 59 39.5			29	eP e	01 30 26.2 31 12.0		

Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)	Day	Phase	Time (U.T.) hr. min. sec.	T (sec.)	2A (mm)
29	eP	02 14 26.0	0.8	14.0	31	eP	08 13 12.8		
29	eP	02 43 26.4			31	e	13 47.0		
29	e(P)	03 44 49.6			31	eP	10 50 15.6		
	e	45 31.5			31	eP	10 58 08.2		
29	eP	04 14 50.0				e	58 50.0		
29	eP	04 27 00.9	0.7	8.5	31	eP	11 22 04.2		
29	eP	07 05 10.5				e	22 37.5		
29	1HD	07 24 50.2			31	e(P)	11 30 15.6		
	e(S)	32 07.0				e	30 43.5		
29	eP	08 08 04.0	0.7	10.4	31	eP	12 48 16.9		
29	e(P)	08 29 03.7			31	e(P)	18 31 12.6		
29	eP	08 51 19.0				e	31 43.5		
29	eP	09 02 27.3			31	eP	20 03 21.0	0.7	9.0
	e	03 01.5							
29	e(P)	12 15 10.6							
29	eP	12 36 08.9							
	e	36 11.5							
29	eP	15 52 30.7							
	e	53 00.5							
29	e(P)	16 00 54.6							
29	e(P)	16 48 32.2							
29	eP	17 55 31.9							
29	eP	18 02 29.3							
29	e(P)	22 51 27.5							
30	eP	00 24 42.7							
30	eP	01 13 54.9							
	e	16 58.4							
30	eP	05 07 35.9	1.0	6.5					