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SEISMOLOGICAL BULLETIN

NOV 1963

**GOVERNMENT OF INDIA
METEOROLOGICAL DEPARTMENT**

PUBLISHED UNDER THE DIRECTION OF
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DIRECTOR GENERAL OF OBSERVATORIES

List of Seismograph Stations with their Instruments and Constants

Station	Latitude	Longitude	Height a. s. l. (Metres)	Lithographic foundation	Instrument	Compt	Period in secs.	Static Magnifi- cation	Damping ratio	Paper speed mm/min	
Agra					Columbia	E	To=15	Tg=100		15	
					Long Period	N	To=15	Tg=85		15	
					- do -	Z	To=15	Tg=70		15	
Bombay	18.54°N, 72.40°E		1	Deccan Trap	Milne-Shaw	N	12	350	13:1	15	
					Milne-Shaw	E	12	350	23:1	8	
					Sprengnether	E	To=Tg=7	secs	27:1	15	
Bokaro	23.50°N, 85.49°E			Rock	Milne-Shaw	N	12	250	20:1	15	
					Milne-Shaw	E	12	250	h=0.8	50	
					Wood-Anderson	E	0.8	950	h=0.8	50	
					Wood-Anderson	N	0.8	1000	h=0.8	50	
					Milne-Shaw	E	12	250	20:1	8	
Calcutta	22.32°N, 88.22°E		(1) 7	Milne-Shaw	Milne-Shaw	E	12	250	Critical	30	
					(2) 5	Omori-Ewing	N	2	870		25.4
					Alluvium	Omori-Ewing	N	15	32		25.4
					Omori-Ewing	E	21	30		16	
					Milne-Shaw	E	12	250	20:1	15	
Chatra	25.50°N, 87.10°E		151	Sand Stone	Wood-Anderson	N	1	1000	30:1	60	
					Benioff	Z	To=0	Tg=0.45	Critical	60	
					secs						
Colombo	06.54°N, 79.52°E		7	Beach Sand	Wenner-Accelerograph	ZNE	-	-	-	-	
					Milne-Shaw	E	12	250	20:1	-	
Dehra Dun	30.19°N, 78.02°E		582	Gravel	Wood-Anderson	N	0.8	950	Critical	60	
					Wood-Anderson	E	0.8	850	Critical	60	
					Milne-Shaw	N	12	250	20:1	8	
					Milne-Shaw	E	12	250	20:1	8	
Hyderabad	17.25°N, 78.27°E		535	Granite	Milne-Shaw	E	12	250	20:1	8	
					Milne-Shaw	E	12	250	20:1	8	
Kodaikamal	10.14°N, 77.28°E		2345	Rock	Milne-Shaw	E	10	250	20:1	8	
Madras	13.00°N, 80.11°E		15	-	Sprengnether	E	To=Tg=7.2	secs	Critical	30	
New Delhi	28.35°N, 77.12°E		207	Massive Quartzite							
Poona	18.32°N, 73.51°E		560	Deccan Trap	Sprengnether	Z	To=Tg=1.5		Critical	30	
					Wood-Anderson	E	4	1000	20:1	15	
					Milne-Shaw	N	12	280	20:1	8	
Port Blair	11.49°N, 92.43°E				Wood-Anderson	N	2	1000	20:1	30	
					Wood-Anderson	E	0.8	1000	55:1	30	
					Milne-Shaw	N	12	350	20:1	8	
Sehore	23.10°N, 77.08°E				Wood-Anderson	N	0.8	980	Critical	30	
Shillong	25.34°N, 91.53°E		1500	Quartzite	Wood-Anderson	N	0.8	1000	h=0.8	30	
					Wood-Anderson	E	0.8	1000	h=0.8	30	
					(Shillong	Milne-Shaw	N	12	250	20:1	8
					Quartzite)	Benioff	Z	To=1.0	Tg=18		50
					Sprengnether	E	To=Tg=5.3		Critical	30	
Tocklai	28.45°N, 94.45°E			Alluvium	Wenner Accelerograph	ZNE	-	-	-	-	
					Wood-Anderson	E	0.8	970	h=0.8	60	
Vizianagaram	18.07°N, 83.27°E				Wood-Anderson	E	0.8	1000	h=0.8	30	
					Wood-Anderson	N	2	1000	20:1	30	

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Date	Station	Compt	Phase	G h	M m	I s	A m	Z m	Remarks
01	Epc 51.7°N, 159.8°E. - H = 03h52m 25.9s, Near East Coast of Kamchatka. Mag. 4.4. - h about 33 km.								
	Shillong	ZNE	iP	04	02	03			Initial ground motion towards South West, compression
	Poona	Z	eP	04	08	53			Compression
01	Epc 14.6°N, 53.6°E. Gulf of Aden. H = 07h 02m 41.7s Mag 5.1 - H = about 33 km.								
	Bombay	ENZ	iP	07	07	03			
	Poona	Z	eP	07	07	13			Rarefaction
	Macras	E	e	07	03	10			
	Delhi	Z	eP	07	03	14			
01	Shillong	ZNE	iP	07	09	54			Slight, distant, initial ground motion NE, rarefaction
	Poona	Z	eP	07	17	42			Slight, compression
	Dehra Dun	EN	eP	09	48	05			Tremor
01	Shillong	ENZ	iP _g	10	42	45	30		Slight
			iS _g		42	54			
01	Delhi	ENZ	iP	10	44	01			Slight, rarefaction
01	Shillong	ZNE	iP _g	20	01	53	100		Slight, rarefaction
			S _g		02	09			
01	Chatra	Z	eP	20	02	48			
01	Delhi ✓	Z	eP	21	17	59			Slight, rarefaction
01	Epc 44.9°N, 148.9°E. Kurile Islands. - h about 50 km Mag 5.5. H = 22h 41m 23.8s (USCGS)								
	Shillong	ZNE	iP	22	50	10			Initial ground motion South West, compression
	Chatra	Z	iP	22	50	23			Compression
	Dehra Dun	Z	iP	22	51	02			
	Delhi	ENZ	iP	22	51	12			Initial ground motion South West, compression
	Poona	Z	iP	22	52	10			Compression
01	Delhi	NZ	iP	22	53	07			Slight
02	Epc 44.9°N, 151.2°E. Kurile Islands. - h about 50 km Mag 4.6 H = 09h 17m 18.2s (USCGS)								
	Delhi	Z	iP	09	27	22			Compression
02	Epc 44.0°N, 150.5°E. Kurile Islands. - h about 50 km Mag 5.0 H = 17h 53m 27.2s (USCGS)								
	Shillong	ZNE	iP	13	02	23			
	Chatra	Z	iP	13	02	44			Rarefaction
	Dehra Dun	Z	eP	13	03	15			

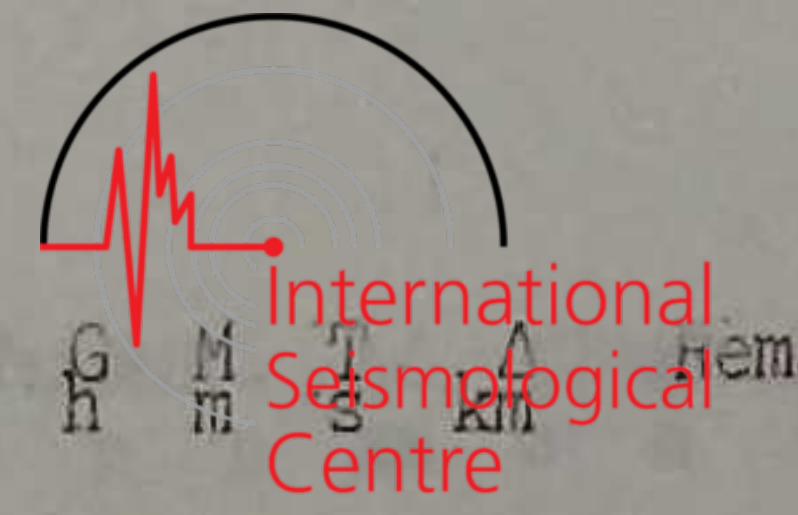
Date	Station	Compt	Phase	G h	M m	I s	Δ km	Remarks
02	Delhi	ENZ	iP	18	03	25		Slight, initial ground motion North East, rarefaction
02	Shillong	ZNE	iP	13	13	23		Slight
02	Delhi	Z	iP	21	55	02		Slight, compression
		Z	i		55	05		
02	<i>Epc 1.9°S, 138.9°E. Near North coast of Western New Guinea Mag 5.2. - h about 33 km. H = 22h 21m 20.7s (USCGS)</i>							
	Shillong	ZNE	iP	22	30	37		
02	Delhi	Z	i	00	23	45		
03	<i>Epc 45.2°N, 151.4°E. Kurile Islands. - h about 45 km Mag 4.2 (CGS). H = 01h 15m 24.9s (USCGS)</i>							
	Delhi	ENZ	iP	01	25	29		Compression
	Visakhapatnam	NE	iP	01	26	11		
	Bokaro	NE	iP	01	23	13		
03	Shillong	ZNE	iP	01	43	05		Slight, distant
02	Delhi	ENZ	iP	01	47	04		Slight, initial ground motion North East, Compression
03	<i>Epc 23.9°N, 122.6°E. Off East Coast of Taiwan. -h about 33 km Mag 4.6 (CGS) H = 02h 14m 24s (USCGS)</i>							
	Chatra	Z	eP	02	20	51		
	Delhi	Z	iP	02	22	04		Rarefaction
03	Delhi	ENZ	iP	02	29	50		Slight, distant, initial ground motion South East, compression
	Dehra Dun	ENZ	iP	02	29	50		Initial ground movement North West, compression
03	<i>Epc 3.5°S, 77.8°W. Peru-Ecuador Border. - h about 33 km Mag 6¼ (Pas), 6-¾ (Brk), 6.0 (Pal), 6.0 SD, 0.3 (CGS) H = 03h 10m 12.7s (USCGS).</i>							
	Bombay	ENZ	iPKP1	02	29	56	1350	
		EN	e		31	59		
			e		33	22		
			PP		33	34		
			PKS1		33	44		
			PKS2		34	10		
			e		37	33		
			PKKP1		38	43		
			SAKS1		40	10		
	N		SKSP		43	09		
	E		e		43	44		
			e		45	24		
	N		e		49	01		
			e		53	17		
			e		53	20		



Date	Station	Compt	Phase	G h	M m	I s	Δ km	Remarks
03	Bombay	N	e	04	05	12		
Contd.	Contd.		M		29	27		Per=19μ, Amp.=7
		E	M		41	13		Per=19μ, Amp.=8
	Poona	Z	iPKP	03	23	57		Compression
	Hyderabad	E	ePKP	03	30	01	16390	
			ePP		33	52		
			i		40	43		
			i		52	27		
			M		04	33	37	
	Madras	E	ePKP	03	30	13	17140	
			PKP2		30	42		
			PP		34	15		
			SKS		37	23		
			PPP		37	47		
			SKKS		41	02		
			SKKKS		41	40		
			e		42	01		
			SKSP		44	31		
			PPS		47	23		
			SS		52	57		
			SSS		59	43		
			Lr	04	23	13		
			M		34	08		
03	Chatra	Z	eP	03	30	03	9470	Slight
		NE	eS		40	32		
	Shillong	ENZ	iP	03	30	03		Slight
	Calcutta	E	eP	03	30	14		Slight
03	Shillong	ZNE	iPn	04	57	13	500	Slight
			P*		57	24		
			iSn		53	11		
03	Shillong	ZNE	eP	06	53	29		Slight
03	Delhi	Z	eP	07	57	47		Slight
03	Shillong	ZNE	iP	11	48	14	240	Slight, initial ground motion North West compression
			iS		43	42		
	Chatra	Z	eP	11	43	14	390	Feeble
			eS		50	23		
03	Dehra Dun	Z	eP	12	43	53		Tremor
03	Delhi	NZ	i	12	47	15		
02	Delhi	ENZ	iP	12	47	20		Slight, initial ground motion South West, rarefaction
		Z	i		47	59		
03	<i>Epc 14.0°S, 165.9°E. New Hebrides Islands. - h about 50 km Mag 4.9, 0.5 SD. H = 14h 31m 57.2s (USCGS)</i>							

Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
03	Shillong	ENZ	iP	14	44	16		
Contd.	Delhi	Z	iP	14	44	28		Rarefaction
03	<i>Epc 45.3°N, 150.1°E. Kurile Islands. - h about 45 km Mag. 4.7 SD 0.2 (CGS). H = 19h 22m 53.6s</i>							
	Shillong	ZNE	iP	19	31	48		
	Chatra	Z	iP	19	32	07		Compression
	Dehra Dun	Z	eP	19	32	38		
	Delhi	ENZ	iP	19	32	48		Initial ground motion South, West, compression
03	Delhi	Z	eP	23	04	30		Slight, rarefaction
		ENZ	i		04	41		
03	Shillong	ZNE	iPn iSg	23	07	18 07 38	150	Slight
04	Delhi	Z	eP	00	41	48		Slight, compression
04	Tocklai	E	iP	01	24	40		Slight, initial ground motion West.
04	<i>Epc 7.0°S, 129.0°E. Banda Sea. H = 01h 17m 00s (C.S.O., Shillong) 6.8°S, 139.6°E. Banda Sea. Slight damage at Darwin, felt throughout Australia, Northern Tasmania and Papua. - h about 80 km. Mag. 8.2 (Delhi). H=01h 17m 08.9s(USCGS).</i>							
	Port Blair	ENZ	iP	01	24	46		
	Shillong	ZNE	iP	01	25	48		Initial ground motion North, West, compression
	Tocklai	E	iP	01	25	52		Initial ground motion West.
	Calcutta	N	iP iS	01	25	59 33 04	5450	
	Visakhapatnam	NE N	iP PcP PP PPP iS PS PPS ScS	01	26	11 27 10 28 21 29 30 33 32 33 33 33 52 35 59	5750	Initial ground motion North, West.
	Bokaro	NE N	iP PcP PP PPP iS	01	26	13 27 20 28 13 29 19 33 42	5840	Initial ground motion North, West.
	Chatra	ZNE EN	iP PP PPP iS	01	26	20 27 21 29 22 33 48	5870	Initial ground motion North West, compression

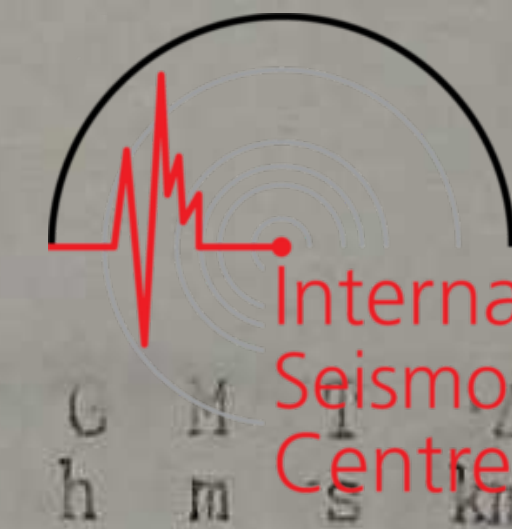
Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
04	Kodaikanal	E	iP	01	23	33	6110	
Contd.			PP		28	33		
			PPP		29	45		
			iS		34	14		
			Lr		42	23		
			M		-	-		Period = 34
	Hyderabad	EN N	iP PPP iS M	01	26	40 30 27 34 16 46 03	6020	Initial ground motion North West. Period = 22, Amp. = 534
	Sehore	NE EN	iP PcP PP iS	01	27	07 27 45 29 29 35 16	6710	
	Poona	Z	iP PcP PP PPP PcS eS PS PPS ScS SS SSS Lq Lr M	01	27	12 27 48 29 23 30 54 31 42 35 25 35 42 35 52 33 47 39 22 42 02 42 35 45 32 50 38	6740	
	Bombay	ENZ E	iP PcP PP PPP e Z E e Lq	01	27	19 28 09 29 33 31 09 31 32 35 34 39 09 41 39 42 27	6910	
	Delhi	ENZ	iP iS	01	27	20 35 33	6390	First ground motion North West, compression
	Dehra Dun	ENZ	iP PcP PP PPP PcS iS PS PPS SKS1 SS SSS Lq Lr PKKP1 PKPS1;M	01	27	21 28 02 29 43 31 12 32 02 35 49 33 04 36 15 37 07 39 57 42 23 43 16 43 14 48 00 51 34	6980	First ground motion North West, compression
04	Delhi	ENZ	iP	02	24	50		Slight, initial ground motion East, rarefaction.



Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
04	Delhi	ENZ	iP	02	43	55		Slight, initial ground motion South East, compression
04	Delhi	Z	iP	03	53	24		Slight, compression
04	Delhi	Z	iP	04	40	15		Tremor, rarefaction
04	<i>Epc</i> 7.0°S, 129.5°E. Banda Sea. - h about 115 km H = 05h 06m 29.1s.							
	Delhi	Z	iP	05	10	35		Slight, compression
04	<i>Epc</i> 8.8°S, 129.8°E. Banda Sea. - h about 80 km H = 05h 22m 59s (USCGS). Mag. 5.4 (CGS)							
	Shillong	ZNE	iP	05	31	39		Compression
	Delhi	Z	iP	05	32	09		Compression
04	Delhi	Z	iP	06	02	54		Slight, rarefaction
04	Port Blair	Z	eP	03	11	59		Tremor
04	Port Blair	Z	eP	03	15	33		Slight, near
04	Delhi	Z	eP	06	19	18		Slight, compression
			i	19	31			
04	Shillong	ZNE	iP	07	23	28		Slight, distant, initial ground motion East, rarefaction
04	Bokaro	NE	iP	03	06	23		Feeble, local
04	<i>Epc</i> 44.0°N, 149.9°E. - h about 33 km. Kurile Islands. H = 08h 06m 15.1s. Mag. 4.2, SD 0.3 (CGS).							
	Delhi	Z	eP	08	18	10		
04	Shillong	ZNE	iPg Sg	03	17	11 17 22	90	Slight
04	Bokaro	NE	iP	09	50	17		Feeble, local
04	Shillong	ZNE	iP	09	55	21		Slight, distant
04	Port Blair	Z	e	11	22	37		Slight, near
04	Dehra Dun	Z	iP	11	43	53		Tremor, rarefaction
	Delhi	ENZ	iPn iSn	11	44	24 44 51	230	Slight, initial ground motion North, rarefaction
04	<i>Epc</i> 7.0°S, 129.4°E. Banda Sea. - h about 132 km H = 15h 13m 35.1s (USCGS). Mag. 5.0 (CGS).							
	Shillong	ZNE	iP	15	22	09		Initial ground motion North West, compression
	Chatra	Z	iP	15	22	40		Compression
	Delhi	Z	iP	15	23	39		Tremor, rarefaction
04	Delhi	Z	iP	15	31	13		Tremor, rarefaction.

Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
04	Chatra	Z	eP	13	21	45		Feeble, distant
04	<i>Epc</i> 6.9°S, 129.5°E. Banda sea. - h about 104 km H = 19h 52m 04s (USCGS)							
	Shillong	ZNE	iP	20	00	41		Slight, Initial ground motion North West, compression
	Chatra	Z	eP	20	01	11		Feeble
	Delhi	Z	iP	20	02	11		Slight, compression
04	Shillong	ZNE	iPg Sg	20	25	47 25 53	50	Slight, initial ground motion South East.
04	<i>Epc</i> 36.3°N, 71.3°E. Hindukush. - h about 148 km H = 21h 12m 11.5s. Mag. 4.7 (CGS).							
	Dehra Dun	Z	eP	21	14	08		
	Delhi	ENZ	iP iS	21	14	18 15 44	920	Initial ground motion North West, rarefaction.
	Chatra	Z	ePP eS	21	15	45 18 51	1750	
04	Shillong	ZNE	iP	21	13	42		Slight, distant, initial ground motion East, rarefaction
04	Shillong	ZNE	iP	22	23	02		Slight, distant
04	<i>Epc</i> 6.8°S, 129.9°E. Banda Sea. - h about 136 km Mag. 5.6 (CGS). H = 22h 17m 09s (USCGS).							
	Shillong	ZNE	eP	22	25	43		
	Chatra	Z	eP	22	23	14		
04	Delhi	ENZ	iP	22	27	13		Initial ground motion South East, compression.
04	<i>Epc</i> 0.9°S, 139.7°E. Near North Coast of Western New Guinea. H = 22h 25m 03s. - h about 33 km.							
	Shillong	ZNE	iP	22	34	19		Slight, initial ground motion West, compression.
	Delhi	ENZ	iP	22	35	48		Initial ground motion South East, compression.
04	Shillong	ZNE	iP	22	50	05		Slight, distant
05	Delhi	Z	eP	01	36	05		Slight, rarefaction
05	Delhi	Z	P	04	40	31		Slight
05	Shillong	ENZ	iPg iSg	05	13	15 13 29	120	Slight
05	<i>Epc</i> 7.3°S, 129.2°E. Banda Sea. - h about 141 km Mag. 5.1 (CGS). H = 05h 16m 31.2s (USCGS).							
	Delhi	Z	eP	05	26	32		Slight, rarefaction

Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
05	<i>Epc 5.9°S, 129.4°E. Banda Sea. - h about 94 km</i> <i>Mag. 4.7 (CGS). H = 06h 06m 19s (USCGS)</i>							
	Delhi	EZ	eP	03	16	23		
		Z	i		16	28		
05	<i>Epc 7.2S, 129°E. Banda Sea. - h about 112 km</i> <i>Mag. 4.9 (CGS). H = 08h 43m 33.8s (USCGS)</i>							
	Shillong	ENZ	iP	08	52	09		Initial ground motion North West, compression
	Chatra	Z	iP	08	52	41		Compression
05	Delhi	EZ	iP	08	53	39		Slight, initial ground motion East, compression
05	Poona	Z	eP	09	07	13		Slight, compression
05	<i>Epc 43.5°N, 150.9°E. Kurile Islands. - h about 40 km</i> <i>Mag. 4.6 SD, 0.4 (CGS). H = 09h 13m 42.6s (USCGS)</i>							
	Delhi	Z	eP	09	28	44		Rarefaction
05	Shillong	Z	iP	10	11	10		Slight, near
05	Shillong	ZNE	iP	11	32	53		Slight, near
05	<i>Epc 44.6°N, 148.8°E. Kurile Islands. - h about 33 km</i> <i>Mag. 4.1 (CGS). H = 20h 59m 26.3 (USCGS)</i>							
	Delhi	Z	eP	21	09	17		
05	Delhi	Z	eP	21	55	53		Slight, compression
05	<i>Epc 1.7°N, 126.4°E. Molucca Passage. - h about 28 km</i> <i>Mag. 5.8 (CGS). H = 23h 52m 56.3s (USCGS)</i>							
	Shillong	ENZ	iP	00	00	39		Initial ground motion East, rarefaction
	Chatra	Z	eP	00	01	11		
	Macras	E	eP	00	01	29	5190	
			eS		03	19		
			Lq		12	38		
	Delhi	EZ	eP	00	02	19		
06	<i>Epc 7.8°S, 129.8°E. Banda Sea. - h about 153 km</i> <i>Mag. 4.9 (CGS). H = 01h 19m 37.4s</i>							
	Shillong	ZNE	iP	01	28	02		
	Delhi	Z	iP	01	29	32		Compression
06	Chatra	Z	eP ₂	01	45	01	150	Slight
			eS ₂		45	21		
	Shillong	ZNE	eP _n	01	45	40	400	Slight
			iS _n		43	24		
06	<i>Epc 2.6°S, 138.4°E. Western New Guinea. - h about 33 km</i> <i>Mag. 5.7 SD, 0.3 (CGS). H = 02h 13m 15.8s (USCGS)</i>							



Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
03	Port Blair	ZE	iP	02	21	55		Rarefaction
contd.		E	iPP		23	41		
	✓ Toklai	E	eP	02	22	22		
	✓ Calcutta	E	iP	02	22	48		
			iPS		30	25		
	✓ Chatra	ZNE	eP	02	23	05	3990	
		NE	iS		31	02		
	✓ Madras	E	iP	02	23	23	3910	Initial ground motion towards West.
			i		23	54		
			Pr		25	45		
			PPP		27	09		
			FeS/ScP		28	01		
			iS		31	33		
			SS		32	17		
			ScS/SKS		32	51		
			SS		35	41		
			SSS		38	21		
			Lq		39	00		
			Lr		41	51		
			M		46	43		
06	✓ Kodaikanal	E	i	02	23	38		
	✓ Delhi	EZ	eP	02	24	03	7370	
		ENZ	iS		32	52		
	✓ Dehra Dun	ENZ	eP	02	24	04	7330	
		EN	iS		32	52		
			PS		33	15		
		N	PPS		33	23		
	✓ Poona	Z	eP	02	24	05		
	✓ Bombay	NE	iP	02	24	23	7510	
		E	ePPP		28	09		
		EN	iS		33	23		
		E	ePS		33	44		
			PPS		34	04		
		NE	ScS		34	37		
		E	eSS		38	17		
06	<i>Epc 2.2°S, 138.7°E. Western New Guinea. - h about 43 km</i> <i>Mag. 5.1 (CGS). H = 03h 00m 12.2s</i>							
	Chatra	Z	iP	03	03	53		Compression
	Madras	E	eP	03	10	19		
			ePPP		14	02		
	Dehra Dun	Z	eP	03	10	53		
03	Shillong	ZNE	iP	03	15	23		Slight, initial ground motion West, compression
06	<i>Epc 2.4°S, 138.6°E. Western New Guinea. - h about 22 km</i> <i>Mag. 5.3 (CGS). H = 04h 06m 45.4s (USCGS)</i>							
	Shillong	ZN	iP	04	16	03		

Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
06	<i>Epc 2.5°S, 138.4°E. Western New Guinea. - h about 33 km</i> <i>Mag. 5.7, SD 0.3 (CGS). H = 04h 35m 09.3s (USCGS)</i>							
	Shillong	ZN	iP	04	44	23		
03	Shillong	ZNE	iP	05	45	23		Slight, near
03	Chatra	Z	e e	05	43	24 47 21		Feeble
03	Shillong	ZNE	iPn iSg	06	25	58 23 17	150	Slight, rarefaction
03	Shillong	ZNE	iP	07	44	41		Initial ground motion South East, compression
06	Bokaro	NE	iP	08	44	50		Feeble, local
06	<i>Epc 7.1°S, 129.2°E. Banda Sea. - h about 90 km</i> <i>Mag 5.5 (CGS). H = 09h 01m 12s (USCGS)</i>							
	Shillong	ZNE	iP i	09	09	50 14 53		Initial ground motion North West, compression
03	Delhi	Z EN	iP eP	09	11	20		Slight, initial ground motion South West, compression
06	<i>Epc 46.3°N, 154.8°E. Near West Coast of Kamchatka. - h about 33 km</i> <i>Mag 5.4 SD, 0.3 (CGS). H = 09h 24m 49.2s.</i>							
	Shillong	ZNE	iP	09	34	11		Initial ground motion North East, compression.
	Delhi	NZ E	eP iP	09	35	07		Slight, rarefaction
	Poona	Z	iP	09	33	04		Slight, rarefaction
06	Bokaro	NE	iP	10	54	21		Feeble, local
03	Shillong	ZNE	iPn Sg	11	23	58 27 18	130	Slight, initial ground motion South, rarefaction
06	<i>Epc 2.8°S, 139.1°E. Western New Guinea. - h about 95 km</i> <i>Mag 5.2 (CGS). H = 11h 33m 08s</i>							
	Shillong	ZE	iP	11	42	14		Compression
03	Shillong	ZNE	iP iS	12	47	00 47 39	350	Slight
03	Shillong	ZNE	iP	15	27	23		Slight, distant
03	Shillong	ZNE	iPg iSg	15	55	03 55 03	20	Slight
03	Shillong	ZNE	iPg iSg	13	23	13 28 43	110	Slight
03	Shillong	ZNE E	iPg Sg	17	12	19 12 22	20	Slight

Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
06	<i>Epc 9.8°S, 113.6°E. Near South Coast of Java. - h about 230 km</i> <i>H = 17h 07m 22s (USCGS)</i>							
	Shillong	ZNE	iP	17	14	45		Slight, compression
	Chatra	Z	iP	17	13	13		Feeble
03	Delhi	Z	eP	13	52	59		Slight
03	Shillong	ZNE	iP	18	53	50		Slight, distant, rarefaction
03	Shillong	ZNE	iP	21	29	44		Slight, distant, rarefaction
03	Shillong	Z	iP	23	12	27		Slight, distant, rarefaction
03	Delhi	EZ ENZ	iP i	23	53	40 58 21		Slight, initial ground motion West, rarefaction
03	Shillong	ZNE	iP i	23	59	00 00 03 23		Slight, distant, compression
07	Delhi	EZ	iP	00	05	03		Tremor, initial ground motion West, rarefaction
07	Delhi	Z	eP	00	53	54		Slight, rarefaction
07	Delhi	Z	eP	03	34	54		Slight, distant, rarefaction
07	<i>Epc 44.2°N, 151.1°E. Kurile Islands. - h about 50 km</i> <i>Mag 4.4 SD, 0.4 (CGS). H = 09h 22m 53.3s (USCGS)</i>							
	Shillong	ZNE	iP	09	21	53		
	Delhi	ENZ	iP	09	32	54		Slight, initial ground motion North West, rarefaction
07	<i>Epc 14.1°N, 146.2°E. Mariana Islands Region. - h about 48 km</i> <i>Mag. 5.0. H = 12h 55m 25.6s (USCGS)</i>							
	Shillong	ZNE	iP i	13	04	24 03 39		Initial ground motion West compression
07	Chatra	Z	iP	13	05	05		
	Maoras	E	eP eS ScS	13	05	58 14 37 15 43	7170	
	Delhi	Z	eP	13	03	03		Compression
	Poona	Z	iP	13	03	29		Compression
	Bombay	EZ	eP	13	03	36		
07	Delhi	ENZ	iP	13	07	41		Tremor, initial ground motion North East, compression
07	Delhi	Z	eP	13	14	17		Slight, distant
07	Delhi	NZ	iP	15	22	28		Tremor, initial ground motion South, compression

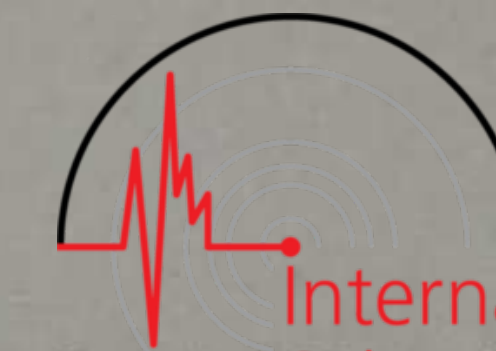


Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
07	Shillong	ZNE	iPn Sn	15 43	10 30	160		Slight, initial ground motion South, rarefaction
07	Chatra	Z	eP eS	15 44	04 13	660		Feeble
07	Shillong	ZNE	iPg iSg	15 50	18 22	30		Slight
07	Shillong	ZNE ZE	iP i	13 37	50 43			Slight, distant, initial ground motion North West, compression
07	Shillong	ZNE	iP	17	05	41		Slight, distant
	Poona	Z	eP	17	05	41		Slight
	Chatra	Z	eP	17	05	49		Feeble, distant
07	Shillong	ZNE	iPg iSg	18 22	04 03	30		Slight, initial ground motion South East, compression
07	<i>Epc 44.9°N, 151.9°E. Kurile Islands. - h about 29 km Mag. 4.5 SD, 0.4 (CGS). H = 20h 37m 53.6s (USCGS)</i>							
	Shillong	ZNE	iP	20	46	59		Initial ground motion South West, compression
	Chatra	Z	eP	20	47	18		
	Dehra Dun	Z	eP	20	47	50		
	Delhi	ENZ	P	20	48	00		
07	Shillong	Z	iP	20	54	40		Slight, near
07	Shillong	ZNE	iPn Sg	22 23	34 54	160		Slight, initial ground motion South West, rarefaction
07	Shillong	ZNE N	iPg Sg	23 23	49 52	30		Slight
08	Shillong	ZNE	iPn Sg	05 03	59 00	160		Slight, initial ground motion West, rarefaction
08	<i>Epc 45.0°N, 150.9°E. Kurile Islands. - h about 40 km Mag. 4.8 SD, 0.3 (CGS). H = 08h 08m 09.2s.</i>							
	Shillong	ZNE	iP	08	17	08		Initial ground motion South West, compression
	Delhi	ENZ	iP	08	18	09		Initial ground motion South West, compression
08	Bokaro	NE	iP	08	52	09		Feeble, local
08	Shillong	Z	eP	10	11	02		Slight, distant
08	<i>Epc 44.0°N, 150.4°E. Kurile Islands. - h about 40 km Mag. 4.3 (CGS). H = 11h 22m 28.5s (USCGS)</i>							
	Delhi	Z	P	11	32	23		
08	Shillong	Z	iP	14	44	18		Slight, near
08	Delhi	Z	eP	14	45	19		Slight, distant, compression

Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
08	<i>Epc 2.7°N, 129.4°E. Molucca Passage. - h about 216 km Mag. 5.7 (CGS). H = 16h 13m 36.2s. (USCGS).</i>							
	Shillong	ZNE	iP	13	21	08		Initial ground motion North West, compression
	Chatra	Z	iP	13	21	33		Compression
	Macras	E	eP? e	16	22	03 23		
	Dehra Dun	Z	iP	13	22	43		Compression
	Delhi	ENZ	iP	13	22	57		Initial ground motion North West, compression
08	Shillong	Z	iP	13	54	20		Slight, distant, rarefaction
08	Shillong	ZNE	iPS iS	18	43	34 49	290	Slight
08	Shillong	ZNE	iP iS	22	27	57 23	330	Slight
09	Shillong	ZNE	iPn Sg	01	00	39 01	170	Slight
09	Macras	E	eP e	01	19	25 29		Slight
09	Shillong	ZNE	iP	01	31	45		Slight, near
09	Dehra Dun	Z	iP	01	32	35		Tremor, compression
	Delhi	Z	iP	01	32	44		Slight, compression
09	Delhi	Z	eP	01	42	13		Slight
09	Delhi	Z	eP	02	53	37		Slight, rarefaction
09	Shillong	Z	iP	02	59	22		Slight, distant, rarefaction
09	Shillong	ZNE	iPg Sg	07	04	32 04	130	Slight
09	Bokaro	NE	iP	08	29	15		Feeble, local
09	Shillong	ZNE	iP	08	44	19		Slight, near, compression
09	Delhi	NZ	iP	08	45	20		Tremor, compression
09	<i>Epc 45.3°N, 150.8°E. Kurile Islands. - h about 33 km Mag. 5.2 SD, 0.2 (CGS). H = 08h 51m 13.6s (USCGS).</i>							
	Shillong	ZNE	iP	09	00	18		Initial ground motion South West, compression
	Chatra	Z	iP	09	00	37		Compression
	Delhi	ENZ	iP	09	01	17		Initial ground motion South West, compression
09	Delhi	Z	iP	10	33	03		Slight, rarefaction
09	Shillong	ZNE	iPn iSg	10	43	25 46	130	Slight, initial ground motion West, rarefaction



Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks	
09	Shillong	ZNE	iP	11	22	29		Slight, near, compression	
09	Delhi	Z	iP	11	23	28		Slight, compression	
09	Shillong	ZNE	iP iS	12	25	49	290	Slight	
09	Shillong	ZNE	iPn iSg	12	35	23	130	Slight	
	Delhi	ENZ	P	13	33	53		Slight	
09	Shillong	ZNE	iP* iS*	17	11	45	130	Slight, initial ground motion South West, rarefaction	
09	Shillong	ZNE	iPn iSn Sg	18	22	11	520	Slight, rarefaction	
09	<i>Epc 7.1°S, 129.4°E. Banda Sea. - h about 80 km Mag. 5.2 (CGS). H = 18h 50m 42s (USCGS).</i>								
	Shillong	ZNE	iP	18	59	22		Initial ground motion North West, compression	
	Delhi	Z EN	iP0 eP0	19	00	52		Slight, rarefaction	
09	Shillong	ZNE	iP* iS*	19	33	40	160	Slight	
09	Shillong	ZNE	iP* iS*	20	24	29	130	Slight	
09	Sehore	EN	iP	21	34	11		Slight, near	
	Bombay	ENZ EN N	eP PeP PP	21	33	56	3030		
			ePPP			37 38			
		EN N	iS PPS			43 19 44 09			
0	Delhi	ENZ EN E ENZ E	iP i PeP iS SKS/PS	21	34	02	7390	Initial ground motion northwest, rarefaction Mag. 6.8	
						34 03 34 24 43 13 43 50			
		Z	M			-		Per. 57 secs, $\mu = 88$	
09	Dehra Dun	Z EN ENZ	iP eP i?	21	34	03	3020	Rarefaction	
			PeP PP PPP iS PS			34 03 34 11 34 22 36 43 38 29 43 25 43 55			
			SKS1 PPS SS SSS Lq			44 03 44 09 43 07 51 22 53 07			



Date	Station	Compt	Phase	G h	M m	T s	Remarks
09	Dehra Dun contd.	ENZ	PKKP1 Lr M	21	53	22	
	Poona	ENZ	iP	21	34	05	Initial ground movement North West, rarefaction.
	Chatra	ZE E	iP PP PPP iS ScS PS PPS SS Lq Lr M	21	34	15	8330 Initial ground movement West and rarefaction
	Bokaro	NE E NE E NE E NE	eP PP S SKS PS PPS SS i SSS	21	34	19	8340
	Shillong	ZNE E	iP iS PS	21	34	20	8300 Initial ground motion North Rarefaction
	Madras	E	eP iPeP eS ScS	21	34	20	8110 Moderate
	Kodaikanal	E	iP PPP iS	21	34	22	9190
	Hyderabad	EN E N E	iP i M M	21	34	25	Initial ground movement North, West.
	Visakhapatnam	NE	eP i i i e e	21	34	23	
	Calcutta	E	iP	21	34	23	

Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
09	Tocklai	E	eP	21	34	30		
Contd.	Port Blair	N	iP	21	34	31		
		NE	i		45	07		
			i		49	17		
09	Delhi	Z	P	22	10	21		Slight
09	Delhi	ENZ	P	22	18	03		Slight
09	Delhi	Z	iP	23	35	23		Tremor, compression
10	Delhi	ENZ	P	00	47	00		Slight
	Delhi	Z	iP	01	19	10		Slight, initial ground motion North, rarefaction
	Delhi	EN	i		19	12		
	Dehra Dun	ENZ	iP	01	19	11		Tremor, near, first ground movement towards North East, rarefaction
	Bombay	ENZ	eP	01	19	11		Slight
	Poona	Z	eP	01	19	12		Slight, rarefaction
10	Bokaro	E	iP	01	19	23		Slight, distant
		E	i		29	17		
			i		35	20		
10	Shillong	ZNE	iP	01	19	29	300	Slight, rarefaction
			iS		20	03		
10	Delhi	Z	iP	01	21	24		Slight, compression
10	Delhi	EZ	iP	04	41	51		Slight, initial ground motion East, rarefaction
10	Epc 26.5°N, 93.2°E. North eastern India. - h about 66 km H = 04h 58s 52.7s (USCGS)							
	Tocklai	E	iP	04	59	03		Slight, initial ground motion East.
	Shillong	ZNE	iP _g	04	59	19	120	Slight, initial ground motion North East, rarefaction
			iS _g		59	33		
	Chatra	ZNE	eP _n	05	00	12	530	Slight
		NE	P _g		00	34		
			S _n		01	11		
			S*		01	23		
	Bokaro	NE	iP	05	00	35	730	Slight
			iS		01	54		
	Dehra Dun	Z	eP	05	02	03	1420	Tremor
			iS		04	28		
	Delhi	EZ	eP	05	02	07	1480	Slight, rarefaction
		ENZ	iS		04	37		
	Bombay	Z	eP	05	03	30		Slight
10	Hyderabad	EN	iP	05	23	18	7050	Moderate, initial ground motion North East.
			PP		30	39		
			S		33	51		
		E	PS		37	10		



Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
10	Hyderabad	N	SS	05	40	36		
contd.	Contd.		Lr		48	27		
			M		54	03		
		E	M		54	39		
10	Delhi	Z	P	07	25	34		
		N	e		25	35		
		ENZ	i		25	39		
	Dehra Dun	Z	eP	08	59	48		Tremor
	Shillong	ZNE	iP	08	59	56		Slight, distant, compression
10	Delhi	Z	iP	09	59	53		Slight, initial ground motion North East, compression
		ENZ	i	09	00	10		
10	Delhi	NZ	eP	09	07	53		Slight, distant, rarefaction
10	Delhi	Z	eP	11	23	35		Slight, distant, compression
10	Shillong	ZNE	iP	11	23	14		Slight, distant
10	Shillong	ZNE	iP _n	15	56	45	160	Slight
			S _g		57	05		
	Chatra	ZNE	iP	13	19	35	240	Feeble, rarefaction
		NE	iS		20	03		
	Shillong	ZNE	iP	13	20	33	350	Slight
			i		20	33		
			iS		21	42		
	Bokaro	E	eP	13	20	37		Slight, near
	Delhi	EZ	eP	16	20	43	370	Slight
		N	iS		21	53		
10	Epc 44.4°N, 149°E. Kurile Islands. - h about 40 km Mag. 5.5 SD, 0.4 (CGS). H = 17h 17m 42.7s (USCGS)							
	Shillong	ZNE	iP	17	23	30	5430	Initial ground motion West, compression
			iS		33	26		
		N	PS		33	45		
		E	ScS		33	21		
		ZNE	M		47	30		
	Calcutta	E	iP	17	27	08	5890	
			iS		34	37		
	Bokaro	E	iP	17	27	15	6030	
			S		34	53		
	Dehra Dun	ENZ	eP	17	27	22	3360	
		Z	i?		27	23		
		E	PP		29	27		
		EN	iS		35	13		
			PPS		35	32		
		E	ScS		37	25		
		N	M		43	17		
	Delhi	ENZ	iP	17	27	33	6470	Initial ground motion South West, compression
		EZ	PcP		28	13		
		ENZ	PP		29	49		

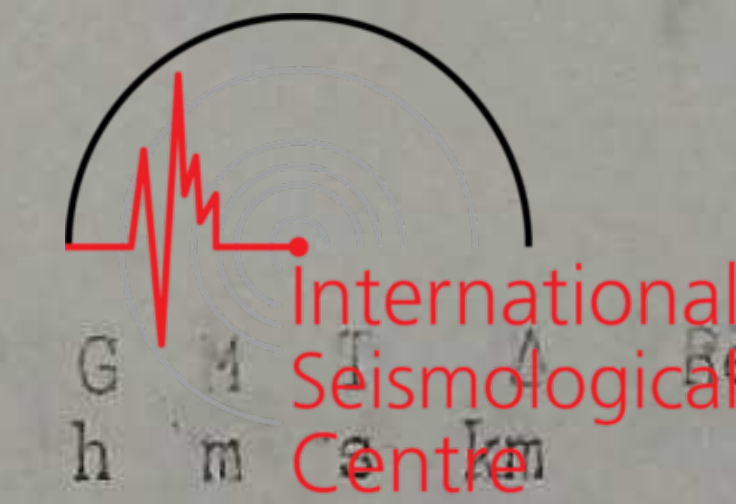
Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks	
10	Delhi Contd. / Contd.	EZ	PPP	17	30	53			
			PcS, ScP		31	49			
		ENZ	iS		35	34			
		NZ	ScS		37	10			
		EZ	SS		39	20			
		NZ	SSS		42	23			
			Lq		45	44			
		Z	M		-	-			
			Port Blair	Z	eP	17	27	46	
			Madras	E	eP	17	28	31	7310
			PP		30	58			
			PcS, ScP		33	09			
			iS		37	17			
			PS		37	36			
			PPS		37	46			
			SKS/ScS		38	23			
			SS		41	35			
			SSS		44	27			
			Lq		45	14			
			Lr		48	15			
			M		53	44			
	Poona	ENZ	eP	17	28	37	7260		
		N	eS		37	21			
	Bombay	ENZ	eP	17	28	39	7350		
		EN	PP		31	09			
		E	ePPP		32	46			
		EN	eS		37	29			
		N	PS		38	06			
		E	SS		41	55			
		N	Lq		46	44			
			M	18	01	25			
		E	M		01	40			
	Delhi	Z	P	18	45	57		Slight	
10	Port Blair	Z	i	19	49	13		Slight, near	
11	<i>Epc 43.8°N, 149.5°E. Kurile Islands. - h about 5.5 km Mag. 4.7 SD, 0.2 (CGS). H = 00h 10m 25.6s (USCGS).</i>								
	Shillong	ZNE	iP	00	19	14		Compression	
	Delhi	Z	eP	00	20	17			
11	Shillong	ZNE	iP	00	23	40		Slight, distant, initial ground motion North West, compression.	
11	Delhi	EZ	iP	00	25	09		Initial ground motion towards South West, compression	
		ENZ	e		23	17			
11	Delhi	NZ	eP	00	46	52		Slight	
11	Shillong	ZNE	iPg Sg	01	05	08	110	Slight	
					05	21			
11	Shillong	ZNE	iPn iSn	01	23	53	330	Slight	
					29	30			



Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
11	Delhi	Z	eP	04	21	27		Slight, rarefaction
11	Shillong	ZNE	iP	04	32	05		Slight, distant, rarefaction
11	Delhi	Z	eP	05	11	35		Slight, compression
11	Delhi	Z	iP	05	15	57		Slight, rarefaction
11	Shillong	ZNE	iPg iSg	08	54	40	120	Slight
					54	54		
11	Delhi	EN	eP	08	55	49		Slight
11	Bokaro	NE	iP	09	00	03		Feeble, local
11	Shillong	ZNE	iP	09	58	30		Slight, distant, compression
	Delhi	NE	iP	09	59	33		Slight, initial ground motion North East
11	Bokaro	NE	iP	10	12	22		Feeble, local
11	Shillong	ZNE	i	11	49	23		Slight, near.
11	Shillong	ZNE	iPn iSn	13	27	33	270	Slight
					28	08		
11	Shillong	ZNE	iPg eSg	18	09	29	80	Slight
					09	38		
11	Delhi	EN	P	20	12	42		Slight, distant
	Dehra Dun	Z	iP e	20	12	42		Tremor
					14	54		
	Chatra	Z	iP	20	12	56		Feeble, distant, rarefaction
	Shillong	ZNE	iP i	20	13	01		Slight, distant, rarefaction
					13	33		
11	Shillong	ZNE	eP	21	33	23		Slight, distant
11	Dehra Dun	Z	eP	23	58	01		Tremor
	Delhi	EN	iP iS	23	58	03	350	Slight, initial ground motion North, West.
					59	33		
12	Shillong	ZNE	iP	00	50	00		Slight, local
12	Shillong	ZNE	eP	03	41	21		Slight, near
12	<i>Epc 35.5°N, 29.7°E. Near South Coast of Turkey. - h about 69 km Mag 5.0 SD, 0.3 (CGS). H = 07h 06m 31.2s (USCGS)</i>							
	Delhi	Z	iP	07	14	05		Compression
	Chatra	Z	iP	07	15	15		Compression
	Shillong	ZNE	iP	07	15	43		Compression
12	<i>Epc 44.2°N, 149.0°E. Kurile Islands. - h about 45 km Mag. 4.9 SD, 0.3 (CGS). H = 07h 56m 53.6s (USCGS).</i>							
	Shillong	ZNE	iP	08	05	43		Initial ground motion South West, compression
	Dehra Dun	Z	eP	08	03	36		
	Delhi	Z	eP	08	03	44		Compression

Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
12	Bokaro	N	e	08	34	38		
12	<i>Epc 44.2°N, 149.2°E. Kurile Islands. - h about 50 km Mag. 4.8 SD, 0.3 (CGS). H = 08h 33m 15.9s.</i>							
	Shillong	ZNE	iP	08	42	04		
	Dehra Dun	Z	eP	08	42	57		
12	Delhi	ENZ	iP	08	43	07		Slight, initial ground motion West, compression
12	Shillong	ZNE	iP iS	11	46	41 47 17	320	Slight
12	<i>Epc 44.2°N, 149.4°E. Kurile Islands. - h about 50 km Mag. 4.9 SD, 0.2 (CGS). H = 13h 00m 00.7s (USCGS)</i>							
	Shillong	ZNE	iP	13	08	50		Rarefaction
	Chatra	Z	eP	13	09	09		
	Delhi	ENZ	iP	13	09	52		Initial ground motion North East, rarefaction
12	Shillong	ZNE	i	14	23	05		Slight, near
12	Delhi	Z	eP	14	37	30		Slight, rarefaction
12	<i>Epc 31.7°N, 78.5°E. Northern India. - h about 33 km Mag. 4.6 (CGS). H = 15h 23m 43.9s (USCGS)</i>							
	Dehra Dun	ENZ	iP	15	29	25		Feeble, rarefaction
	Delhi	ENZ	iPn iSn	15	29	48 30 27		Initial ground motion South West, compression
	Chatra	Z	eP iS	15	31	00 32 44	1010	
	Bokaro	E	eP	15	31	04		
	Shillong	ZNE	iP	15	31	52		
	Poona	Z	eP	15	32	10		
	Sehore	E	i	15	32	30		
	Bombay	Z	e	15	35	08		
	Madras	E	e	15	38	45		
12	Delhi	ENZ NZ	iP i	15	29	41 29 44		Slight, initial ground motion South, West, compression
12	Delhi	EZ	eP	17	33	25		Slight
12	Delhi	EN	eP	17	42	13		Slight
12	Shillong	ZNE	iP i	19	43	03 43 09		Slight, near

Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
12	Chatra	Z	eP e	19	48	53 49 57		Feeble, distant
12	Delhi	ENZ	iP	20	42	39		Slight, initial ground motion North West, compression
12	Delhi	Z	eP i	21	04	07 04 08		Slight
12	Shillong	ZNE	iP	23	22	07		Slight, distant, initial ground motion North West compression
13	Delhi	ENZ	eP	03	24	54		Slight
13	Shillong	Z	iP	05	23	49		Slight, near
13	Delhi	NZ	eP iS	05	23	15 27 57	990	Slight, rarefaction
13	Chatra	Z	iP* iS*	06	10	47 11 09	180	Feeble, rarefaction
13	Shillong	Z	iP	07	41	33		Slight, distant, compression
13	Delhi	Z EZ N	eP i el	07	42	36 42 43		Slight, distant
13	Bokaro	NE	iP	07	44	42		Feeble, local
13	Dehra Dun	Z	eP	07	52	26		Tremor
13	Madras	E	e	13	23	45		
13	Shillong	ZNE	iP	13	34	11		Slight, distant, initial ground motion South West, compression
13	Delhi	ENZ	iP	16	35	11		Slight, initial ground motion North East, rarefaction
13	Shillong	ZNE	iPg iSg	17	22	25 22 27	10	Slight
13	Delhi	ENZ	iPg iSg	20	33	03 38 10.6	70	Slight
13	Chatra	Z	iPg iSg	20	59	05 59 21	130	Feeble
14	Delhi	ENZ	iPg iSg	01	52	15.5 52 19.3	40	Slight, initial ground motion South East, compression Mag.=2.6. Felt at Sonapat.
14	Delhi	NZ	iPg iSg	01	57	37 57 40.7	30	Slight
14	Delhi	ENZ	i	03	07	45		
14	Shillong	ZNE	iP	04	07	00		Slight, distant
14	Delhi	EZ	eP e	04	08	32 09 13		Slight, rarefaction



Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks	
14	Delhi	EZ	e	04	13	23			
14	Shillong	ZNE	iPg iSg	04	48	25 48 40	130	Slight	
14	Port Blair	E	i	04	58	09			
14	Shillong	ZNE	iP	05	15	09		Slight, near	
14	Delhi	Z EN	iP ePl	05	13	14		Slight, compression	
14	Delhi	ENZ	iP	10	23	02		Slight, rarefaction	
14	Shillong	ZNE	iPg iSg	10	23	13 23 25	80	Slight	
14	Shillong	ZNE	iP	14	00	09		Slight, distant	
	Chatra	Z	eP	14	00	35		Slight, distant	
14	Shillong	Z	iP	14	14	56		Slight, distant	
14	Shillong	Z	iP	14	13	12		Slight, distant	
14	Shillong	Z	iP	14	27	34		Slight, near, compression	
14	Shillong	Z	iP	14	42	47		Slight, near, rarefaction	
14	Chatra	Z	iP	14	43	14		Slight, distant, rarefaction	
14	Delhi	ENZ	eP	14	44	11		Tremor, rarefaction	
14	Shillong	ZNE	iPg iSg	18	45	49 45 57	70	Slight	
14	Shillong	ZNE	iP	19	28	37		Slight, near	
14	<i>Epc 45.4°N, 151.4°E. Kurile Islands. - h about 50 km Mag. 4.4 (CGS). H = 21h 27m 25.6s (USCGS).</i>								
	Shillong	ZNE	iP	21	33	27		Compression	
	Chatra	Z	iP	21	33	46			
	Delhi	ENZ	eP	21	37	27			
14	Delhi	Z	eP	23	39	45		Slight	
14	Shillong	Z	iP	23	41	13		Slight, near, compression	
15	Delhi	Z	eP i	00	38	18 33 35		Slight	
15	Shillong	Z	iP	00	53	27		Slight, near, rarefaction	
15	Shillong	ENZ Z N	eP e e	00	54	29.5 54 40 54 41		Slight	
15	Delhi	Z NZ	iP i	01	25	53 25 57		Slight, compression	

15 *Epc 45.6°N, 153.2°E. Kurile Islands Region. - h about 33 km
Mag 4.1 (CGS). H = 06h 34m 07s*



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Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks	
15	Shillong	ZNE	iP	03	43	19		Compression	
15	contd Delhi	NZ	eP	03	44	17		Compression	
15	Bokaro	NE	iP	07	23	45		Feeble, local	
15	Delhi	Z	eP	03	31	13		Slight	
15	Delhi	Z	iP i	15	29	24 29 34		Slight	
15	Bokaro	NE E NE E NE E	iP PcS S PS SS SSS	13	13	02 20 53 23 41 23 51 27 20 29 20	6080	Slight	
15	Shillong	ZNE	iP	17	57	50		Slight, distant, rarefaction	
15	<i>Epc 44.3°N, 149°E. Kurile Islands. - h about 50 km Mag. 6.0 (Bks), 6.4-6.2 (Pas), 6.0 SD, 0.4 (CGS). H = 21h 06m 34s (USCGS) Epc 45°N, 148.6°E. Kurile Island Region. Mag 7.0 (Delhi). H = 21h 06m 30s (CSO. Shillong).</i>								
	Tocklai	E	eP	21	15	03			
	Shillong	ZNE E ZNE N NE ZNE	iP PP iS ScS i M	21	15	21 17 13 22 26 25 26 26 40 34 20	5460	Initial ground motion North, East, rarefaction Period = 25 secs	
	Chatra	ZNE NE	iP PPP iS PPS SS M	21	15	41 13 44 23 05 23 16 23 37 35 01	5790	Rarefaction Per. = 13 secs, μ = 22	
	Calcutta	E	iP PP iS M	21	15	57 17 59 23 30 34 52	5950		
	Dehra Dun	Z EN E	iP eP PcP PPP PcS iS PS PPS ScS SS SSS Lr M	21	13	14 13 14 17 21 19 23 21 22 24 01 24 10 24 20 23 21 27 43 29 45 32 09 33 37	3210	Rarefaction	

Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
15	Delhi	ENZ	iP	21	13	24	6370	Initial ground motion North, East, rarefaction
Contd.			i			16 42		
			PcP			17 14		
			i			17 44		
		EZ	PP			18 24		
		ENZ	PPP			19 42		
		EZ	PcS, ScP			21 03		
		EN	S			24 20		
			ScS			23 04		
		EZ	SS			27 53		
		EN	Lq			30 50		
		Z	M	-	-	-		
	Port Blair	ZN	iP	21	13	25	6450	
		E	eP					
		NE	iS			24 25		
		E	PS			24 41		
			SS			23 02		
			Lr			33 59		
			M			37 53		
	Visakhapatnam	NE	iP	21	13	44	6670	Initial ground motion North, East.
		E	ePP			13 43		
		NE	eS			24 53		
		E	ePs			25 12		
			ePFS			25 22		
	Sehore	E	iP	21	13	48		
	Hyderabad	N	iP	21	17	04	7130	Initial ground motion North.
			PP			19 35		
			iS			25 41		
			SS			29 59		
			Lr			36 07		
			M			41 02		
							Per.=18 secs, μ =15	
	Macras	E	iP	21	17	18	7330	Initial ground motion East.
			e			17 37		
			PcP			17 43		
			PP			19 50		
			PPP			21 23		
			iS			23 03		
			PS			23 27		
			PPS			26 33		
		SKS/ScS				27 13		
			SS			30 23		
			SSS			33 21		
			Lq			34 19		
			Lr			27 20		
			M			44 02		
	Poona	EZ	iP	21	17	21	7500	Initial ground movement North, East, rarefaction.
		N	iS			26 11		
	Bombay	E	iP	21	17	25	7370	
			PcS			17 46		
			PP			19 53		
			PPP			21 32		
			eS			26 14		
			PS			26 30		
			SS			30 27		
			SSS			33 24		



Date	Station	Compt	Phase	G h	M m	T s	Remarks
15	Kodaikanal	E	eP	21	17	51	7570
contd.			iS			23 43	
15	Shillong	ZNE	iP	23	57	04	Slight, distant, initial ground motion South, East, rarefaction
15	Shillong	ZNE	iP	01	02	20	Slight, distant, Initial ground motion South, West, compression
16	Delhi	ENZ	eP	01	03	23	Tremor, compression
16	<i>Epc 44.3°N, 149°E. Kurile Islands. - h about 50 km Mag. 5.0 SD, 0.2 (CGS). H = 02h 30m 07s (USCGS).</i>						
	Shillong	ZNE	iP	02	33	55	Compression
			i			39 10	
	Chatra	Z	eP	02	39	09	
	Dehra Dun	Z	eP	02	33	47	
	Delhi	E	eP	02	39	59	First ground motion South, West, Compression
		NZ	iP			40 00	
		ENZ	i			40 14	
16	Delhi	ENZ	eP	02	47	55	Slight, distant, rarefaction
16	Delhi	ENZ	ePg	05	51	13	Tremor
16	Poona	Z	iP	07	05	11	Slight, compression
16	Bombay	ES	eP	07	03	10	Slight
	Chatra	Z	eP	07	03	11	Feeble, distant
	Delhi	Z	eP	07	03	13	Slight, rarefaction
	Madras	E	e	07	03	19	Feeble
	Dehra Dun	Z	e	07	03	20	Tremor
	Shillong	ZNE	iP	07	03	20	Slight, distant
16	Delhi	Z	iP	08	01	11	Slight, rarefaction
		N	i			02 12	
16	Shillong	ZNE	iP	10	29	20	280 Slight
			iS			29 51	
16	<i>Epc 26.7°N, 97.2°E. Northern Burma. - h about 33 km Mag. 5.1 (CGS). H = 11h 07m 53.7s (USCGS).</i>						
	Tocklai	E	eP	11	08	38	
	Shillong	ZNE	iP	11	09	08	730 Initial ground motion East, rarefaction
		E	iS			10 22	
		Z	Sg			11 03	
	Chatra	Z	iP	11	10	03	920 Rarefaction
		NE	P*			10 23	
			eS			11 38	
			SS			11 58	
			S*			12 17	
			Sg			12 43	

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Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
16	Bokaro	E	iP	11	10	23		
Contd.	Behra Dun	EZ	eP	11	11	49		
	Delhi	ENZ	eP eS	11	11	53 13 01	1850	
	Madras	E	iP iS Lq M	11	12	40 16 33 16 54 19 51	2870	
	Poona	Z	eP	11	12	57		
	Bombay	ES	eP	11	13	02		
	Port Blair	E	i	11	14	43		
	Hyderabad	N	M	11	19	34		
16	Epc 28.1°N, 95.1°E. Assam, India. - h about 37 km Mag. 4.7 (CGS). H = 11h 39m 37.8s (USCGS).							
	Tocklai	E	eP	11	38	29		
	Shillong	ZNE	iP iS	11	40	33 41 13	370	Initial ground motion North, East, rarefaction
	Chatra	Z NE	iP iS	11	41	22 42 42	770	
	Bokaro	E	eP Lq S SS Lr PcP	11	42	12 44 40 44 48 45 05 45 30 47 26	1550	
	Behra Dun	Z	eP i	11	43	07 43 17		
	Delhi	ENZ	eP i	11	43	14 43 17		
16	Delhi	ENZ	iP	12	30	41		Tremor
16	Shillong	ZNE	iP iS	12	40	52 41 27	240	Slight
16	Shillong	ZNE	iP iS	14	45	57 43 56	530	Slight
13	Shillong	ZNE	iPg iSg	13	22	14 22 29	130	Slight
16	Shillong	ZNE	iPn iSn iSg	13	30	04 30 23 30 33	130	Slight
13	Shillong	ZNE	iP	20	30	53		Slight, distant, rarefaction
	Chatra	Z	iP	20	31	32		Feeble, rarefaction

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Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
13	Shillong	ZNE	iPg Sg	21	17	08 17 13	70	Slight, initial ground motion North, East, rarefaction
16	Shillong	ZNE	iP	22	57	19		Slight, distant
16	Delhi	Z	iP eS	23	02	07 12 44	9620	Slight, rarefaction
16	Bombay	E	eP	23	03	31		Slight
16	Port Blair	E	i	23	07	32		
16	Madras	E	eP e	23	08	23 11 50		Slight, distant
16	Delhi	ENZ	iP	23	25	38		Tremor
17	Bombay	E	eP i i i i M	01	05	41 11 30 15 22 16 03 17 01 55 22		Slight
	Delhi	Z NZ	eP iS	01	03	49 13 09	7870	Slight, compression
	Chatra	Z	eP	01	03	49		Feeble, distant
	Shillong	ZNE	iP	01	03	54		Slight, distant
	Madras	E	eP ePP eS M	01	07	35 10 56 17 20 42 20	8470	
	Bokaro	E	eP PP S PS PPS SS SSS	01	07	40 10 34 17 35 18 33 18 43 23 04 23 23	8580	Slight
	Port Blair	E	i	01	09	03		
17	Shillong	ZNE	iP	01	17	02		Slight, distant
17	Port Blair	Z	iP iS	01	23	02 23 13	100	Slight, rarefaction
17	Hyderabad	N	M	01	41	27		
17	Shillong	Z	iP	03	51	09		Slight, distant
17	Shillong	ZNE	iPg Sg	04	29	23 29 41	100	Slight
17	Epc 6.3°N, 126.2°E. Mindanao, P.I. - h about 33 km Mag. 5.6 (CGS). H = 07h 50m 34.4s (USCGS)							
	Shillong	ZNE	iP	07	57	50		

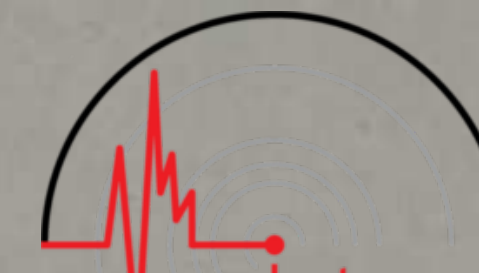


Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
17	Chatra	Z	eP	07	58	26		
17	Delhi	Z	eP	07	59	37		
			e		59	48		
17	Shillong	ZNE	iP	08	41	45	290	Slight, initial ground motion North, West, compression
			iS		42	18		
	Tocklai	E	iP	08	42	31		Slight, initial ground motion West.
	Chatra	Z	eP	08	42	43	770	Feeble, compression
			iS		44	03		
17	Chatra	ZNE	iP	09	11	02	210	Slight
			iS		11	27		
17	Delhi	ENZ	iP	10	34	37		Slight, initial ground motion North, West, compression
17	Madras	E	eP	10	58	30	2330	Slight
			PP		59	03		
			eS		11	02	55	
			Lr		04	55		
			M		03	43		
	Bombay	N	eP	10	59	57		Slight
	Delhi	Z	eP	11	00	23		Slight, distant, initial ground motion North, rarefaction
	Shillong	ZNE	iP	11	00	52		Slight, distant, initial ground motion South, rarefaction
17	Delhi	ENZ	eP	11	58	03		Slight
17	Delhi	Z	eP	12	30	24		Slight
17	Delhi	ENZ	iP	12	42	33		Tremor
17	Shillong	ZNE	iPn	13	35	02	130	Slight
			Sg		35	22		
17	Shillong	ZNE	iP	17	03	40	140	Slight
			iSg		03	57		
17	Shillong	ZNE	iPg	20	20	50	110	Slight
			iSg		31	03		
17	Delhi	NZ	iP	23	01	12		Feeble, compression
18	<i>Epc 3.6°S, 143.4°E. Near Coast of Northeast New Guinea</i>							
	<i>Mag. 5.2 (CGS). H = 01h 01m 52.9s. - h about 33 km</i>							
	Shillong	ZNE	iP	01	11	42		
	Chatra	Z	eP	01	12	14		
	Delhi	NZ	eP	01	13	13		
18	Delhi	Z	eP	01	43	45		Feeble



Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
18	Delhi	ENZ	iP	01	54	45		Slight, initial ground motion South West, rarefaction
			i		54	46		
18	Delhi	ENZ	eP	03	54	01		Slight
			i		53	52		
18	Poona	Z	eP	03	55	43		Slight
18	Bombay	E	eP	03	56	11		Near, tremor.
18	<i>Epc 8.4°S, 113.5°E. South of Java.</i>							
	<i>H = 05h 16m 42s. - h about 104 km</i>							
	Shillong	ZNE	iP	05	24	10		Slight
	Delhi	Z	iP	05	25	24		Slight, rarefaction
18	Bokaro	NE	iP	09	18	24		Feeble, local
18	Shillong	ZNE	iPn	10	55	51	210	Slight
			iSn		56	16		
			Sg		56	21		
18	Bokaro	NE	iP	12	20	35		Feeble, local
18	Shillong	ZNE	iP	13	28	41		Slight, distant
	Dehra Dun	Z	eP	13	28	55		Tremor
	Delhi	NZ	eP	13	29	10		Slight
18	<i>Epc 29.9°N, 113.6°W. Gulf of Mexico. - h about 14 km</i>							
	<i>Mag. 6½ (Pas), 6½-6¾ (Pal), 5.7 SD, 0.6 (CGS)</i>							
	<i>H = 14h 38m 28.9s (USCGS)</i>							
	Dehra Dun	Z	ePKP	14	57	20		
	Shillong	Z	iPKP	14	57	20	13220	
		ZNE	iPP		58	43		
		E	M		15	29	-	
	Delhi	Z	PKP	14	57	21	13300	
		NZ	ePP		58	43		
		N	PPP		15	01	20	
			ePS		03	32		
			ePPS		10	02		
		EN	SSP		15	44		
		Z	M		-	-		
	Poona	Z	ePKP	14	57	41		
	Calcutta	E	ePKP	14	59	00		
	Hyderabad	N	i	14	59	20		
			PP		15	00	27	
18	Bombay	ENZ	ePP	15	01	10	13330	Slight
		EN	PPP		03	09		
			SKS1		03	33		
			SKS2		07	41		
		E	PS		10	43		
			SSP		20	42		
			SSS		21	38		

Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
18	Bombay	N	M	16	03	27		Per.=19 secs, Amp.= 5
	contd. ✓	E	M		06	33		Per.=15 secs, Amp.= 4
	Port Blair	E	iPKP	15	01	10		
	Madras	E	ePP	15	01	58		
			ePPP		05	03		
18	Tocklai	E	ePn	17	13	17	200	Slight
			iSn		13	41		
	Shillong	ZNE	iPn	17	13	23	240	Slight
			P*		16	24		
			Sn		13	51		
			Sg		16	57		
	Chatra	Z	eP	17	13	58	590	Feeble
			eS		18	00		
18	Epc 13.4°S, 166.6°E. Santa Cruz Islands. - h about 51 km Mag. 4.7 SD, 0.4 (CGS). H = 21h 11m 10.2s (USCGS)							
	Shillong	ZNE	iP	21	23	30		Initial ground motion North West, compression
19	Shillong	ZNE	iPg	04	15	20	90	Slight
			Sg		15	30		
19	Epc 39.7°N, 129.5°E. Off East Coast of Korea. - h about 537 km Mag. 4.4 SD, 0.4 (CGS). H = 04h 37m 56.8s (USCGS)							
	Shillong	ZNE	iP	04	44	00		Initial ground motion North East, rarefaction
	Chatra	Z	iP	04	44	27		Rarefaction
	Dehra Dun	Z	eP	04	45	08		
19	Shillong	ZNE	iPg	07	37	58	120	Slight, initial ground motion North East, rarefaction
			iSg		38	12		
	Chatra	Z	iP	07	38	48	690	Feeble, compression
		ZNE	eS		40	00		
19	Shillong	ZNE	iP	10	58	50		Slight, distant
19	Epc 44.4°N, 149.2°E. Kurile Islands. - h about 33 km Mag. 5.8 SD, 0.3 (CGS). H = 11h 00m 54.3s (USCGS)							
	Shillong	ZNE	iP	11	09	43		Initial ground motion North East, rarefaction
	Bokaro	E	eP	11	10	25		
	Dehra Dun	Z	iP	11	10	36	6250	Rarefaction
		EN	eS		13	26		
	Delhi	EN	iP	11	10	49		Initial ground motion South East.
	Poona	Z	iP	11	11	44		Rarefaction
19	Bokaro	NE	iP	11	18	41		Feeble, local



Date	Station	Compt	Phase	G h	M m	T s	Remarks	
19	Delhi	E N	iP eP	11	18	45	Slight, initial ground motion South West.	
19	Shillong	ZNE	iPg Sg	11	44	08 44 23	130 Slight	
19	Shillong	ZNE	iP	12	23	04	Slight, distant, rarefaction	
19	Shillong	ZNE	iPg Sg	17	23	43 23 55	80 Slight	
19	Shillong	ZNE	iP	17	43	20	Slight, distant, initial ground motion South West, compression.	
19	Dehra Dun	Z	eP	17	43	53	Tremor	
19	Epc 5.0°S, 102.2°E. Off South Coast of Sumatra. - h about 37 km Mag. 5.4 SD, 0.4 (CGS). H = 13h 17m 02.2s (USCGS)							
	Port Blair	E	i	18	22	00		
	Madras	E	eP	18	22	53	3210	
			PP		23	57		
			PPP		24	11		
			eS		27	43		
			Lq		28	34		
			Lr		29	51		
			M		31	53		
	Shillong	ZNE	iP	18	23	28	3490	Initial ground motion North, compression
			iS		28	33		
	Bokaro	E	eP	18	23	33	3340	
			iS		28	53		
	Chatra	Z	iP	18	23	53		Compression
	Dehra Dun	Z	iP	18	24	53	4330	Compression
		EN	eS		31	11		
	Delhi	EN	eP	18	24	56	4520	
			PcS, ScP		30	56		
		N	eS		31	07		
19	Delhi	EN	P	19	22	25		Slight
20	Shillong	ZNE	eP	02	31	43	180	Slight
			iS		32	03		
20	Delhi	Z	eP	03	42	53		Slight
	Dehra Dun	Z	eP	03	42	53		Tremor
20	Epc 5.5°S, 148.2°E. New Britain. - h about 201 km Mag. 5.2 (CGS). H = 04h 07m 22.6s (USCGS)							
	Shillong	ZNE	iP	04	17	23		Rarefaction
	Chatra	Z	eP	04	17	56		
	Delhi	EZ	iP	04	18	48		Initial ground motion East rarefaction.

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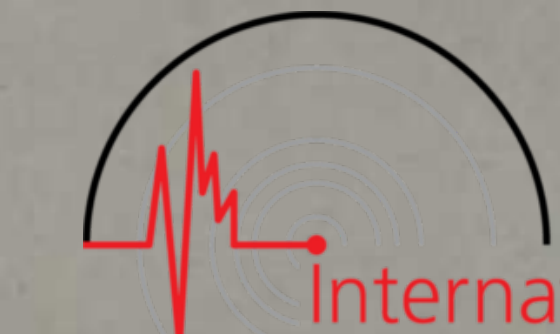
Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
20	Dehra Dun	Z	eP	05	22	17		
20	Delhi	EZ	eP	05	23	32		
20	Bokaro	NE	iP	08	21	15		Slight, local
20	Shillong	ZNE	iP	09	27	23		Slight, distant, compression
20	Shillong	ZNE	eP	11	15	40		Slight, distant
20	Dehra Dun	Z	eP	12	26	29		
20	Delhi	NZ	iP	12	26	41		Slight
		Z	e		28	19		
		N	i		28	21		
20	Delhi	Z	eP	17	05	41		Slight, rarefaction
20	Delhi	EZ	eP	18	59	47		Slight, distant
		E	e		59	49		
		NZ	e		59	50		
	Dehra Dun	Z	eP	19	00	04		Tremor
	Poona	Z	eP	19	00	17		Slight
20	Bombay	EZ	eP	19	01	40		Slight, near shock.
20	Shillong	ZNE	iP	20	48	46		Slight, distant
		ZN	i		48	53		
20	Delhi	EZ	iP	20	50	25		Slight, initial ground motion East, rarefaction
20	Chatra	Z	e	21	06	48		Feeble
20	Shillong	ZNE	iP	22	42	19		Initial ground motion South, West, compression
20	Delhi	EZ	iP	22	43	32		Slight, initial ground motion East, rarefaction
		N	eP					
20	Dehra Dun	Z	eP	22	58	11		
21	Shillong	ZNE	iP	03	53	06		90 Slight
		Sg			53	16		
21	Delhi	ENZ	iP	05	32	25		890 Slight, initial ground motion North West, rarefaction
		iS			33	57		
21	Delhi	Z	eP	08	41	51		Slight
21	Shillong	ZNE	iP	10	34	10		180 Slight
		iS			34	22		
	Chatra	Z	eP	10	34	55		Feeble
21	Chatra	Z	iP	10	35	03		Feeble, near, rarefaction
21	Delhi	EZ	eP	13	06	41.8s		- h about 40 km

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Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
21	Shillong	ZNE	iP	13	15	43		
contd.	Delhi	Z	eP	13	16	45		Slight
21	Port Blair	Z	i	14	18	23		
21	Chatra	Z	iP	14	22	26	130	Feeble, rarefaction
			eSg		22	45		
21	Port Blair	Z	i	15	45	50		
21	Shillong	ZNE	eP	16	31	46		Slight, near
21	Shillong	ZNE	iP	19	38	17		Slight, distant, initial ground motion North, West, compression
21	Epc 44.2°N, 149.6°E. Kurile Islands. - h about 40 km Mag. 4.6 SD, 0.4 (CGS). H = 19h 58m 23.8s. (USCGS).							
	Shillong	ZNE	iP	20	07	16		Initial ground motion South West, compression
	Dehra Dun	Z	eP	20	08	09		
	Delhi	ENZ	eP	20	08	18		
21	Delhi	EZ	eP	20	22	37		Tremor, initial ground motion West, rarefaction
21	Shillong	ZNE	iP	21	10	59		Slight, distant, rarefaction
21	Delhi	Z	eP	21	11	47		Slight, distant, rarefaction
21	Shillong	ZNE	iP	22	55	44	290	Slight
		iS			56	17		
21	Chatra	Z	iP	22	56	41		Feeble, distant, rarefaction
21	Port Blair	ZNE	iP	23	03	59	270	Slight
		iS			04	29		
21	Port Blair	Z	eP	23	39	20	190	Slight
		iS			39	42		
22	Epc 5.9°S, 107.9°E. Near North Coast of Java. - h about 323 km Mag. 5.1 (CGS). H = 00h 18m 35.9s.							
	Shillong	ZNE	iP	00	25	03		
	Bokaro	E	iP	00	25	15		
	Chatra	Z	eP	00	25	23		
	Poona	Z	eP	00	25	55		Compression
	Delhi	Z	iP	00	26	23	4550	Compression
		EN	eP					
			eS		32	33		
	Dehra Dun	Z	iP	00	23	30		Compression
22	Port Blair	ZNE	iP	01	49	05	300	Slight
		iS			49	33		

Date	Station	Compt	Phase	G	M	T	Δ	Remarks
				h	m	s	km	
22	Port Blair	Z	iP iS	01	51	09	130	Slight
22	Port Blair	Z	iP	02	49	30		Slight, near, compression
22	Port Blair	Z	i	02	57	52		Slight, near
22	Port Blair	Z	iP	03	01	03		Slight, near, rarefaction
22	Shillong	ZNE	iP	03	35	34		Slight, distant, compression
22	Port Blair	Z	e	03	35	59		Slight, near
22	Port Blair	Z	iP	04	03	50		Slight, near, rarefaction
22	Port Blair	Z	i	04	14	19		Slight
22	Port Blair	ZNE Z ZNE	iPn iPg iSn	04	13	34	310	Slight, rarefaction
						13 44		
						16 58		
22	Madras	E	e	04	19	19		
22	Shillong	ZNE	eP	04	19	38		Slight, near
22	Delhi	Z	eP	04	21	20		Slight, rarefaction
22	Port Blair	Z	e	04	54	55		Slight, near
22	Delhi	NZ E	eP eS	04	53	17	1200	Slight, initial ground motion South, compression
				05	00	20		
22	Shillong	ZNE	iP iS	05	11	35	230	Slight
						12 07		
22	Delhi	N ENZ	iPg iSg	05	23	41.8	30	Slight
						23 45.5		
22	Port Blair	Z	iP PP PPP iS SS Sg SSS	05	41	09	330	Slight
						41 17		
						41 23		
						41 50		
						42 00		
						42 05		
						42 12		
	Madras	E	eP	05	44	33		Slight
	Chatra	Z	eP	05	45	40		Feeble, distant
	Shillong	ZNE	eP	05	43	00		Slight, distant
	Delhi	Z	iP	05	43	37		Slight
	Bokaro	E	eP	05	48	08		Slight, distant
22	Delhi	Z	eP	05	51	09		Feeble
22	Port Blair	Z	ePn iSn	03	13	43	180	Slight, near, compression
						14 08		



Date	Station	Compt	Phase	G	M	T	Δ	Remarks
				h	m	s	km	
22	Delhi	Z	iP	03	13	23		Feeble, compression
22	Port Blair	Z	iP	03	30	14		Slight, near, rarefaction
22	Delhi	EZ Z	iP i	03	35	33		Slight, compression
						35 39		
22	Port Blair	Z	i	03	55	38		Slight, near
22	Delhi	Z	eP	07	00	24		Slight, rarefaction
22	Port Blair	Z	i	07	13	03		Slight
22	Port Blair	Z	e	07	13	40		Slight
22	Bokaro	E	iP	07	37	03		Feeble, local
22	Port Blair	Z	e	08	33	20		Slight
22	Port Blair	Z	e	09	15	05		Slight, near
22	Port Blair	Z	iP	11	33	37		Slight, distant, compression
22	Epc 44.4°N, 149°E. Kurile Islands. - h about 33 km Mag. 5.6 SD, 0.4 (CGS). H = 14h 45m 51.7s (USCGS)							
	Shillong	ZNE	iP	14	54	42		
	Chatra	Z	iP	14	55	02		Compression
	Bokaro	E	iP	14	55	24		
	Behra Dun	EZ E	iP ePS	14	55	35		Initial ground motion East, compression
				15	04	02		
	Delhi	ENZ	iP iS	14	55	45	3360	Initial ground motion South West, compression
				15	03	40		
	Madras	E	eP eS PS SKS	14	53	33	7370	
				15	05	25		
					05	46		
					03	30		
	Poona	Z	iP	14	56	43		Slight, near, compression
	Bombay	EZ	eP	14	53	50		Slight, near
22	Madras	E	iP PP PPP Lq iS Lr M	15	11	21	330	Initial ground motion towards East.
						11 23		
						11 35		
						12 20		
						12 30		
						12 33		
						13 04		
	Port Blair	Z	i i	15	11	27		Slight, near, rarefaction
						11 33		
	Poona	Z	iP	15	12	15		Slight, compression
	Bokaro	E	eP	15	13	09		Slight, distant
22	Bombay	Z	eP eS i SS i	15	13	31	1590	Slight
						13 11		
						13 21		
						13 33		
						17 32		

Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
22	Shillong	ZNE	iP	15	13	44		Slight, distant
	Chatra	Z	iP	15	13	50		Feeble, distant, compression
	Dehra Dun	Z	e?	15	14	45		Tremor
22	Port Blair	Z	i	15	29	55		
22	<i>Epc 44.5°N, 149.2°E. Kurile Islands. - h about 40 km Mag 4.5 SD, 0.2 (CGS). H = 15h 22m 10.9s (USCGS)</i>							
	Shillong	ZNE	iP	15	31	00		
	Chatra	Z	eP	15	31	20		
	Delhi	Z	iP	15	32	02		Compression
22	Port Blair	Z	i	15	53	24		
22	Port Blair	Z	i	16	00	12		
22	Port Blair	Z	iP	16	03	33		Slight, rarefaction
			i		03	39		
22	Port Blair	Z	e	16	08	23		
			i		08	49		
22	Port Blair	Z	i	16	10	36		
22	Port Blair	Z	iP	16	12	45		Slight, rarefaction
22	Port Blair	Z	i	16	13	43		
			i		14	00		
22	Shillong	ZNE	iP	16	13	46	3630	Slight
			iS		19	02		
	Delhi	Z	eP	16	15	22	4110	Slight, compression
		ENZ	iS		21	08		
	Madras	E	PPP	13	15	34		Slight
			eS		19	08		
			Lq		20	14		
			Lr		21	51		
			M		24	21		
	Port Blair	Z	i	16	16	38		
			i		16	51		
			i		17	18		
	Dehra Dun	Z	e	16	17	41		Tremor
22	<i>Epc 10.4°N, 94.0°E. Andaman Islands Region. - h about 33 km Mag 5.7 (CGS). H = 16h 15m 54s. (USCGS)</i>							
	Bokaro	E	eP	16	19	39	1800	
			iS		22	39		
22	Bombay	Z	eP	16	20	34		
		EZ	ePP		21	02		
22	Poona	Z	iP	16	20	41		
22	Port Blair	Z	i	16	23	27		

Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
22	Port Blair	Z	e	16	32	34		
22	Port Blair	Z	i	16	52	57		
22	Delhi	ZEN	eP	17	24	43		Slight
		N	iP					
22	Port Blair	Z	e	17	29	04		
			i		29	22		
22	Port Blair	Z	e	17	30	36		
			i		31	03		
22	Delhi	Z	eP	19	16	37		Slight, compression
			i		13	52		
22	Port Blair	Z	i	19	35	18		
22	Delhi	Z	eP	19	16	37		Slight, compression
22	<i>Epc 37.3°N, 30.1°E. Southwestern Turkey. - h about 28 km Felt. Burdur and Tefenni. Mag. 4.4 (CGS). H = 20h 29m 00.2s (USCGS)</i>							
	Delhi	Z	eP	20	33	33		
	Chatra	Z	eP	20	34	45		
22	Chatra	Z	iP	21	49	07		Feeble, distant, compression
22	Delhi	Z	eP	21	49	07		Slight
22	Shillong	ZNE	iP	23	24	05	250	Slight
			iS		24	34		
22	Chatra	Z	eP	23	23	05		Feeble, distant
			i		27	21		
23	Port Blair	Z	eP	01	51	17		Slight, near, compression
23	Delhi	Z	iP	01	59	15		Slight, compression
23	Port Blair	Z	i	02	27	46		Slight, near, rarefaction
23	Port Blair	Z	e	02	31	25		
23	Delhi	EZ	iP	02	32	31		Slight, compression
23	Port Blair	Z	e	02	39	53		
23	Port Blair	Z	e	02	55	48		
23	Port Blair	Z	e	03	54	29		
23	Shillong	ZNE	iP	05	11	11		Slight, distant compression
23	Shillong	ZNE	iP	07	12	39	40	Slight
			iS		12	44		
23	Port Blair	Z	e	07	32	43		
23	Bokaro	NE	iP	07	45	20		Feeble, local
23	Shillong	Z	eP	08	09	37		Slight, distant
23	Delhi	Z	eP	08	09	40		Slight



Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
23	Madras	E	e	08	31	23		
			e	09	02	35		
23	Bokaro	NE	iP	08	41	07		Feeble, local
23	Shillong	Z	eP	09	27	17	200	Slight
		ZNE	iS		27	41		
23	Bokaro	NE	iP	11	46	42		Feeble, local
23	Delhi	ENZ	iPg iSg	13	17	12	40	Slight, initial ground motion South West, compression
					17	16.7		
23	Delhi	Z	iP	14	17	25		Slight, rarefaction
23	Delhi	ENZ	iPg iSg	17	28	27.5	40	Slight, Initial ground motion South West, compression
					28	32.2		
23	Shillong	ZNE	iP	17	59	25	290	Slight, compression
			iS		59	58		
23	Delhi	Z	eP	18	27	47		Slight
23	<i>Epc 45.1°N, 151.5°E. Kurile Islands. - h about 45 km Mag. 4.6 SD, 0.4 (CGS). H = 19h 00m 35.6s (USCGS).</i>							
	Shillong	ZNE	iP	19	09	38		Initial ground motion South West, compression
	Chatra	Z	iP	19	09	58		Compression
	Dehra Dun	Z	iP	19	10	28		Compression
	Delhi	Z	iP	19	10	38		Compression
23	Shillong	ZNE	ePg iSg	19	24	24	20	Slight
					24	27		
23	Delhi	Z	eP	19	47	55		Slight, compression
23	Delhi	Z	iP	22	43	58		Slight, compression
	Chatra	Z	iP	22	44	24		Feeble, distant, compression
	Shillong	ZNE	iP	22	44	35		Slight, distant, initial ground motion South West, compression
23	Port Blair	Z	e	22	57	38		
24	Delhi	Z	iP	01	48	52	980	Slight, initial ground motion North West, rarefaction.
			iS		50	33		
24	Dehra Dun	Z	eP	03	03	43		Tremor
24	Madras	E	e	03	14	42		
24	Shillong	ZNE	eP	03	15	05		Slight, distant
24	Delhi	Z	i	03	19	20		
24	Madras	E	e	05	02	38		
24	Delhi	Z	iP	05	04	39		Slight, compression



Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
24	Delhi	NZ	eP eS	05	13	44	1000	Slight, initial ground motion South, rarefaction
					15	27		
24	Tocklai	E	eP	08	23	32		Slight, near
	Shillong	ZNE	eP	08	23	39		Slight, near
24	<i>Epc 28.2°N, 140.1°E. South of Honshu, Japan. - h about 260 km Mag. 5.2 SD, 0.4 (CGS). H = 11h 05m 56.8s. (USCGS)</i>							
	Shillong	ZNE	iP iS	11	13	34	4410	Initial ground motion North, East, rarefaction
					19	38		
	Chatra	Z	iP iPP	11	14	04		Rarefaction
					15	32		
	Bokaro	E	iP	11	14	18		
	Dehra Dun	Z	iP	11	14	55		Rarefaction
	Delhi	ENZ	iP	11	15	01		Initial ground motion North, East, rarefaction
24	Delhi	Z	eP	12	03	23		Slight
24	Shillong	ZNE	iPn iSg	15	08	41	140	Slight
					08	59		
24	Shillong	Z	iP	15	41	46		Slight, near, rarefaction
24	Delhi	Z	iP i	17	05	27		Slight, rarefaction
					07	11		
24	Dehra Dun	Z	eP	17	05	46		
24	Shillong	ZNE	iP	18	04	51		Slight, distant, initial ground motion South West, compression
	Dehra Dun	Z	e	18	05	44		
24	Delhi	Z	iP	18	05	53		Slight, compression
24	<i>Epc 46.4°N, 150.0°E. Kurile Islands. - h about 40 km Mag. 4.9 SD, 0.4 (CGS). H = 18h 09m 08.7s (USCGS)</i>							
	Shillong	ZNE	iP	18	18	02		Compression
	Chatra	Z	iP	18	18	22		Compression
	Dehra Dun	Z	iP	18	18	52		Compression
	Delhi	ENZ	iP	18	19	02		Slight, initial ground motion West, compression
24	<i>Epc 45.6°N, 151.6°E. Kurile Islands. - h about 33 km Mag. 4.2 SD, 0.2 (CGS). H = 19h 23m 13.8s (USCGS)</i>							
	Shillong	ZNE	iP	19	32	17		Compression
	Delhi	Z	eP	19	33	15		
24	Delhi	Z	eP	21	44	57		Slight, compression

Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks	
24	Delhi	Z	eP	22	25	33			
25	Shillong	ZNE ZE ZNE	iPn iSn iSg	00	42 43 43	56 18 20	200	Slight	
25	Shillong	ZNE	iPn iSn	03	44 44	05 40	310	Slight	
25	Delhi	NZ ENZ	ePg iSg	04	03 03	46.5 50.2	30	Slight	
25	Delhi	Z	iP	05	56	22		Slight, rarefaction	
25	<i>Epc 45.4°N, 151.4°E. Kurile Islands. - h about 50 km Mag. 4.8 SD, 0.3 (CGS). H = 06h 43m 23.5s (USCGS)</i>								
	Shillong	ZNE	iP	06	52	23		Initial ground motion South West, compression	
	Chatra	Z	eP	06	52	44			
	Dehra Dun	Z	eP	06	53	14			
25	Delhi	Z	iP	09	03	57		Slight, rarefaction	
25	<i>Epc 44.3°N, 149.5°E. Kurile Islands. - h about 55 km Mag. 4.9 SD, 0.4 (CGS). H = 10h 02m 23.8s (USCGS)</i>								
	Shillong	ZNE	iP	10	11	14		Initial ground motion South, West, compression	
	Dehra Dun	Z	iP	10	12	07		Compression	
	Delhi	NZ	iP	10	12	13		Initial ground motion South, compression	
25	Shillong	ZNE	iP i	10	19 20	58 14		Slight, distant	
25	Delhi	Z N	iP eP	10	21	00		Slight, rarefaction	
25	Shillong	ZNE	iPg iSg	11	35 35	50 53	50	Slight	
25	<i>Epc 45.4°N, 151.7°E. Kurile Islands. - h about 50 km Mag. 4.5 (CGS). H = 11h 30m 33s (USCGS)</i>								
	Shillong	ZNE	iP	11	39	36		Compression	
	Delhi	Z	eP	11	40	35		Compression	
25	Shillong	ZNE	iP	13	52	20		Slight, distant	
25	Delhi	Z	P	13	54	11		Slight	
25	Shillong	ZNE	iPn iSn Sg	21	15 15 15	17 50 57	290	Slight	
	Chatra	Z	eP eS	21	13 17	02 03	610	Feeble	
25	Delhi	Z	eP	21	18	11		Slight	

Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks	
26	Delhi	NZ ENZ	iPg iSg	02	15 15	21.9 23.6	20	Slight, initial ground motion South, compression	
26	Delhi	Z	P	05	00	29		Slight	
26	Delhi	Z	P	05	14	51		Slight	
26	<i>Epc 6.8°S, 129.6°E. Banda Sea. - h about 111 km Mag. 5.1 (CGS). H = 03h 52m 08.2s (USCGS)</i>								
	Shillong	ZNE	iP	07	00	45		Initial ground motion West, compression	
	Dehra Dun	Z	eP	07	02	17			
	Delhi	Z	iP i	07	02 02	51 52		Compression	
26	<i>Epc 7.1°S, 129.2°E. Banda Sea. - h about 117 km Mag. 4.7 (CGS). H = 08h 47m 17s (USCGS)</i>								
	Shillong	ZNE	iP	08	55	52		Initial ground motion East, Rarefaction	
	Delhi	Z	iP	08	57	22		Rarefaction	
26	Chatra	Z	eP	12	51	13		Feeble	
	Shillong	Z	eP	12	51	25		Slight, distant	
26	Chatra	Z	eP	15	23	52		Slight	
26	Delhi	Z	eP	16	27	43		Slight, rarefaction	
26	Shillong	ZNE	iP iS	19	50 51	15 07	430	Slight	
26	Shillong	ZNE	iP	23	03	12		Slight, distant, initial ground motion West, compression	
26	Port Blair	E	i i i	23	03 06 13	43 53 17			
26	Madras	E	e e	23	07 14	43 20			
27	Shillong	ZNE	iPg iSg	01	30 30	20 32	100	Slight	
27	Delhi	Z	eP i	02	39 39	20 24		Slight, rarefaction	
27	Shillong	ZNE	iPg iSg	05	03 03	13 21	20	Slight	
27	Shillong	ZNE	ePn iSn iSg	07	11 11 12	30 55 00	230	Slight	
27	<i>Epc 42°N, 76.5°E. Kazak, S.S.R. - h about 33 km. H = 07h 55m 17s.</i>								
	Dehra Dun	Z	eP	07	53	05		Tremor	
	Delhi	EZ	iP	07	53	25		Initial ground motion South	



Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
27	Shillong contd.	ZNE	iP	07	59	58		Slight, initial ground motion South, East, compression
27	Bokaro	NE	iP	08	46	03		Feeble, local
27	<i>Epc 46.6°N, 152.6°E. Kurile Islands Region. - h about 45 km Mag. 4.4 SD, 0.4 (CGS). H = 09h 21m 58.1s. (USCGS)</i>							
	Shillong	ZNE	iP	09	31	03		Compression
27	Chatra	Z	iP	09	44	34		Feeble, compression
27	<i>Epc 3.1°N, 125.6°E. Molucca Islands. - h about 33 km Mag. 4.8 (CGS). H = 13h 53m 58.4s (USCGS)</i>							
	Shillong	ZNE	iP	14	03	34		Initial ground motion North West, compression
	Dehra Dun	Z	iP	14	08	13		Compression
	Poona	Z	iP	14	03	19		Compression
27	Delhi	EZ	iP	14	09	15		Slight, initial ground motion South East, compression
27	Shillong	ZNE	iP iS	14	44 45	47 23	320	Slight
27	Shillong	ZNE	iPg iSg	15	59 59	15 31	130	Slight
27	Chatra	Z	iPg	16	32	12	160	Feeble, compression
27	Shillong	ZNE	eP iS	16	32 33	50 23	320	Slight
27	<i>Epc 45.8°N, 151.8°E. Kurile Islands Region. - h about 40 km Mag. 4.4 SD, 0.2 (CGS). H = 20h 18m 01s. (USCGS)</i>							
	Shillong	ZNE	iP	20	27	03		Initial ground motion South West, compression
	Delhi	NZ	iP	20	28	03		Slight, initial ground motion South, compression
27	Shillong	ZNE	iP	20	29	25		Slight, near
27	<i>Epc 30.8°N, 79.1°E. Northern India. - h about 33 km Mag. 5.1 (CGS). H = 21h 10m 39.9s 30.5°N, 79°E. H=21h 10m 40s (CSO, Shillong)</i>							
	Dehra Dun	ENZ	Pg iSg	21	10 11	59 12	110	Moderate, first ground motion North, compression
	Delhi	ENZ	iPh iSn	21	11 11	25 58	290	Initial ground motion North East, rarefaction
	Chatra	Z ZNE	iP iS	21	12 14	39 09	870	Compression
	Sehore	E	eP	21	12	46		
	Bokaro	E	eP iS	21	12 14	57 47	1070	



Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
27	Shillong contd.	ZNE	iP iS M	21	13 15 17	25 52 30	1340	Initial ground motion South East, compression
	Poona	Z	eP iS	21	13 13	45 13	1430	
	Bombay	Z	eP PP iS SS Lr	21	13 13 14 16 13	48 58 03 12 29	1410	
	Calcutta	N	e	21	15	34		
27	Port Blair	NE	eP iPP iPPP iS iSS iSSS	21	16 13 13 17 18 13	15 25 35 51 01 15	930	Slight
	Madras	E	eP eS Lr	21	13 21 22	11 23 12	1920	
27	Delhi	NZ	P	21	43	04		Slight
28	Delhi	ENZ	iP eS	01	43 50	33 11	950	Slight, initial ground motion South West, compression
28	Delhi	Z	iP	05	21	37		Slight, rarefaction
28	Delhi	Z	eP	03	23	10		Slight, compression
28	Delhi	NZ E	iP eP	08	54	21		Slight, initial ground motion South, compression
28	Chatra	Z	ePg iSg	09	41 41	27 45	130	Feeble
28	Bokaro	NE	iP	09	54	03		Feeble, local
28	Shillong	ZNE	eP	11	23	14		Slight, distant
28	Delhi	ENZ NZ	iPg iSg	11	37 38	57 03.5	60	Slight
28	Shillong	ZNE	iPh iSn iSg	12	58 53 58	19 41 45	200	Slight
28	Delhi	Z	iP	13	15	17		Slight, rarefaction
28	Chatra	Z	iPg iSg	13	23 23	03 11	70	Feeble, compression
28	Shillong	ZNE	iP	15	20	03		Slight, distant
28	<i>Epc 52.2°N, 174.2°E. Near Aleutian Islands. - h about 33 km Mag. 5.4 (CGS). H = 15h 13m 11s (USCGS)</i>							
	Shillong	ZNE	iP	15	23	53		Initial ground motion South West, compression
	Chatra	Z	iP	15	24	03		Compression

Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
28 cont'd.	Dehra Dun	Z	eP	15	24	22		
	Delhi	ENZ	eP	15	24	31		
28	<i>Epc 7.0°S, 129.9°E. Banda Sea. - h about 101 km. H = 19h 57m 55.7s</i>							
	Shillong	ZNE	iP	20	03	32		Slight, initial ground motion West, compression
	Chatra	Z	iP	20	07	04		Feeble, compression
28	Delhi	EZ	iP	20	03	02		Slight, rarefaction
28	Delhi	Z	iP	22	13	47		Slight, compression
			e		13	57		
28	Delhi	ENZ	i	22	37	30		
28	Delhi	Z	P	23	28	21		Feeble
29	Delhi	Z	iP	02	13	24		Slight, compression
29	Shillong	ZNE	ePg	10	57	10	110	Slight
			iSg		57	23		
29	Dehra Dun	Z	eP	14	18	55		Tremor
	Delhi	Z	eP	14	19	05		Feeble
29	<i>Epc 23.7°N, 143.2°E. Bonin Islands Region. - h about 33 km Mag. 5.2 SD, 0.2 (CGS). H = 14h 49m 26.6s (USCGS)</i>							
	Shillong	ZNE	iP	14	57	55		Compression
	Chatra	Z	iP	14	58	25		Compression
	Dehra Dun	Z	eP	14	59	19		Tremor
	Delhi	EZ	iP	14	59	25		Slight, initial ground motion East, compression
29	Delhi	Z	eP	19	26	10.5		Slight
29	Shillong	ZNE	iP	19	55	08		Slight, distant
29	Dehra Dun	Z	eP	20	26	52		Tremor
	Delhi	ENZ	iP	20	27	01		Slight, initial ground motion South East, compression
			i		28	41		
			e		34	36		
30	<i>Epc 1.6°N, 128.4°E. Halmahera Region. - h about 61 km Mag. 5.5 (CGS). H = 09h 47m 59s</i>							
	Shillong	ZNE	iP	09	55	51	4320	Initial ground motion North West, compression
			iS		10	02	08	
	Chatra	Z	iP	09	56	40		Compression
	Bokaro	E	iP	09	56	40		Compression
	Madras	E	iP	09	56	42		Initial ground motion West.
			iPP		58	38	5270	
			iS		10	03	42	
			ePPS		04	10		



Date	Station	Compt	Phase	G h	M m	T s	Δ km	Remarks
30 Cont'd.	Delhi	Z	iP	09	57	29	6090	Initial ground motion North West, compression
		EN	eP					
			eS	10	05	09		
	Dehra Dun	Z	iP	09	57	31	6120	Compression
		EN	eP					
			eS	10	05	13		
	Poona	Z	iP	09	57	33		Slight, rarefaction.
30	Dehra Dun	Z	eP	11	59	11		Tremor
	Delhi	ENZ	eP	11	59	34		Slight, rarefaction
30	Shillong	ZNE	iP	12	01	08		Slight, distant
30	Shillong	ZNE	eP	14	05	48		Slight, distant
30	Delhi	Z	eP	20	54	27		Tremor
30	<i>Epc 6.6°N, 94.2°E. Nicobar Islands. - h about 33 km Mag. 5.3 (CGS) H = 21h 40m 20.3s (USCGS)</i>							
	Port Blair	E	eP	21	42	01	660	
			PPP		42	13		
			iS		43	10		
	Madras	E	iP	21	43	53	1520	East
			PP		44	11		
			Lq		46	23		
			iS		46	28		
			SS		46	43		
			Lr		46	58		
			M		48	08		
	Shillong	ZNE	iP	21	44	39		Initial ground motion South East, rarefaction
	Bokaro	E	eP	21	44	41	2160	
			iS		48	15		
	Chatra	Z	iP	21	45	04	2420	Rarefaction
		NE	eS		49	01		
	Poona	Z	iP	21	45	26		Rarefaction
	Delhi	Z	iP	21	46	03		Rarefaction
		EN	eP					
	Dehra Dun	Z	eP	21	46	11		
30	Shillong	ZNE	iPn	22	17	14	150	Slight
			iSg		17	33		
30	Calcutta	E	eP	22	47	27		Slight

Date	Hour GMT	K	Mean Amplitude in mm	Mean Period in sec	Date	Hour GMT	K	Mean Amplitude in mm	Mean Period in sec
Station: Madras					Station: Madras				
01	00	2	0.5	7.6	07	12	3	0.3	5.4
		2	0.1	1.5			3	0.2	2.7
	03	2	0.4	7.4		18	3	0.3	5.6
		2	0.1	1.9			3	0.2	2.8
	06	2	0.4	7.3					
		2	0.1	1.8	08	00	3	0.2	5.8
	12	2	0.4	7.5			3	0.2	2.8
		2	0.1	1.8		03	3	0.3	5.7
	18	2	0.4	7.5			3	0.2	2.8
		3	0.1	1.9		03	3	0.3	5.9
02	00	2	0.5	7.6		03	3	0.3	2.9
		3	0.2	2.1		12	3	0.3	5.8
	03	2	0.5	7.5			3	0.3	2.9
		2	0.2	2.1		18	3	0.4	6.1
	06	2	0.5	7.1			3	0.2	2.9
		3	0.2	2.1					
	12	2	0.4	7.2	09	00	3	0.4	6.5
		3	0.2	2.3			3	0.2	2.8
	18	2	0.4	7.1		03	3	0.2	2.2
		3	0.2	2.2			3	0.4	6.5
03	00	2	0.4	7.1		03	3	0.2	2.2
		3	0.2	2.1		06	3	0.4	6.4
	03	2	0.4	6.7			3	0.2	2.7
		2	0.2	2.4		12	3	0.4	6.3
	06	2	0.4	6.7			3	0.3	2.9
		2	0.3	2.4		18	3	0.4	6.6
	12	2	0.4	6.6			3	0.3	2.8
		2	0.3	2.4	10	00	3	0.3	2.7
	18	2	0.4	6.3			3	0.3	2.8
		1	0.4	2.7		03	3	0.3	2.8
04	00	...	No record			03	3	0.3	2.8
	03	...	- do -			12	3	0.3	2.9
	06	1	0.5	2.7		18	...	Earthquake	
	12	1	0.5	2.6	11	00	1	0.4	3.0
	18	1	0.4	2.4		03	1	0.4	2.9
05	00	1	0.4	2.4		06	1	0.4	3.0
	03	1	0.2	2.4		12	1	0.5	3.0
	06	1	0.2	2.4		18	1	0.5	3.0
	12	1	0.2	2.2	12	00	1	0.5	3.1
	18	1	0.2	2.5		03	1	0.5	3.0
06	00	1	0.2	2.5		06	1	0.5	2.9
	03	...	Earthquake			12	1	0.5	3.0
	06	1	0.2	2.6		18	1	0.5	3.0
	12	3	0.3	6.3	13	00	...	No record	
		1	0.2	2.6		03	1	0.4	3.0
	18	3	0.3	6.0		03	1	0.4	2.9
		1	0.2	2.7		12	1	0.4	3.0
07	00	3	0.3	6.1		18	1	0.4	3.0
		3	0.2	2.7	14	00	1	0.5	3.4
	03	2	0.3	6.1		03	1	0.5	3.5
		2	0.2	2.6		06	1	0.6	3.4
	06	2	0.3	5.6		12	1	0.6	3.4
		3	0.2	2.7		18	1	0.6	3.3

Date	Hour GMT	K	Mean Amplitude in mm	Mean Period in sec	Date	Hour GMT	K	Mean Amplitude in mm	Mean Period in sec
Station: Madras					Station: Madras				
15	00	1	0.5	3.3	22	00	1	0.4	3.0
	03	1	0.5	3.1	Contd.	12	1	0.3	3.0
	06	1	0.4	3.1		18	1	0.4	3.0
		3	0.1	1.3	23	00	1	0.3	3.0
	12	1	0.4	3.0		03	1	0.3	3.0
		3	0.2	1.5		06	1	0.3	2.9
	18	1	0.5	3.0		12	1	0.3	2.9
		3	0.1	1.6		18	1	0.3	3.0
16	00	1	0.4	2.9	24	00	1	0.3	3.1
		3	0.1	1.5		03	1	0.3	2.9
	03	1	0.4	2.8		06	1	0.3	3.0
	06	1	0.4	2.9		12	1	0.3	3.0
	12	1	0.4	2.9		18	2	0.4	4.5
	18	1	0.4	2.9			1	0.3	3.0
		3	0.1	1.5	25	00	2	0.5	5.2
17	00	1	0.4	2.6			1	0.3	3.0
		3	0.1	1.7		03	2	0.4	5.3
	03	1	0.4	2.6			1	0.3	2.9
		3	0.1	1.7		06	1	0.4	3.0
	06	1	0.4	2.3		12	1	0.4	3.2
		3	0.2	1.7		18	1	0.4	3.1
	12	1	0.3	2.6	26	00	1	0.4	3.2
	18	1	0.3	2.7		03	1	0.4	3.0
18	00	1	0.3	2.8		06	1	0.4	3.0
	03	1	0.3	2.6		12	1	0.4	3.1
	06	1	0.3	2.7		18	2	0.4	4.4
	12	1	0.3	2.7			1	0.4	3.1
	18	1	0.4	2.7	27	00	2	0.3	4.2
		3	0.1	1.2			1	0.4	3.0
19	00	1	0.4	2.9		03	2	0.4	4.1
		3	0.1	1.4			1	0.4	3.0
	03	1	0.4	2.7		03	1	0.4	3.1
	06	1	0.3	2.7		12	1	0.4	3.1
	12	1	0.3	2.6		18	1	0.5	3.1
	18	1	0.3	2.3	28	00	1	0.6	3.1
20	00	1	0.3	2.7		03	1	0.6	3.0
		3	0.3	2.3		06	1	0.6	3.1
	03	1	0.3	2.7		12	1	0.6	3.2
	06	1	0.2	2.7		18	1	0.6	3.2
	12	1	0.2	2.7	29	00	1	0.5	3.0
	18	1	0.2	2.7		03	1	0.5	3.1
21	00	1	0.3	2.8		06	1	0.5	3.0
		3	0.3	2.7		12	1	0.4	3.0
	03	1	0.3	2.7		18	1	0.4	2.9
	06	1	0.3	2.7	30	00	1	0.4	2.9
	12	1	0.3	2.8		03	1	0.5	3.1
	18	1	0.3	2.8		06	1	0.4	3.0
		3	0.1	1.4		12	1	0.5	3.0
	03	1	0.1	1.4		18	1	0.6	3.0
	06	1	0.2	1.6	22	00	1	0.5	3.0
	12	1	0.4	2.9			3	0.1	1.6
	18	1	0.2	1.6			1	0.5	3.0
22	00	1	0.5	3.0					
		3	0.1	1.6					
	03	1	0.5	3.0					



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| Date                         | Hour GMT | K   | Mean Amplitude in mm | Mean Period in sec | Date                         | Hour GMT | K   | Mean Amplitude in mm | Mean Period in sec |
|------------------------------|----------|-----|----------------------|--------------------|------------------------------|----------|-----|----------------------|--------------------|
| Station: Shillong Compt. E-W |          |     |                      |                    | Station: Shillong Compt. E-W |          |     |                      |                    |
| 01                           | 00       |     |                      |                    | 17                           | 12       | 3   | 0.4                  | 4.0                |
| to                           | to       | 0,0 | -                    | -                  | contd.                       | 18       | 3   | 0.3                  | 4.0                |
| 03                           | 18       |     |                      |                    | 18                           | 00 to    | 3   | 0.4                  | 4.0                |
| 04                           | 00       | 0,0 | -                    | -                  | 12                           | 18       | 3   | 0.3                  | 4.0                |
| 06 to                        | 06 to    | ... | -                    | -                  | 19                           | 00 to    | 3   | 0.3                  | 4.0                |
| 18                           | 18       |     |                      |                    | 12                           | 18       | 3   | 0.2                  | 4.0                |
| 05                           | 00       | ... | -                    | -                  | 19                           | 00 to    | 3   | 0.3                  | 4.0                |
| 03 to                        | 03 to    | 0,0 | -                    | -                  | 12                           | 18       | 3   | 0.2                  | 4.0                |
| 18                           | 18       |     |                      |                    | 20                           | 00       | 3   | 0.4                  | 4.0                |
| 06                           | 00       |     |                      |                    | 06                           | ...      |     |                      |                    |
| to                           | to       | 0,0 | -                    | -                  | 12                           | ...      |     |                      |                    |
| 07                           | 18       |     |                      |                    | 18                           | 3        | 0.4 | 4.0                  | 4.0                |
| 08                           | 00 to    | 0,0 | -                    | -                  | 21                           | 00       | 3   | 0.4                  | 4.0                |
| 12                           | 18       | 3   | 0.3                  | 4.0                | 06 to                        | 3        | 0.3 | 4.0                  | 4.0                |
| 09                           | 00       | 3   | 0.3                  | 4.0                | 18                           | 3        | 0.3 | 4.0                  | 4.0                |
| 06                           | 3        | 0.4 | 4.0                  | 4.0                | 22                           | 00       | 3   | 0.3                  | 4.0                |
| 12                           | 3        | 0.3 | 4.0                  | 4.0                | 06                           | 3        | 0.4 | 4.2                  | 4.2                |
| 18                           | 3        | 0.3 | 4.0                  | 4.0                | 12                           | 3        | 0.3 | 4.0                  | 4.0                |
| 10                           | 00       | 0,0 | -                    | -                  | 18                           | 3        | 0.3 | 4.0                  | 4.0                |
| 03                           | 0,0      | -   | -                    | -                  | 23                           | 00       | 3   | 0.3                  | 4.0                |
| 12                           | 3        | 0.3 | 4.0                  | 4.0                | 06                           | 3        | 0.3 | 4.0                  | 4.0                |
| 18                           | 0,0      | -   | -                    | -                  | 12                           | 0,0      | -   | -                    | -                  |
| 11                           | 00       | 3   | 0.3                  | 4.0                | 18                           | 0,0      | -   | -                    | -                  |
| 03                           | 3        | 0.3 | 4.0                  | 4.0                | 24                           | 00       | 3   | 0.2                  | 4.0                |
| 12                           | 3        | 0.4 | 4.0                  | 4.0                | 06 to                        | 3        | 0.2 | 4.0                  | 4.0                |
| 18                           | 3        | 0.4 | 4.0                  | 4.0                | 18                           | 0,0      | -   | -                    | -                  |
| 12                           | 00 to    | 3   | 0.4                  | 4.0                | 25                           | 00       | 3   | 0.3                  | 4.0                |
| 18                           | 3        | 0.4 | 4.0                  | 4.0                | 03                           | 3        | 0.3 | 4.0                  | 4.0                |
| 13                           | 00       | 3   | 0.4                  | 4.0                | 12                           | 3        | 0.3 | 4.0                  | 4.0                |
| 03                           | 3        | 0.3 | 4.0                  | 4.0                | 18                           | 3        | 0.2 | 4.0                  | 4.0                |
| 12                           | 0,0      | -   | -                    | -                  | 26                           | 00       | 3   | 0.3                  | 4.0                |
| 18                           | 3        | 0.3 | 4.0                  | 4.0                | 06 to                        | 3        | 0.3 | 4.0                  | 4.0                |
| 14                           | 00       | 3   | 0.3                  | 4.0                | 18                           | 3        | 0.4 | 4.0                  | 4.0                |
| 03                           | 0,0      | -   | -                    | -                  | 27                           | 00       | 3   | 0.4                  | 4.0                |
| 12                           | 0,0      | -   | -                    | -                  | 06 to                        | 3        | 0.4 | 4.0                  | 4.0                |
| 18                           | 3        | 0.3 | 4.0                  | 4.0                | 18                           | 3        | 0.3 | 4.0                  | 4.0                |
| 15                           | 00       | 0,0 | -                    | -                  | 28                           | 00       | 3   | 0.3                  | 4.0                |
| 03                           | 0,0      | -   | -                    | -                  | 06                           | 3        | 0.3 | 4.0                  | 4.0                |
| 12                           | ...      | -   | -                    | -                  | 12                           | 3        | 0.3 | 4.0                  | 4.0                |
| 18                           | ...      | -   | -                    | -                  | 18                           | 3        | 0.4 | 4.0                  | 4.0                |
| 16                           | 00       | ... | -                    | -                  | 29                           | 00 to    | 3   | 0.3                  | 4.0                |
| 03                           | 3        | 0.4 | 4.0                  | 4.0                | 18                           | 3        | 0.3 | 4.0                  | 4.0                |
| 12                           | 3        | 0.4 | 4.5                  | 4.5                | 30                           | 00       | 3   | 0.3                  | 4.0                |
| 18                           | 3        | 0.4 | 4.0                  | 4.0                | 03                           | 3        | 0.3 | 4.0                  | 4.0                |
| 17                           | 00       | 3   | 0.4                  | 4.0                |                              |          |     |                      |                    |
| 03                           | 3        | 0.4 | 4.5                  | 4.5                |                              |          |     |                      |                    |



| Date                         | Hour GMT | K   | Mean Amplitude in mm | Mean Period in sec | Date            | Hour GMT | K   | Mean Amplitude in mm | Mean Period in sec |
|------------------------------|----------|-----|----------------------|--------------------|-----------------|----------|-----|----------------------|--------------------|
| Station: Shillong Compt. E-W |          |     |                      |                    | Station: Bokaro |          |     |                      |                    |
| 30                           | 12       | 3   | 0.2                  | 4.0                | 13              | 00       | 3   | 0.1                  | 4.3                |
| contd.                       | 18       | 3   | 0.2                  | 4.0                | 03              | 3        | 0.2 | 4.2                  | 4.2                |
|                              |          |     |                      |                    | 12              | 3        | 0.2 | 4.8                  | 4.8                |
|                              |          |     |                      |                    | 18              | 3        | 0.2 | 4.9                  | 4.9                |
| Station: Bokaro              |          |     |                      |                    | Station: Bokaro |          |     |                      |                    |
| 01                           | 00       | 3   | 0.2                  | 4.4                | 14              | 00       | 3   | 0.2                  | 4.6                |
| 03                           | 3        | 0.3 | 5.8                  | 5.8                | 06              | 3        | 0.2 | 4.6                  | 4.6                |
| 12                           | 3        | 0.2 | 5.8                  | 5.8                | 12              | 3        | 0.1 | 3.7                  | 3.7                |
| 18                           | 3        | 0.2 | 5.6                  | 5.6                | 18              | 3        | 0.1 | 4.4                  | 4.4                |
| 02                           | 00       | 3   | 0.2                  | 5.2                | 15              | 00       | 3   | 0.2                  | 4.4                |
| 03                           | 3        | 0.2 | 4.4                  | 4.4                | 03              | 3        | 0.1 | 4.2                  | 4.2                |
| 12                           | 3        | 0.1 | 5.0                  | 5.0                | 12              | 3        | 0.2 | 4.4                  | 4.4                |
| 18                           | 3        | 0.2 | 5.6                  | 5.6                | 18              | 3        | 0.2 | 5.0                  | 5.0                |
| 03                           | 00       | 3   | 0.1                  | 5.8                | 16              | 00       | 3   | 0.1                  | 4.4                |
| 03                           | 3        | 0.2 | 5.8                  | 5.8                | 03              | 3        | 0.3 | 6.0                  | 6.0                |
| 12                           | 3        | 0.1 | 5.9                  | 5.9                | 12              | 3        | 0.4 | 6.5                  | 6.5                |
| 18                           | 3        | 0.1 | 5.2                  | 5.2                | 18              | 3        | 0.4 | 6.1                  | 6.1                |
| 04                           | 00       | 3   | 0.2                  | 5.6                | 17              | 00       | 3   | 0.3                  | 6.2                |
| 03                           | 3        | 0.2 | 6.0                  | 6.0                | 03 to           |          |     |                      |                    |
| 12                           | 3        | 0.2 | 5.3                  | 5.3                | 18              | ...      | -   | -                    | -                  |
| 18                           | 3        | 0.2 | 5.4                  | 5.4                | 18              | ...      | -   | -                    | -                  |
| 05                           | 00       | 3   | 0.2                  | 5.8                | 18              | 00       | ... | -                    | -                  |
| 03                           | 3        | 0.2 | 5.0                  | 5.0                | 03              | 3        | 0.3 | 6.4                  | 6.4                |
| 12                           | 3        | 0.2 | 5.8                  | 5.8                | 12              | 3        | 0.2 | 5.6                  | 5.6                |
| 18                           | 3        | 0.1 | 4.8                  | 4.8                | 18              | 3        | 0.2 | 6.0                  | 6.0                |
| 06                           | 00       | 3   | 0.2                  | 5.2                | 19              | 00       | 3   | 0.3                  | 5.6                |
| 03                           | 3        | 0.2 | 4.7                  | 4.7                | 03              | 3        | 0.2 | 5.2                  | 5.2                |
| 12                           | 3        | 0.1 | 6.0                  | 6.0                | 12              | 3        | 0.2 | 6.0                  | 6.0                |
| 18                           | 3        | 0.2 | 5.6                  | 5.6                | 18              | 3        | 0.2 | 5.8                  | 5.8                |
| 07                           | 00       | 3   | 0.2                  | 5.4                | 20              | 00       | 3   | 0.2                  | 5.0                |
| 03 to                        |          |     |                      |                    | 03              | 3        | 0.3 | 5.0                  | 5.0                |
| 18                           | ...      | -   | -                    | -                  | 12              | 3        | 0.2 | 4.8                  | 4.8                |
| 08                           | 00       | ... | -                    | -                  | 18              | 3        | 0.3 | 5.0                  | 5.0                |
| 03                           | 3        | 0.2 | 5.0                  | 5.0                | 21              | 00       | 3   | 0.3                  | 4.9                |
| 12                           | 3        | 0.2 | 5.0                  | 5.0                | 03              | 3        | 0.3 | 5.0                  | 5.0                |
| 18                           | 3        | 0.2 | 5.9                  | 5.9                | 12              | 3        | 0.3 | 5.3                  | 5.3                |
| 09                           | 00       | 3   | 0.1                  | 4.8                | 18              | 3        | 0.3 | 5.2                  | 5.2                |
| 03                           | 3        | 0.2 | 4.7                  | 4.7                | 22              | 00       | 3   | 0.3                  | 4.4                |
| 12                           | 3        | 0.2 | 4.7                  | 4.7                | 03              | 3        | 0.4 | 5.8                  | 5.8                |
| 18                           | 3        | 0.2 | 5.4                  | 5.4                | 12              | 3        | 0.2 | 4.6                  | 4.6                |
| 10                           | 00       | 3   | 0.1                  | 4.7                | 18              | 3        | 0.2 | 4.8                  | 4.8                |
| 03                           | 3        | 0.2 | 4.9                  | 4.9                | 23              | 00       | 3   | 0.2                  | 5.0                |
| 12                           | 3        | 0.2 | 5.2                  | 5.2                | 03              | 3        | 0.3 | 5.0                  | 5.0                |
| 18                           | ...      | -   | -                    | -                  | 12              | 3        | 0.2 | 5.0                  | 5.0                |
| 11                           | 00       | 3   | 0.2                  | 4.9                | 18              | 3        | 0.2 | 4.6                  | 4.6                |
| 03                           | 3        | 0.2 | 5.2                  | 5.2                | 24              | 00       | 3   | 0.2                  | 4.3                |
| 12                           | 3        | 0.2 | 5.2                  | 5.2                | 03              | 3        | 0.2 | 4.0                  | 4.0                |
| 18                           | 3        | 0.2 | 5.0                  | 5.0                | 12              | 3        | 0.2 | 4.7                  | 4.7                |
| 12                           | 00       | 3   | 0.2                  | 4.8                | 18              | 3        | 0.3 | 4.6                  | 4.6                |
| 03                           | 3        | 0.2 | 4.9                  | 4.9                |                 |          |     |                      |                    |
| 12                           | 3        | 0.2 | 4.9                  | 4.9                |                 |          |     |                      |                    |
| 18                           | 3        | 0.2 | 4.7                  | 4.7                |                 |          |     |                      |                    |

| Date                   | Hour GMT                        | K     | Mean Amplitude in mm | Mean Period in sec | Date                   | Hour GMT | K   | Mean Amplitude in mm | Mean Period in sec |
|------------------------|---------------------------------|-------|----------------------|--------------------|------------------------|----------|-----|----------------------|--------------------|
| Station: Bokaro        |                                 |       |                      |                    | Station: Visakhapatnam |          |     |                      |                    |
| 25                     | 00                              | 3     | 0.3                  | 5.0                | 06                     | 00       | 2   | 0.3                  | 3.0                |
|                        | 03                              | 3     | 0.3                  | 4.6                |                        | 03       | 2   | 0.5                  | 4.0                |
|                        | 12                              | 3     | 0.2                  | 3.8                |                        | 12       | 2   | 0.5                  | 4.9                |
|                        | 18                              | 3     | 0.2                  | 3.8                |                        | 18       | 2   | 0.4                  | 3.7                |
| 26                     | 00                              | 3     | 0.3                  | 4.5                | 07                     | 00       | 0,0 | 0.5                  | 4.3                |
|                        | 03                              | 3     | 0.3                  | 4.4                |                        | 03       | 2   | 0.4                  | 4.3                |
|                        | 12                              | 3     | 0.2                  | 4.3                |                        | 12       | 2   | 0.2                  | 3.2                |
|                        | 18                              | 3     | 0.2                  | 4.5                | 08                     | 00       | 0,0 | -                    | -                  |
| 27                     | 00                              | 3     | 0.2                  | 4.6                |                        | 03       | 2   | 0.5                  | 4.4                |
|                        | 03                              | 3     | 0.3                  | 4.5                |                        | 12       | 2   | 0.3                  | 4.0                |
|                        | 12                              | 3     | 0.2                  | 4.8                |                        | 18       | 0,0 | -                    | -                  |
|                        | 18                              | 3     | 0.3                  | 4.9                | 09                     | 00       | 0,0 | -                    | -                  |
| 28                     | 00                              | 3     | 0.3                  | 4.6                |                        | 03       | 2   | 0.2                  | 2.2                |
|                        | 03                              | 3     | 0.2                  | 3.4                |                        | 12       | 2   | 0.2                  | 2.4                |
|                        | 12                              | 3     | 0.3                  | 4.0                |                        | 18       | 2   | 0.2                  | 2.3                |
|                        | 18                              | 3     | 0.2                  | 3.7                | 10                     | 00       | 2   | 0.3                  | 3.2                |
| 29                     | 00                              | 3     | 0.2                  | 4.5                |                        | 03       | 2   | 0.2                  | 2.0                |
|                        | 03                              | 3     | 0.3                  | 4.7                |                        | 12       | 2   | 0.2                  | 1.8                |
|                        | 12                              | 3     | 0.2                  | 5.3                |                        | 18       | B   | -                    | -                  |
|                        | 18                              | 3     | 0.3                  | 4.8                | 11                     | 00       | 2   | 0.2                  | 2.0                |
| 30                     | 00                              | 3     | 0.2                  | 4.3                |                        | 03       | 2   | 0.2                  | 2.2                |
|                        | 03                              | 3     | 0.2                  | 4.6                |                        | 12       | 2   | 0.2                  | 2.4                |
|                        | 12                              | 3     | 0.2                  | 4.8                |                        | 18       | 2   | 0.2                  | 2.3                |
|                        | 18                              | 3     | 0.2                  | 5.1                | 12                     | 00       | C   | -                    | -                  |
| Station: Visakhapatnam |                                 |       |                      |                    |                        | 03       | to  | -                    | -                  |
| 01                     | 00                              | 2     | 0.4                  | 4.5                |                        | 18       | D   | -                    | -                  |
|                        | 03                              | 2     | 0.5                  | 4.3                | 13                     | 00       | D   | -                    | -                  |
|                        | 12                              | 2     | 0.4                  | 4.3                |                        | 03       | 1   | 0.5                  | 2.2                |
|                        | 18                              | 2     | 0.4                  | 3.9                |                        | 12       | 1   | 0.4                  | 3.4                |
| 02                     | 00                              | A 0,0 | -                    | -                  |                        | 18       | 1   | 0.4                  | 3.0                |
|                        | 03                              | 2     | 0.4                  | 3.3                | 14                     | 00       | 1   | 0.2                  | 3.0                |
|                        | 12                              | 2     | 0.5                  | 4.2                |                        | 03       | 1   | 0.2                  | 2.9                |
|                        | 18                              | 2     | 0.4                  | 3.2                |                        | 12       | 1   | 0.2                  | 2.5                |
| 03                     | 00                              | 2     | 0.2                  | 2.5                |                        | 18       | 1   | 0.2                  | 2.3                |
|                        | 03                              | 2     | 0.4                  | 3.2                | 15                     | 00       | 1   | 0.2                  | 2.3                |
|                        | 12                              | 2     | 0.5                  | 4.3                |                        | 03       | 1   | 0.4                  | 3.0                |
|                        | 18                              | 2     | 0.4                  | 3.3                |                        | 12       | 1   | 0.4                  | 2.3                |
| 04                     | 00                              | 2     | 0.2                  | 2.4                |                        | 18       | 1   | 0.5                  | 2.7                |
|                        | 03                              | 2     | 0.4                  | 3.3                | 16                     | 00       | 1   | 0.4                  | 2.5                |
|                        | 12                              | 2     | 0.5                  | 4.2                |                        | 03       | 2   | 0.3                  | 2.5                |
|                        | 18                              | 2     | 0.4                  | 3.2                |                        | 12       | 2   | 0.2                  | 2.5                |
| 05                     | 00                              | 0,0   | -                    | -                  |                        | 18       | 2   | 0.2                  | 2.7                |
|                        | 03                              | 2     | 0.4                  | 4.4                | 17                     | 00       | 0,0 | -                    | -                  |
|                        | 12                              | 2     | 0.5                  | 4.1                |                        | 03       | 2   | 0.3                  | -                  |
|                        | 18                              | 2     | 0.4                  | 3.5                |                        | 12       | 2   | 0.3                  | 4.0                |
| A                      | Microseisms very feeble         |       |                      |                    |                        | 18       | 2   | 0.2                  | 4.0                |
| B                      | Earthquake in progress          |       |                      |                    |                        | 18       | 2   | 0.3                  | 3.3                |
| C                      | No record due to fusing of bulb |       |                      |                    | 18                     | 00       | 0,0 | -                    | -                  |
| D                      | No time-mark. Relay defective.  |       |                      |                    |                        | 03       | 2   | 0.2                  | 2.5                |
|                        |                                 |       |                      |                    |                        | 12       | 2   | 0.2                  | 2.5                |
|                        |                                 |       |                      |                    |                        | 18       | 2   | 0.2                  | 2.5                |

| Date                   | Hour GMT | K | Mean Amplitude in mm | Mean Period in sec | Date                     | Hour GMT | K | Mean Amplitude in mm | Mean Period in sec |
|------------------------|----------|---|----------------------|--------------------|--------------------------|----------|---|----------------------|--------------------|
| Station: Visakhapatnam |          |   |                      |                    | Station: Bombay (Colaba) |          |   |                      |                    |
| 19                     | 00       | 2 | 0.2                  | 3.5                | 01                       | 00       | . | .                    | .                  |
|                        | 03       | 2 | 0.2                  | 2.5                |                          | 03       | 3 | 0.4                  | 7.8                |
|                        | 12       | 2 | 0.2                  | 2.5                |                          | 12       | 3 | 0.3                  | 1.9                |
|                        | 18       | 2 | 0.2                  | 2.5                |                          | 18       | 3 | 0.5                  | 8.0                |
| 20                     | 00       | 2 | 0.2                  | 2.5                |                          | 03       | 3 | 0.5                  | 1.7                |
|                        | 03       | 2 | 0.2                  | 2.5                |                          | 12       | 3 | 0.5                  | 7.6                |
|                        | 12       | 2 | 0.2                  | 2.5                |                          | 18       | 3 | 0.3                  | 1.9                |
|                        | 18       | 2 | 0.3                  | 2.5                | 02                       | 00       | 3 | 0.6                  | 7.7                |
| 21                     | 00       | 2 | 0.2                  | 2.5                |                          | 03       | 3 | 0.3                  | 1.9                |
|                        | 03       | 2 | 0.2                  | 2.5                |                          | 12       | 3 | 0.5                  | 7.9                |
|                        | 12       | 2 | 0.2                  | 2.5                |                          | 18       | 3 | 0.3                  | 2.0                |
|                        | 18       | 2 | 0.3                  | 2.5                |                          | 03       | 3 | 0.5                  | 7.5                |
| 22                     | 00       | 2 | 0.2                  | 3.0                |                          | 12       | 3 | 0.4                  | 1.5                |
|                        | 03       | 2 | 0.2                  | 3.0                |                          | 18       | 3 | 0.6                  | 7.5                |
|                        | 12       | 2 | 0.3                  | 2.8                |                          | 03       | 3 | 0.4                  | 1.4                |
|                        | 18       | 2 | 0.3                  | 3.0                | 03                       | 00       | 3 | 0.5                  | 7.0                |
| 23                     | 00       | 2 | 0.2                  | 3.0                |                          | 03       | 3 | 0.6                  | 6.5                |
|                        | 03       | 2 | 0.2                  | 3.0                |                          | 12       | 3 | 0.4                  | 2.0                |
|                        | 12       | 2 | 0.3                  | 2.8                |                          | 18       | 3 | 0.5                  | 6.5                |
|                        | 18       | 2 | 0.3                  | 3.0                |                          | 03       | 3 | 0.3                  | 1.3                |
| 24                     | 00       | 2 | 0.3                  | 3.0                |                          | 12       | 3 | 0.5                  | 6.1                |
|                        | 03       | 2 | 0.3                  | 3.9                |                          | 18       | 3 | 0.3                  | 1.5                |
|                        | 12       | 2 | 0.3                  | 4.2                | 04                       | 00       | 3 | 0.5                  | 6.2                |
|                        | 18       | 2 | 0.3                  | 3.6                |                          | 03       | 3 | 0.4                  | 2.0                |
| 25                     | 00       | 2 | 0.4                  | 4.4                |                          | 12       | 3 | 0.5                  | 6.4                |
|                        | 03       | 2 | 0.3                  | 3.2                |                          | 18       | 3 | 0.3                  | 1.5                |
|                        | 12       | 2 | 0.3                  | 3.3                |                          | 03       | 3 | 0.4                  | 6.1                |
|                        | 18       | 2 | 0.3                  | 3.4                |                          | 12       | 3 | 0.5                  | 1.5                |
| 26                     | 00       | 2 | 0.3                  | 3.2                |                          | 18       | 3 | 0.5                  | 5.7                |
|                        | 03       | 2 | 0.2                  | 3.2                | 05                       | 00       | 3 | 0.5                  | 1.9                |
|                        | 12       | 2 | 0.3                  | 3.3                |                          | 03       | . | .                    | .                  |
|                        | 18       | 2 | 0.3                  | 2.9                |                          | 12       | 3 | 0.5                  | 5.6                |
| 27                     | 00       | 2 | 0.3                  | 4.3                |                          | 18       | 3 | 0.5                  | 2.0                |
|                        | 03       | 2 | 0.5                  | 4.1                |                          | 03       | 3 | 0.5                  | 5.0                |
|                        | 12       | 2 | 0.3                  | 3.2                |                          | 12       | 3 | 0.5                  | 1.5                |
|                        | 18       | 2 | 0.4                  | 4.1                | 06                       | 00       | 3 | 0.6                  | 5.0                |
| 28                     | 00       | 2 | 0.2                  | 2.7                |                          | 03       | 3 | 0.5                  | 2.0                |
|                        | 03       | 2 | 0.3                  | 3.3                |                          | 12       | 3 | 0.5                  | 4.3                |
|                        | 12       | 2 | 0.3                  | 3.2                |                          | 18       | 3 | 0.5                  | 1.3                |
|                        | 18       | 2 | 0.2                  | 2.7                |                          | 03       | 3 | 0.5                  | 5.2                |
| 29                     | 00       | 2 | 0.2                  | 3.1                |                          | 12       | 3 | 0.6                  | 2.0                |
|                        | 03       | 2 | 0.2                  | 3.0                |                          | 18       | 3 | 0.5                  | 1.5                |
|                        | 12       | 2 | 0.2                  | 2.9                | 07                       | 00       | 3 | 0.6                  | 4.8                |
|                        | 18       | 2 | 0.2                  | 2.7                |                          | 03       | . | .                    | .                  |
| 30                     | 00       | 2 | 0.2                  | 2.5                |                          | 12       | 3 | 0.4                  | 3.0                |
|                        | 03       | 2 | 0.3                  | 4.1                |                          | 18       | 3 | 0.5                  | 6.0                |
|                        | 12       | 2 | 0.3                  | 2.5                |                          | 03       | 3 | 0.5                  | 3.0                |
|                        | 18       | 2 | 0.3                  | 2.7                |                          | 12       | 3 | 0.5                  | 5.0                |



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| Date                     | Hour GMT | K | Mean Amplitude in mm | Mean Period in sec | Date                     | Hour GMT | K   | Mean Amplitude in mm | Mean Period in sec |
|--------------------------|----------|---|----------------------|--------------------|--------------------------|----------|-----|----------------------|--------------------|
| Station: Bombay (Colaba) |          |   |                      |                    | Station: Bombay (Colaba) |          |     |                      |                    |
| 08                       | 00       | 3 | 0.6                  | 5.0                | 15                       | 12       | 3   | 0.2                  | 1.3                |
|                          |          |   | 0.5                  | 2.9                | Contd.                   |          |     | 0.4                  | 4.0                |
|                          | 06       | 3 | 0.4                  | 3.0                |                          | 18       | 3   | 0.3                  | 1.8                |
|                          |          |   | 0.5                  | 4.8                |                          |          |     | 0.4                  | 3.5                |
|                          | 12       | 3 | 0.3                  | 1.4                | 16                       | 00       | 3   | 0.4                  | 1.9                |
|                          |          |   | 0.4                  | 3.5                |                          |          |     | 0.5                  | 3.0                |
|                          | 18       | 3 | 0.5                  | 6.7                | 06                       | 06       | 3   | 0.3                  | 2.1                |
|                          |          |   | 0.4                  | 1.9                |                          |          |     | 0.3                  | 6.9                |
| 09                       | 00       | 3 | 0.4                  | 1.9                | 12                       | 3        | 0.3 | 1.8                  |                    |
|                          |          |   | 0.5                  | 6.5                |                          |          |     | 0.4                  | 6.0                |
|                          | 06       | 3 | 0.3                  | 1.5                | 18                       | 3        | 0.5 | 6.8                  |                    |
|                          |          |   | 0.6                  | 6.8                |                          |          |     | 0.3                  | 1.6                |
|                          | 12       | 3 | 0.4                  | 3.0                | 17                       | 00       | .   | .                    | .                  |
|                          |          |   | 0.3                  | 1.4                | 06                       | 06       | 3   | 0.4                  | 5.9                |
|                          | 18       | 3 | 0.4                  | 2.0                |                          |          |     | 0.3                  | 2.5                |
|                          |          |   | 0.5                  | 6.5                |                          |          |     | 0.2                  | 1.4                |
| 10                       | 00       | . | .                    | .                  | 12                       | 3        | 0.2 | 1.5                  |                    |
|                          |          |   | 0.3                  | 1.5                |                          |          |     | 0.6                  | 5.6                |
|                          | 06       | 3 | 0.5                  | 4.8                | 18                       | 3        | 0.3 | 1.7                  |                    |
|                          |          |   | 0.5                  | 3.0                |                          |          |     | 0.5                  | 6.3                |
|                          | 12       | 3 | 0.6                  | 4.0                | 18                       | 00       | 3   | 0.5                  | 5.8                |
|                          |          |   | 0.3                  | 1.3                |                          |          |     | 0.3                  | 2.0                |
|                          | 18       | . | .                    | .                  | 06                       | 06       | 3   | 0.3                  | 2.0                |
| 11                       | 00       | 3 | 0.5                  | 3.0                | 12                       | 3        | 0.4 | 6.0                  |                    |
|                          |          |   | 0.3                  | 1.4                |                          |          |     | 0.4                  | 2.1                |
|                          |          |   | 0.5                  | 4.0                | 18                       | 3        | 0.5 | 2.7                  |                    |
|                          | 06 to    |   | .                    | .                  |                          |          |     | 0.5                  | 6.0                |
|                          | 18       | . | .                    | .                  | 19                       | 00       | 3   | 0.5                  | 6.0                |
| 12                       | 00       | . | .                    | .                  |                          |          |     | 0.4                  | 2.7                |
|                          |          |   | 0.2                  | 1.4                | 06                       | 3        | 0.4 | 5.7                  |                    |
|                          | 06       | 3 | 0.5                  | 3.7                |                          |          |     | 0.2                  | 1.9                |
|                          |          |   | 0.4                  | 3.6                |                          |          |     | 0.3                  | 3.0                |
|                          | 12       | 3 | 0.4                  | 5.4                | 12                       | .        | .   | .                    | .                  |
|                          |          |   | 0.5                  | 1.7                | 18                       | 3        | 0.4 | 5.7                  |                    |
|                          | 18       | 3 | 0.5                  | 3.8                |                          |          |     | 0.2                  | 1.8                |
|                          |          |   | 0.5                  | 3.8                | 20                       | 00       | 3   | 0.3                  | 2.2                |
| 13                       | 00       | . | .                    | .                  |                          |          |     | 0.5                  | 5.0                |
|                          |          |   | 0.4                  | 3.5                | 06                       | 3        | 0.4 | 5.4                  |                    |
|                          | 06       | 3 | 0.3                  | 5.6                |                          |          |     | 0.3                  | 5.4                |
|                          |          |   | 0.3                  | 1.5                | 12                       | 3        | 0.4 | 2.7                  |                    |
|                          | 12       | 3 | 0.4                  | 3.2                |                          |          |     | 0.4                  | 5.0                |
|                          |          |   | 0.4                  | 3.2                | 18                       | 3        | 0.4 | 2.9                  |                    |
| 14                       | 00       | 3 | 0.5                  | 3.3                |                          |          |     | 0.2                  | 1.4                |
|                          |          |   | 0.2                  | 1.4                |                          |          |     | 0.4                  | 4.9                |
|                          | 06       | 3 | 0.4                  | 3.4                | 21                       | 00       | 3   | 0.2                  | 1.5                |
|                          |          |   | 0.2                  | 1.8                |                          |          |     | 0.5                  | 5.2                |
|                          | 12       | 3 | 0.4                  | 3.2                |                          |          |     | 0.4                  | 3.0                |
|                          |          |   | 0.3                  | 4.9                | 06                       | 3        | 0.7 | 2.0                  |                    |
|                          | 18       | 3 | 0.2                  | 1.3                |                          |          |     | 0.4                  | 5.0                |
|                          |          |   | 0.5                  | 3.0                | 12                       | 3        | 0.5 | 1.9                  |                    |
| 15                       | 00       | 3 | 0.3                  | 1.8                |                          |          |     | 0.5                  | 5.7                |
|                          |          |   | 0.5                  | 3.5                | 18                       | 3        | 0.4 | 5.7                  |                    |
|                          | 06       | 3 | 0.3                  | 3.3                |                          |          |     | 1.0                  | 2.9                |
|                          |          |   | 0.3                  | 2.0                | 22                       | 00       | 3   | 0.9                  | 1.5                |
|                          |          |   | 0.3                  | 2.0                |                          |          |     | 1.0                  | 2.9                |
|                          |          |   | 0.3                  | 2.0                |                          |          |     | 0.7                  | 1.4                |

Groups



International Seismological Centre

| Date                     | Hour GMT | K | Mean Amplitude in mm | Mean Period in sec | Date                            | Hour GMT | K   | Mean Amplitude | Mean Period in sec |
|--------------------------|----------|---|----------------------|--------------------|---------------------------------|----------|-----|----------------|--------------------|
| Station: Bombay (Colaba) |          |   |                      |                    | Station: Bombay (Colaba)        |          |     |                |                    |
| 22                       | 03       | 1 | 0.8                  | 3.0                | 29                              | 18       | 3   | 0.5            | 5.9                |
| contd.                   | 06       | 1 | 0.8                  | 3.0                | Contd.                          | 21       | 1   | 0.3            | 2.9                |
|                          | 09       | 1 | 0.6                  | 3.0                | 30                              | 00       | 1   | 0.3            | 2.9                |
|                          | 12       | 1 | 0.6                  | 3.0                |                                 | 06       | 3   | 0.7            | 3.0                |
|                          | 15       | . | .                    | .                  |                                 |          |     | 0.3            | 2.0                |
|                          | 18       | 1 | 0.6                  | 3.0                |                                 | 12       | 3   | 1.4            | 3.0                |
|                          | 21       | 1 | 0.6                  | 2.8                |                                 |          |     | 0.9            | 1.6                |
| 23                       | 00       | 1 | 0.6                  | 3.0                |                                 | 18       | 3   | 1.4            | 3.0                |
|                          | 03       | 1 | 0.6                  | 2.9                |                                 |          |     | 0.8            | 2.0                |
|                          | 06       | 1 | 0.6                  | 2.9                | Station: Port Blair Compt. E-W. |          |     |                |                    |
|                          | 09       | . | .                    | .                  | 01                              | 00 to    |     |                |                    |
|                          | 12       | 3 | 0.6                  | 2.5                |                                 | 12       | 1   | 1.6            | 7                  |
|                          |          |   | 0.5                  | 5.0                |                                 | 18       | 1   | 2.0            | 7                  |
|                          | 18       | 3 | 0.3                  | 3.0                | 02                              | 00       | 1   | 2.0            | 7                  |
|                          |          |   | 0.5                  | 5.0                |                                 | 06 to    |     |                |                    |
| 24                       | 00       | 1 | 0.6                  | 3.0                |                                 | 18       | 1   | 1.2            | 7                  |
|                          | 06 to    |   | .                    | .                  | 03                              | 00       | 1   | 1.2            | 7                  |
|                          | 18       | . | .                    | .                  |                                 | 06       | .   | .              | .                  |
| 25                       | 00 to    |   | .                    | .                  |                                 | 12       | 1   | 1.2            | 7                  |
|                          | 12       | . | .                    | .                  |                                 | 18       | 1   | 1.2            | 7                  |
|                          | 15       | 1 | 2.0                  | 3.1                | 04                              | 00 to    |     |                |                    |
|                          | 18       | 1 | 1.9                  | 3.1                |                                 | 18       | 1   | 0.8            | 7                  |
|                          | 21       | 1 | 1.4                  | 3.0                | 05                              | 00 to    |     |                |                    |
| 26                       | 00       | . | .                    | .                  |                                 | 12       | 1   | 0.8            | 7                  |
|                          | 06       | 1 | 1.1                  | 3.0                |                                 | 18       | 3   | 0.4            | 3                  |
|                          | 09       | 1 | 0.9                  | 2.9                |                                 |          |     | 0.4            | 7                  |
|                          | 12       | 3 | 0.4                  | 2.0                | 06                              | 00       | 3   | 0.4            | 3                  |
|                          |          |   | 0.5                  | 4.7                |                                 |          |     | 0.4            | 7                  |
|                          | 18       | 3 | 0.5                  | 2.8                | 07                              | 00       | 3   | 0.2            | 7                  |
|                          |          |   | 0.6                  | 3.6                |                                 | 06 to    |     |                |                    |
| 27                       | 00       | . | .                    | .                  |                                 | 18       | 3   | 0.2            | 7                  |
|                          | 06       | 3 | 0.5                  | 2.9                | 08                              | 00 to    |     |                |                    |
|                          |          |   | 0.6                  | 4.9                |                                 | 12       | 0,0 | .              | .                  |
|                          | 12       | 3 | 0.5                  | 2.9                |                                 | 18       | 3   | 0.4            | 7                  |
|                          |          |   | 0.5                  | 4.7                | 09                              | 00       | 3   | 0.4            | 7                  |
|                          | 18       | 3 | 0.6                  | 3.0                |                                 | 06       | 1   | 1.2            | 7                  |
|                          |          |   | 0.5                  | 5.0                |                                 | 12       | ... | .              | .                  |
| 28                       | 00       | 3 | 0.6                  | 3.0                |                                 | 18       | ... | .              | .                  |
|                          |          |   | 0.5                  | 4.9                | 10                              | 00       | ... | .              | .                  |
|                          | 06       | 3 | 0.6                  | 3.0                |                                 | 06       | 3   | 1.2            | 7                  |
|                          |          |   | 0.4                  | 4.8                |                                 | 12       | 3   | 1.2            | 7                  |
|                          | 12       | 3 | 0.5                  | 3.6                |                                 | 18       | ... | .              | .                  |
|                          |          |   | 0.2                  | 1.6                | 11                              | 00       | 3   | 1.2            | 7                  |
|                          | 18       | 3 | 0.6                  | 3.8                |                                 | 06       | 3   | 1.2            | 7                  |
|                          |          |   | 0.3                  | 1.9                |                                 |          |     |                |                    |
| 29                       | 00       | 3 | 0.5                  | 3.7                |                                 |          |     |                |                    |
|                          |          |   | 0.3                  | 2.0                |                                 |          |     |                |                    |
|                          | 06       | 3 | 0.5                  | 2.7                |                                 |          |     |                |                    |
|                          |          |   | 0.5                  | 5.0                |                                 |          |     |                |                    |
|                          | 12       | 3 | 0.4                  | 2.0                |                                 |          |     |                |                    |
|                          |          |   | 0.5                  | 4.5                |                                 |          |     |                |                    |
|                          | 15       | 1 | 0.6                  | 2.2                |                                 |          |     |                |                    |
|                          | 18       | 3 | 0.7                  | 2.5                |                                 |          |     |                |                    |

Groups



| Date | Hour GMT | K | Mean Amplitude in (Micron) | Mean Period in sec | Date | Hour GMT | K | Mean Amplitude in (Micron) | Mean Period in sec |
|------|----------|---|----------------------------|--------------------|------|----------|---|----------------------------|--------------------|
|------|----------|---|----------------------------|--------------------|------|----------|---|----------------------------|--------------------|

| Station: Port Blair Compt. E-W. |  |  |  |  | Station: Port Blair Compt. E-W. |  |  |  |  |
|---------------------------------|--|--|--|--|---------------------------------|--|--|--|--|
|---------------------------------|--|--|--|--|---------------------------------|--|--|--|--|

|        |       |     |     |   |        |       |     |     |   |
|--------|-------|-----|-----|---|--------|-------|-----|-----|---|
| 11     | 12    | 3   | 0.8 | 7 | 21     |       |     |     |   |
| contd. | 18    | 3   | 0.8 | 7 | Contd. | 18    | 0,0 | -   | - |
| 12     | 00    | 3   | 0.8 | 7 | 22     | 00    | 0,0 | -   | - |
|        | 03 to |     |     |   |        | 03    | ... | -   | - |
|        | 18    | 3   | 0.4 | 7 |        | 12    | 0,0 | -   | - |
|        |       |     |     |   |        | 18    | 0,0 | -   | - |
| 13     | 00 to |     |     |   | 23     | 00 to |     |     |   |
|        | 18    | 3   | 0.4 | 7 |        | 18    | 0,0 | -   | - |
| 14     | 00    | 3   | 0.2 | 7 | 24     | 00 to |     |     |   |
|        | 03 to |     |     |   |        | 18    | 0,0 | -   | - |
|        | 18    | 3   | 0.2 | 2 |        |       |     |     |   |
| 15     | 00    | 3   | 0.4 | 2 | 25     | 00    | ... | -   | - |
|        | 03 to |     |     |   |        | 03    | 1   | 0.2 | 3 |
|        | 18    | 3   | 0.4 | 3 |        | 12    | 1   | 0.2 | 3 |
| 16     | 00    | 3   | 0.4 | 3 |        | 18    | 1   | 0.2 | 3 |
|        | 03    | 3   | 0.4 | 3 | 26     | 00    | 1   | 0.4 | 3 |
|        | 12    | 3   | 0.4 | 2 |        | 03 to |     |     |   |
|        | 18    | 3   | 0.2 | 2 |        | 18    | 3   | 0.4 | 3 |
| 17     | 00    | 3   | 0.2 | 2 | 27     | 00    | 3   | 0.4 | 3 |
|        | 03    | 0,0 | -   | - |        | 03    | 3   | 0.4 | 2 |
|        | 12    | 3   | 0.4 | 7 |        | 12    | 3   | 0.4 | 3 |
|        | 18    | 3   | 0.4 | 7 |        | 18    | 3   | 0.4 | 3 |
| 18     | 00    | 3   | 0.4 | 7 | 28     | 00    | 3   | 0.4 | 3 |
|        | 03 to |     |     |   |        | 03 to |     |     |   |
|        | 18    | 3   | 0.8 | 7 |        | 18    | 3   | 0.4 | 2 |
| 19     | 00 to |     |     |   | 29     | 00    | ... | -   | - |
|        | 18    | 3   | 0.8 | 7 |        | 03    | 3   | 0.4 | 2 |
| 20     | 00 to |     |     |   |        | 12    | 3   | 0.4 | 3 |
|        | 18    | 3   | 0.4 | 7 |        | 18    | 3   | 0.4 | 2 |
| 21     | 00    | 3   | 0.2 | 7 |        |       |     | 0.4 | 7 |
|        | 03    | 0,0 | -   | - | 30     | 00    | 3   | 0.4 | 2 |
|        | 12    | 0,0 | -   | - |        |       |     | 0.4 | 7 |
|        |       |     |     |   |        | 03    | 3   | 0.4 | 2 |
|        |       |     |     |   |        | 12    | 3   | 0.4 | 2 |
|        |       |     |     |   |        |       |     | 0.4 | 7 |
|        |       |     |     |   |        | 18    | 3   | 0.4 | 2 |

