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METEOROLOGICAL DEPARTMENT

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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 MAGNI- FICATION	DAMPING RATIO	PAPER SPEED mm/min.
BOMBAY	18° 54' N	72° 49' E	6	Deccan Trap	Milne-Shaw	N	12	350	13:1	15
					Milne-Shaw	E	12	350	23:1	8
					Sprengnether	E	To = Tg = 7 secs			30
BOKARO	23° 50' N	85° 48' E	-	Rock	Milne-Shaw	N	12	250	20:1	16
					Milne-Shaw	E	12	250	20:1	16
					Wood-Anderson	E	0.8	950	h = 0.8	60
					Wood-Anderson	N	0.8	1000	h = 0.8	60
CALCUTTA	22° 32' N	88° 22' E	(1) 7 (Milne-Shaw) (2) 5 (Omori-Ewing)	Alluvium	Milne-Shaw	E	12	250	20:1	8
					Wood-Anderson	N	2	870	Critical	30
					Omori-Ewing	N	16	32		25.4
					Omori-Ewing	E	21	30		25.4
CHATRA	26° 50' N	87° 10' E	161	Sand Stone	Milne-Shaw	E	12	250	20:1	16
					Wood-Anderson	N	1	1000	30:1	60
					Benioff	Z	To = 0.72 Tg = 0.45 secs.		Critical	50
					Wenner-Accelerograph	ZNE				
COLOMBO	06° 54' N	79° 52' E	7	Beach Sand	Milne-Shaw	E	12	250	20:1	
DEHRA DUN	30° 19' N	78° 02' E	682	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
HYDERABAD	17° 26' N	78° 27' E	535	Granite	Milne-Shaw	E	12	250	20:1	8
					Milne-Shaw	N	12	250	20:1	8
					Milne-Shaw	E	10	250	20:1	8
KODAIKANAL	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 = 72 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° 45' N	92° 43' E	-	-	Wood-Anderson	N	2	1000	20:1	30
					Wood-Anderson	E	0.8	1000	56:1	30
					Milne-Shaw	N	12	350	20:1	8
					Wood-Anderson	N	0.8	1000	h = 0.8	30
SHILLONG	25° 34' N	91° 53' E	1500	Quartzite Sand Stone (Shillong Quartzite)	Wood-Anderson	E	0.8	1000	h = 0.8	30
					Wood-Anderson	E	0.8	1000	h = 0.8	30
					Milne-Shaw	N	12	250	20:1	8
					Benioff	Z	To = 1.0 Tg = 0.18			60
TOCKLAI	28° 45' N	94° 45' E	-	Alluvium	Sprengnether	E	To = Tg = 5.5		Critical	30
					Wenner Accelerograph	ZNE				
					Wood-Anderson	E	0.8	970	h = 0.8	60
VIZIANAGRAM	18° 07' N	83° 27' E	-	-	Wood-Anderson	E	0.8	1000	h = 0.8	30
					Wood-Anderson	N	2	1000	20:1	30

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961.						
01	Shillong	Z	eP	00 03 43		Slight, near.
01	Chatra	Z	iP	00 32 51		Slight, Rarefaction.
01	Dehra Dun	NE	e	02 53 49		Feeble..
			i	5 27		
01	Chatra	Z	eP	03 56 03	170	Feeble
			S	56 23		
01	Chatra	Z	iP	14 13 20		Feeble, distant, Rarefaction.
01	Chatra	Z	iP	19 35 52		Feeble, distant, Rarefaction
01	Chatra	Z	iP	20 13 21		Feeble, distant.
01	Chatra	Z	eP	23 59 42	530	Feeble.
02	Chatra	N	S	00 00 39		
02	Shillong	Z	iP	12 03 06		Slight, near, Compression
02	Shillong	Z	iP	13 56 33		Slight, distant. Compression.
02	Shillong	Z	iP	14 12 45		Slight, distant. Rarefaction.
02	Shillong	Z	iP	14 15 37		Slight, distant. Compression.
02	Shillong	Z	eP	16 34 32		Slight, distant.
02	Shillong	Z	eP	19 35 21		Slight, distant.
02	Shillong	Z	eP	23 37 00	150	Slight.
			Sg	37 20		
02	Shillong	Z	iP	23 58 54	310	Slight.
			P*	58 57		
			Pg	59 03		
			PPP	59 07		
			LQ	59 18		
			eS	59 29		
			Sg	59 36		
03	Bombay	E	ePKP	06 44 08		Slight.
			e	53 40		
03	Dehra Dun	NE	e	06 50 22		Feeble
			e	51 36		
	Bokaro	N	eP	06 50 42		Slight, distant.
03	Chatra	Z	eP	13 17 40		Feeble, distant.
03	Chatra	Z	eP	18 13 10		Feeble, distant.
04	Shillong	Z	iP	06 38 44		Slight, distant. Rarefaction.
04	Tocklai	E	eP	11 22 04		Slight, distant.
04	Shillong	Z	iP	13 15 46	200	Slight, Rarefaction.
			eSg	16 19		
04	Dehra Dun	NE	e	18 14 57		Tremor.
04	Shillong	Z	iP	20 27 21		Slight, distant. Compression
04	Chatra	Z	iP	22 34 35		Slight, distant. Rarefaction.
04	Shillong	Z	e	23 11 07		Slight, distant.

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961 (contd)						
05	Chatra	Z	iP	00 04 56	380	Feeble, compression.
		ZN	iS	05 38		
05	Shillong	Z	eP	02 57 49		Slight, distant.
05	Shillong	Z	eP	04 55 35		Slight, near.
05	Shillong	Z	eP	19 51 24		Slight, distant.
05	Shillong	Z	iP	20 34 11		Slight, distant. Compression.
06	Earthquake shock felt at Dhubri.					
	Shillong	Z	iP	01 19 57	150	Slight, Compression.
		E	PP	20 02		
			S	20 17		
			Sg	20 27		
	Calcutta	E	eP	01 20 28	400	Slight.
			eS	21 11		
	Tocklai	E	eP	01 20 32		Slight
	Bokaro	NE	eP	01 21 42		Slight, near, other phases not clear.
	Dehra Dun	NE	e	01 21 57		Feeble.
			e	23 53		
	Bombay	E	e	01 26 49		Feeble and near tremor.
		NE	e	28 11		
	Poona	E	eP	01 27 47		Tremor.
06	Chatra	Z	eP	17 15 51		Feeble, distant.
06	Dehra Dun	NE	e	18 45 11		Tremor.
06	Shillong	Z	iP	22 35 41		Slight, distant. Compression.
06	Shillong	Z	iP	22 37 54		Slight, distant. Compression.
07	Shillong	Z	iP	02 55 19		Slight, distant. Compression.
07	Poona	Z	eP	07 02 45		Tremor.
07	Epc:- 28.2°S, 175.7°W. Kermadic Islands Region. -H= 10h 10m 38.9s (USCGS) -h about 43 km. Mag:- 7 $\frac{1}{4}$ -7 $\frac{1}{2}$ (Pas), Berk, 7-7 $\frac{1}{2}$ (Pal).					
	Port Blair	E	iP	10 24 14		
			i	30 48		
	Shillong	Z	iP	10 24 40	11420	
		E	e	28 13		
			e	30 09		
			SKS	35 24		
	Calcutta	E	eP	10 24 49	11740	
			e	28 27		
			i	29 37		
			i	35 27		
			SKS	35 35		
			iS	36 47		
			PS	38 45		
			i	40 45		

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961 (contd)						
07	Calcutta	E	e	10 43 19		
			eSS	43 52		
			e	45 37		
			e	47 02		
	Colombo	E	P	10 24 51	11830	
			PP	29 11		
			SKS	35 36		
			PPS	38 29		
			SS	44 13		
			L	11 07 11		
			M	10 19		Amp= 4.6 mm.
	Bokaro	NE	e	10 25 01	11970	
		E	i	28 39		
			i	29 27		
			SKS	35 41		
		NE	i	35 53		
		E	i	36 28		
			i	37 12		
			PS	39 04		
			e	42 09		
			SS	44 45		
	Chatra	Z	e	10 25 06	12000	
			PP	29 37		
		E	iSKS	35 43		
		N	e	40 17		
			Mn	11 29 -		Period= 17 sec, Gr. dis= 27 μ
	Madras	E	e	10 25 08	12080	
			e	29 14		
			e	31 21		
			SKS	35 46		
			i	36 12		
			i	36 40		
			PS	38 50		
			i	48 17		
	Hyderabad	E	i	10 25 19	12220	Initial motion towards South and East.
			e	28 17		
			PP	29 35		
			PPP	32 01		
			SKS1	35 51		
			i	36 59		
			PS	39 23		
			e	40 50		
			e	48 23		
			LQ	54 07		
			LE	10 58 55		
		N	M	11 06 20		Period= 21 sec., Gr. dis= 51 μ
		E	M	06 35		Period= 25 sec., Gr. dis= 44 μ
	Poona	Z	e	10 25 37		Tremor
			e	29 05		
	Bombay	Z	e	10 25 41		Slight
			e	28 12		
			e	29 11		
	Dehra Dun		e	10 25 41		Tremor.
	Tocklai	E	e	10 27 53		Slight, distant.

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961 .. . (contd)						
07	Poona	Z	iPKP	10 29 21	12710	
			PP	30 32		
			PPP	32 59		
			SKS	36 10		
			PS	40 09		
			PKKP	40 33		
			PPS	41 30		
			SS	46 32		
			SSS	50 52		
	Dehra Dun	NE	ePKP1	10 29 22	12780	
			PP	30 34		
			PPP	33 00		
			SKS1	36 19		
			SKS2	36 41		
			SKKS	37 33		
			i	38 33		
			PKKP1	40 33		
			PPS	41 37		
			PKKS1	44 03		
			SSP	47 03		
			SSS	51 10		
	Kodaikanal	E	PP	10 29 43	12110	Initial ground movement towards East.
			e	31 13		
			e	40 48		
	Bombay	E	PP	10 30 33	13000	Moderate
			e	32 35		
			PPP	33 09		
			SKS1	36 19		
			SKKS1	37 49		
			e	38 17		
			PS	40 28		
			PPS	41 52		
			i	42 03		
			PKKS1	43 02		
			i	45 32		
			e	47 19		
			e	47 38		
			e	51 13		
			LQ	11 00 22		
			M	21 30		Period= 20 sec, Gr. dis= 60 μ
			M	24 45		Period= 17 sec, Gr. dis= 35 μ
	Vizianagram	N	e	10 35 59		Slight, distant.
07	Dehra Dun	NE	e	17 53 22		Tremor.
07	Shillong	Z	eP	19 04 54		Slight, distant.
	Chatra	Z	iP	19 05 56		Feeble, distant. Rarefaction.
07	Calcutta	E	e	19 09 37		Slight.
			e	15 47		
			e	19 07		
			e	24 37		
			e	27 27		
07	Epc:- 38.2°S, 78.1°E Indian Ocean.					
	-H= 19h 08m 36.1s (IUSCGS)					
	Mag:- 6 (Pas). -h about 30 km.					

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961 .. . (contd)						
07	Colombo	E	P	19 17 04	5000	
			S	23 43		
			L	27 29		
			M	31 54		Amp= 2.0 mm.
	Port Blair	E	iP	19 17 46	5890	
			iS	25 15		
			SS	30 30		
			LR	32 46		
			M	38 16		
	Madras	E	e	19 17 49		Phases not clear.
			e	25 36		
			e	31 13		
	Hyderabad	N	iP	19 18 17	6170	Initial ground motion towards South.
			PcP	19 12		
			PP	20 21		
			PPP	21 22		
			iS	26 02		
			PPS	26 23		
			SS	29 53		
			SSS	31 19		
			LR	34 02		
			M	36 22		Period= 16 sec. Gr. dis= 10 μ
			M	19 36 36		Period= 18 sec., Gr. dis= 19 μ
	Poona	ZN	iP	19 18 24	6330	Initial ground movement towards South & Rarefaction.
		N	iS	26 18		
	Bombay	NE	eP	19 18 31	6400	
			eS	26 28		
			PPS	27 01		
			M	19 38 -		
	Shillong	Z	iP	19 18 47		Distant, Compression.
	Bokaro	N	iP	19 19 04	7000	
		E	eP			
		NE	eS	27 34		
		E	e	27 49		
	Chatra	Z	eP	19 19 19	7390	
		NE	eS	28 09		
	Dehra Dun	NE	eP	19 19 44	7690	
		N	PP	22 18		
			PPP	24 18		
			iS	28 50		
			SS	33 12		
			SSS	36 03		
			LR	39 48		
			M	42 19		
	Kodaikanal	E	e	19 28 13		Tremor.
07	Epc:- 4.7°S, 153.2°E New Britain Region.					
	-H= 23h 11m 59.6s (USCGS) -h about 90 km.					
	Shillong	Z	iP	23 22 47		Slight distant. Compression.
	Chatra	Z	iP	23 23 13		Feeble, distant. Compression.
	Poona	Z	iP	23 24 12		Compression.

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961 (contd)						
07	Bombay	E	eP eS e	23 24 17 34 29 34 55	9060	Slight.
08	Chatra	Z	iP	00 30 01		Feeble, distant. Rarefaction.
08	Chatra	Z	iP	03 37 10		Feeble, rarefaction. Other phases not clear.
08	Tocklai	E	iP	12 45 55		Slight, distant.
08	Vizianagram	NE	iP	17 03 01		Slight, local. Initial ground movement towards North & East.
08	Chatra	Z	iP	19 53 37		Mild, distant. Other phases not clear.
09	Dehra Dun	NE	e	00 04 39		Tremor.
09	Dehra Dun	NE	e	00 14 15		Tremor
09	Chatra	Z	eP	08 28 39		Distant, Other phases not clear.
09	Chatra	Z	e e	10 14 25 17 31		Feeble.
09	Shillong	Z	eP eS	13 26 29 27 15	720	Slight.
09	Shillong	Z	eP eS	13 46 19 46 33	100	Slight.
09	Chatra	Z	e e	14 47 08 47 53		Mild, Other phases not clear.
09	Tocklai	E	eP	15 26 32		Slight, distant.
	Chatra	Z	iP i i	15 27 11 28 37 28 40		Feeble, slight other phases not clear.
09	Chatra	Z	eP i	18 15 55 16 20		Mild, near other phases not clear.
09	Shillong	Z	eP iS	20 58 51 21 00 11		Slight.
	Tocklai	E	eP	20 59 01		Slight, distant.
	Chatra	Z	e	20 59 38		Feeble, distant. Other phases not clear.
10	Chatra	Z	e	00 21 17		Mild, near.
10	Dehra Dun	NE	e	06 09 37		Tremor.
10	Port Blair	N	i	12 03 32		Slight.
10	Tocklai	E	e	15 48 20		Slight, distant.
	Dehra Dun	NE	e	15 48 56		Tremor.
	Bokaro	E	e	15 49 24		Tremor.
	Calcutta	E	e	15 49 28		Slight.
	Hyderabad	N	e M	15 54 18 16 12 16		Period= 9 sec. Gr. dis= 3 μ Feeble, surface waves.
	Bombay	NE	e	15 55 19		

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961 (contd)						
10	Dehra Dun	NE	e	16 06 37		Tremor
	Bokaro	NE	eP e	16 07 14 19 26		Slight, distant phases not identifiable.
	Calcutta	E	e	16 07 33		Slight, tremor.
	Bombay	NE	e	16 12 45		Feeble, surface waves
10	Shillong	Z	iP	20 22 15		Slight, distant. Rarefaction.
10	Chatra	Z	iPn Sn	21 31 22 31 40	140	Mild
10	Shillong	Z	iP	23 47 45		Slight, distant. Compression.
11	Shillong	Z	iP	00 00 27		Slight, distant. Compression.
11	Shillong	Z	eP	00 42 53		Slight, near.
11	Epc:- 48.7°N, 154.6°E Kurile Islands. -H= 01h 31m 34.4s (USCGS) Mag:- 6 $\frac{1}{2}$ (Berk).- -h about 26 km.					
	Shillong	Z	iP	01 40 56		Compression
	Vizianagram	E	e	01 41 08		Tremor, distant.
	Chatra	Z	iP NE N N	01 41 15 48 55 49 58 50 21	6090	Rarefaction.
	Bokaro	NE	iP iS	01 41 37 49 39	6480	Other phases not identifiable. Initial ground motion towards South & West.
	Dehra Dun	NE	eP PPP iS i i	01 41 39 45 24 49 43 51 45 55 34	6520	
	Hyderabad	EN	iP PcP PP E EN	01 42 36 43 04 45 09 46 41 51 33 52 02 52 28 55 47 02 03 21 08 19	7520	Initial ground motion towards South, West.
	Poona	Z	iP iS PS PPS	01 42 51 51 59 52 21 52 36	7730	Initial ground motion towards South, West & Compression.
	Bombay	NE E NE	e PcP eS PS PPS	01 42 55 43 15 52 01 52 26 52 52	7780	
	Madras	E	M M e	02 15 50 02 16 51 01 52 02		Period= 19 sec. Gr. dis= 8 μ Period= 18 sec., Gr. dis= 6 μ

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961 (contd)						
✓	Colombo	E	e	01 52 49		
			e	02 12 49		
			e	18 44		
11	Epc:- 11.2°N, 43.3°E Near coast of British Samaliland. -H= 08h 41m 00s (USCGS) -h= 18 km.					
✓	Bombay	NE	eP	08 47 11	3370	Slight.
			PP	48 03		
			eS	52 11		
			LR	55 09		
✓	Poona	Z	iP	08 47 19	3490	Initial ground motion
		N	eS	52 27		towards East & Compression
			LQ	53 49		
			SS	54 06		
			SSS	54 21		
			LR	55 19		
			M	58 03		
✓	Kodaikanal	E	e	08 47 57		Tremor
✓	Hyderabad	E	iP	08 47 58	3900	Slight, Initial ground
			PP	49 16		motion towards West.
			PcP	50 28		
		EN	eS	53 31		
			LQ	55 22		
			SS	55 43		
			LR	57 25		
			ScS	58 28		
		N	M	59 37		Period= 15 sec., Gr. dis= 6 μ
		E	M	59 49		Period= 18 sec., Gr. dis= 8 μ
✓	Madras	E	eP	08 48 15	4100	Moderate.
			PP	49 39		
			PPP	50 01		
			iS	54 00		
			e	55 43		
			LQ	56 37		
			LR	58 27		
			M	09 01 23		
✓	Dehra Dun	NE	e	08 48 17	4250	Slight.
			PP	49 44		
			iS	54 19		
			SS	56 52		
			SSS	57 39		
			LR	59 12		
			M	09 02 48		
✓	Bokaro	E	eP	08 49 03	4720	Slight.
			PP	50 40		
✓	Chatra	NE	eS	55 26		Slight, distant.
✓	Calcutta	E	eP	08 49 27	5030	Slight.
			iS	56 08		
✓	Shillong	Z	iP	08 49 43		Slight, distant. Rarefaction.
11	Chatra	Z	e	11 54 07		Feeble, distant. Other phases not clear.
11	Shillong	Z	eP	12 52 55		Slight, Distant.

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961 (contd)						
11	Shillong	Z	iP	17 05 22		Slight, distant. Compression.
	Chatra	Z	iP	17 05 49		Feeble, distant. Rarefaction.
	Dehra Dun	NE	e	17 14 23		Tremor
11	Dehra Dun	NE	e	19 19 28		Feeble.
11	Chatra	Z	eP	20 35 35	710	Feeble.
			PP	35 43		
			PPP	35 49		
			i	35 40		
			LQ	36 37		
			S	36 50		
			i	36 55		
			SS	37 01		
			i	37 15		
			SSS	37 16		
11	Tocklai	E	eP	21 34 28	180	Slight.
			iS	34 50		
	Shillong	Z	eP	21 34 35		Slight, near.
12	Shillong	Z	eP	02 30 52		Slight, distant.
12	Shillong	Z	eP	04 28 03		Slight, near.
12	Chatra	Z	iPg	08 21 45		Feeble, compression.
			e	22 00		
	Shillong	Z	iP	08 22 26	650	Slight, Compression.
			iS	23 35		
12	Shillong	Z	eP	15 36 12		Slight, distant.
12	Chatra	Z	e	16 59 46		Mild, distant.
12	Chatra	Z	ePg	19 41 24		Mild, near.
12	Bombay	E	e	23 40 35		Slight.
			e	43 36		
			e	48 38		
13	Shillong	Z	iP	04 45 59		Slight, distant. Rarefaction.
13	Shillong	Z	iP	05 02 02		Slight, distant. Rarefaction.
13	Chatra	ZNE	iP	07 06 39	140	Slight; Initial ground motion towards South, West & Compression.
		N	PP	06 46		
			PPP	06 52		
		NE	S	06 57		
		N	SS	07 07		
			SSS	07 18		
	Shillong	Z	iP	07 08 17	445	Slight.
		E	iS	09 05		
			SSS	09 17		
			M	09 21		
	Dehra Dun	NE	e	07 09 55		Tremor
13	Chatra	NE	e	08 26 22		Feeble, distant. Other phases not clear.
✓	Bombay	NE	e	08 27 10		Slight, distant.

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961 (contd)						
13	Shillong	Z	iP	13 27 58	130	Slight.
		E	eS	28 15		
	CChatra	Z	eP	13 28 34	390	Mild
		ZN	eS	29 17		
13	Shillong	Z	iP	13 40 11	120	Slight, Rarefaction,
		E	eS	40 27		
13	Port Blair	N	ePg iSg	15 16 52 16 57	40	Slight.
13	Chatra	Z	eP	19 26 25		Feeble, distant.
	Shillong	Z	iP	19 27 01		Slight, distant. Rarefaction.
13	Bombay	N	e	19 31 21		Slight.
		E	e	33 10		
	Dehra Dun		e	19 31 44		Feeble.
			e	35 37		
13	Chatra	Z	e	20 54 12		Feeble, distant.
14	Shillong	Z	iP	06 20 39		Slight, distant. Rarefaction.
14	Shillong	Z	iP	18 59 54		Slight, distant. Compression.
15	Shillong	Z	eP eS	05 10 42 11 28	420	Slight.
15	Epc:- 3.3°S, 150.7°E New Ireland Region. -H= 10h 14m 55.5s (USCGS) Mag:- 6 (Pas). -h about 21 km.					
	Port Blair	N	e	10 25 00		
	Shillong	Z	iP	10 25 30	7090	Rarefaction.
		E	PcP	26 10		
			PP	27 52		
			iS	34 05		
			PS	34 15		
			PPS	34 19		
	Calcutta	E	eP	10 25 52	7440	
			i	33 45		
			iS	34 45		
	Chatra	Z	iP	10 25 58	7640	Initial ground motion towards South, East & Rarefaction.
		N	iS	35 02		
			ScS	35 38		
			SS	39 27		
			SSS	42 32		
	Bokaro	NE	e	10 26 01	7740	
			PcP	26 11		
			PP	28 41		
			PPP	30 28		
			S	35 17		
			PPS	35 59		
			SS	39 55		
			LQ	45 05		
			Lr	48 38		
			M	54 24		

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961 (contd)						
15	Madras	E	iP	10 26 25	8110	
	Contd.		i	26 54		
			i	28 52		
			i	32 11		
			eS	35 52		
	Hyderabad	E	iP	10 26 39	8210	Initial ground motion towards West.
		N	S	36 11		
		E	PS	36 41		
			SS	40 34		
			LR	49 25		
			M	55 25		Period= 18 sec., Gr. dis= 6 μ
			M	10 55 53		Period= 18 sec., Gr. dis= 6 μ
	Dehra Dun	NE	eP	10 26 51	8590	
		N	PP	29 49		
			iS	36 41		
			SSS	45 41		
			LQ	48 35		
			LR	52 18		
			M	59 28		
	Poona	Z	iP	10 26 59	8700	Compression.
		N	eS	36 55		
	Bombay	NE	eP	10 27 09	8890	
			eS	37 13		
			e	37 36		
			PPS	38 09		
15	Chatra	Z	e	12 47 51		Feeble.
15	Shillong	Z	iP	13 11 43		Slight, distant. Rarefaction.
	Chatra	Z	iP	13 12 11		Feeble, distant. Compression.
	Poona	Z	iP	13 13 10		Tremor.
15	Shillong	Z	iP	16 25 29		Slight, distant. Compression.
	Chatra	Z	e	16 25 59		Very mild.
15	Chatra	Z	eP* iPg	17 54 20	140	Feeble.
			PP	54 27		
			Sg	54 34		
			Sn	54 35		
			SS	54 46		
			i	54 49		
			SSS	54 56		
	Shillong	Z	iP	17 55 04		Slight, Rarefaction.
15	Chatra	Z	eP	19 04 31		Very mild, near.
15	Shillong	Z	eP	21 13 01		Slight, distant.
	Tocklai	E	e	21 13 24		Slight, distant.
	Chatra	Z	eP	21 13 51		Very feeble. Other phases not clear.
16	Shillong	Z	iP	05 09 01		Slight, distant. Compression.

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	Δ km.	REMARKS
March 1961 (contd)						
✓ 16	Chatra	Z	eP	05 09 03		Feeble, near.
✓ 16	Shillong	Z	iP	11 28 29		Slight, distant. Compression.
✓	Chatra	Z	iP	11 29 00		Feeble, near. Other phases not clear.
✓	Madras	E	iP	11 29 03		Other phases not clear.
✓	Poona	Z	iP	11 29 54		Slight, compression. Other phases not clear.
✓	Bombay	E	e	11 30 00		Feeble.
16	Chatra	Z	eP	11 59 23		Feeble, near.
16	Epc:- 8.2°S, 122.0°E Flores Island. -H= 13h 45m 35.6s (USCGS) Mag:- 6 $\frac{1}{4}$ (Pas), 6 $\frac{1}{4}$ -6 $\frac{1}{2}$ (Pal). -h about 74 km.					
✓	Port Blair	E	iP	13 52 27	3790	
			PP	53 31		
			iS	57 53		
			LR	14 01 15		
			M	03 15		
✓	Tocklai	E	eP	13 53 43		Slight, distant.
✓	Colombo	E	P	13 53 44	4860	
			PPS	14 00 41		
			L	05 34		
			M	08 46		Amp= 3.4 mm.
✓	Shillong	Z	iP	13 53 45	4940	Compression.
		N	PP	55 25		
			PcP	55 51		
			PPP	56 10		
			iS	14 00 21		
			SS	03 52		
			LR	05 26		
			M	08 19		
✓	Calcutta	E	iP	13 53 49	4920	Initial ground motion towards East.
			eS	41 00 24		
			LQ	03 49		
			M	09 41		
			Mn	17 49		
✓	Madras	E	iP	13 53 59	5090	Period= 19 sec., Gr. dis= 61 μ Initial ground movement towards West.
			PP	55 48		
			PPP	56 26		
			iS	14 00 43		
			PS	00 51		
			PPS	00 58		
			LQ	04 40		
			LR	06 47		
			M	10 10		
✓	Bokaro	NE	iP	13 54 07	5120	Initial ground motion towards South & East.
			PcP	55 31		
			PP	55 53		
			PPP	56 42		
			ScP	59 12		
			S	14 00 53		

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	Δ km.	REMARKS
March 1961 (contd)						
✓ 16	Bokaro	NE	ScS	14 03 31		
			e	04 03		
			LQ	05 25		
			Lr	07 35		
			M	12 15		
			Mn	17 13		Period= 24 sec., Gr. dis= 67 μ
✓	Chatra	ZNE NE	iP	13 54 15	5220	Compression.
			PcP	55 37		
			PP	56 04		
			e	57 51		
			PcS	59 36		
			S	14 01 07		
			PS	01 13		
			ScS	04 04		
			SS	04 30		
			LQ	05 31		
			SSS	05 49		
			LR	07 51		
		E	M	14 18 00		Period= 22 sec., Gr. dis= 53 μ
		N	M	14 20 00		Period= 17 sec., Gr. dis= 36 μ
✓	Hyderabad	EN	iP	13 54 24	5440	Initial ground motion towards South & East.
			PcP	55 31		
			PP	56 21		
			PPP	57 08		
			PcS	59 29		
			iS	14 01 28		
			ScS	04 15		
			SS	05 47		
			LR	08 41		
			M	12 33		Period= 23 sec., Gr. dis= 36 μ
			M	14 13 12		Period= 24 sec., Gr. dis= 32 μ
✓	Kodaikanal	E	iP	13 54 27	5460	Initial ground motion towards East.
			PP	56 18		
			PPP	57 27		
			PPS	14 01 51		
			LQ	05 24		
			LR	09 18		
			M	13 27		Period= 22 sec., Gr. dis= 50 μ
✓	Poona	Z	iP	13 54 57	5940	Compression.
		E	iS	14 02 29		
		N	PS	02 36		
			PPS	02 44		
			LQ	07 53		
			LR	10 24		
✓	Bombay	NE	eP	13 55 04	6090	
			iS	14 02 44		
		E	SS	06 28		
		N	LR	09 35		
		E	M	16 00		Period= 23 sec., Gr. dis= 48 μ
		N	M	16 16 09		Period= 23 sec., Gr. dis= 38 μ
✓	Dehra Dun	NE N	eP	13 55 24	6190	
			PPP	58 40		
			iS	14 03 10		
			SS	07 02		
			SSS	08 52		
			LR	11 27		
			M	16 11		Period= 19 sec., Gr. dis= 16 μ

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961 (contd)						
16	Epc:- 8.1°S, 122.0°E Flores Islands. -H= 18h 21m 12.2s (USCGS) - about 43 km.					
✓	Shillong	Z	iP	18 29 25	4900	Slight.
		E	iS	35 59		
	Colombo	E	PP	18 29 28	4950	
			e	35 52		
			L	45 43		
			M	50 28		Amp= 0.4
	Madras	E	eP	18 29 45	5000	Slight.
			eS	36 24		
			LQ	40 25		
			LR	42 37		
			M	46 07		
	Bokaro	NE	eP	18 29 50	5150	Slight.
			PcP	31 07		
			PP	31 40		
			PPP	32 26		
			S	36 38		
			PS	36 46		
			ScS	39 14		
			SS	39 56		
			M	47 50		
✓	Chatra	ZNE	iP	18 29 55		
	Hyderabad	E	eP	18 30 06	5410	Slight.
			e	32 14		
			eS	37 08		
			SS	40 32		
			LR	45 23		
			M	48 35		
			M	18 48 38		Period= 21 sec., Gr. dis= 6 μ Period= 21 sec., Gr. dis= 13 μ
	Poona	Z	eP	18 30 37	5980	Slight, Other phases not clear.
		N	eS	38 11		
	Bombay	E	eP	18 30 48	6030	Slight.
			PP	32 00		
			PPP	34 08		
		NE	eS	38 25		
		E	M	55 17		
	Dehra Dun	NE	e	18 31 28	6270	Slight.
		N	PPP	34 41		
			iS	38 48		
			SSS & LQ	43 53		
			LR	45 57		
			M	50 27		
✓	Kodaikanal	E	e	18 36 52		Tremor
16	Port Blair	E	e	19 28 20		Slight.
16	Chatra	Z	iP	21 30 59		Feeble, near, Rarefaction.
17	Chatra	Z	eP	04 59 48		Feeble, distant.
	Bombay	E	e	05 08 17		Slight.
			e	20 45		

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961 (contd)						
17	Shillong	Z	iP	06 17 56		Slight, distant. Rarefaction.
17	Dehra Dun	NE	e	07 37 50		Tremor.
17	Shillong	Z	eP	14 12 42		Slight, near.
•	Chatra	Z	eP	14 13 24		Feeble, near.
			i	13 45		
			i	13 55		
			i	14 41		
			i	15 05		
✓	Bokaro	E	eP	14 14 10		Slight, Other phases not clear.
17	Dehra Dun	NE	e	14 17 32		Tremor.
17	Bombay	E	e	14 23 28		Near, tremor.
17	Kodaikanal	E	e	15 04 56		Tremor.
17	Madras	E	e	15 07 31		Distant.
17	Chatra	Z	iP	16 11 30		Feeble, near. Rarefaction.
17	Shillong	Z	eP	19 52 22	640	Slight, Compression.
		E	PP	52 28		
			PPP	52 36		
			LQ	53 14		
			eS	53 30		
			Lr	53 34		
			SS	53 42		
			SSS	53 51		
			M	54 01		
17	Kodaikanal	E	e	21 06 10		Tremor.
17	Madras	E	e	21 10 20		Distant.
•	17 ✓ Chatra	Z	eP	22 48 42		
18	Epc:- 8.2°S, 122.0°E Flores Islands. -H= 02h 08m 38.5s (USCGS). -h about 35 km.					
•	Madras	E	eP	02 17 06	5220	Slight.
			PcP	18 36		
			PP	18 54		
			PPP	19 37		
			eS	23 58		
			LR	30 29		
			M	34 20		
✓	Chatra	Z	eP	02 17 21		Feeble, distant.
	Bombay	E	eP	02 18 14	6120	Slight.
			e	25 42		
			PPS	26 23		
18	Shillong	Z	iP	08 02 35		Slight, distant. Compression.
18	Shillong	Z	eP	10 15 59		Slight, near.
18	Shillong	Z	eP	10 23 56		Slight, distant. Rarefaction.

DATE STATION COMPT PHASE G. M. T. Δ REMARKS
h. m. s. km

March 1961 (contd)

18 Epc:- 49.9°S, 163.3°E South of New Zealand.
-H= 14h 54m 59.3s (USCGS)
-h about 38 km.
Mag:- 6 $\frac{3}{4}$ -7 (Pas), 6 $\frac{1}{2}$ -6 $\frac{3}{4}$ (Berk), 6 $\frac{1}{2}$ (Pal).

Colombo	E	e	15 07 09		
		e	18 37		
		e	39 14		
		e	40 34		
Port Blair	E	iP	15 07 46	9780	
		PP	11 16		
		PPP	13 09		
		iS	18 29		
		LQ	28 46		
Bokaro	NE	e	15 07 51		
		e	14 02		
		e	17 32		
		e	20 25		
		e	27 10		
		e	28 32		
		e	32 55		
		e	44 28		
		e	45 47		
Madras	E	eP	15 08 28	10650	
		e	11 48		
		e	13 45		
		iSKS	19 08		
		PS	21 00		
Shillong	Z	iP	15 08 37		
Chatra	Z	eP	15 08 45		
	N	M	15 57 -		Period= 17 sec., Gr. dis= 19 μ
	E	M	16 03 -		Period= 17 sec., Gr. dis= 13 μ
Hyderabad	EN	e	15 08 54		
	E	e	12 35		
	N	e	16 01		
	EN	e	19 30		
	E	e	21 24		
		e	22 00		
		e	26 29		
	N	e	29 55		
		e	34 45		
		e	39 27		
Poona	Z	eP	15 09 03		
Bombay	E	e	15 09 11		Other phases unidentifiable.
18 Kodaikanal	E	e	15 12 06		
		i	21 15		
		e	35 48		
		e	39 39		
18 Bombay	E	e	15 12 47		
	NE	e	13 30		
	E	e	15 41		
	NE	e	22 32		
	E	e	23 11		
		e	24 22		

DATE STATION COMPT PHASE G. M. T. Δ REMARKS
h. m. s. km.

March 1961 (contd)

18 Bombay	NE	e	15 28 26		
		e	32 32		
	E	e	38 03		
		e	43 26		
		M	57 49		Period= 15 sec., Gr. dis= 10 μ
	N	M	16 02 27		Period= 15 sec., Gr. dis= 10 μ
Dehra Dun	NE	e	15 14 34		
	N	i	22 54		
		e	27 21		
		e	29 43		
		e	33 45		
		M	38 52		Period=21 sec., Gr. dis= 18 μ
Calcutta	E	e	15 17 38		
		i	26 00		
		e	32 43		
18 Shillong	Z	eP	17 46 43		Slight, distant. Rarefaction.
Chatra	Z	iP	17 48 25		Feeble, distant. Compression.
18 Chatra	Z	eP	18 23 03		Feeble, distant.
18 Dehra Dun	NE	e	18 51 28		Tremor.
Chatra	Z	eP	18 52 51		Feeble, distant.
18 Shillong	Z	eP	20 12 42		Slight, distant. Compression.
Chatra	Z	iP	20 13 19		Feeble, distant.
18 Chatra	Z	i	20 17 25		Feeble, distant.
19 Shillong	Z	iP	05 00 06		Slight, distant. Compression.
Chatra	Z	iP	05 00 30		Feeble, distant. Rarefaction.
Poona	Z	eP	05 02 07		Tremor.
19 Epc:- 6.4°S, 105.5°E Soenda Strait.					
					-H= 04h 59m 19.3s (USCGS)
					-h about 120 km.
Madras	E	iP	05 05 36	3450	Slight.
		eS	10 41		
		LR	13 55		
		M	16 23		
Shillong	Z	eP	05 05 57		Slight, near.
Chatra	Z	iP	05 06 26		Feeble, distant. Rarefaction.
		i	08 44		
Poona	Z	iP	05 06 45		Tremor.
Bombay	NE	eP	05 06 56	4550	Slight.
	E	e	08 39		
	NE	eS	13 09		
Dehra Dun	NE	eP	05 07 27	4860	Slight, Phases not clear.
		iS	13 58		

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	Δ km.	REMARKS
March 1961... .. (contd)						
19	Chatra	Z	e	07 27 54		
		NE	e	07 38 23		
19	Bombay	E	e	07 32 07		Very slight.
			e	36 26		
19	Chatra	Z	eP	07 59 47		Feeble, distant. Other phases not clear.
	Dehra Dun	NE	e	08 01 00		Tremor.
19	Shillong	Z	iP	08 59 12		Slight, near. Rarefaction.
19	Shillong	Z	eP	09 26 44		Slight, distant. rarefaction.
	Chatra	Z	iP	09 27 11		Mild, Compression.
19	Shillong	Z	iP	12 18 23		Slight, distant. Compression.
19	Shillong	Z	iP	12 55 30		Slight, distant. Rarefaction.
	Chatra	Z	eP	12 56 02		Mild.
19	Chatra	Z	eP	18 06 59		Mild.
19	Chatra	Z	eP	19 15 20		Mild.
20	Epc:- 36.6°N, 71.1°E. Hindukush. -H= 03h 30m 27.4s (USCGS). -h about 121 km.					
	Dehra Dun	NE	eP	03 32 33	890	Slight.
		N	PP	32 42		
			PPP	03 32 47		
			LQ	33 51		
			iS	34 03		
			SS & LR	34 15		
			SSS	34 25		
			Sg,M	34 54		
	Bombay	E	e	03 34 00		Very slight, near.
			e	38 00		
	Chatra	Z	eP	03 34 15	1840	
			e	34 21		
			PPP	34 34		
			sP	34 59		
			i	37 06		
		NZ	iS	37 11		
	Poona	Z	eP	03 34 37		Slight, Rarefaction.
		N	e	38 19		
	Bokaro	NE	iP	03 34 59	2310	Slight.
			e	35 12		
			PP	35 23		
			e	38 10		
			e	38 42		
			e	39 00		
			M	40 21		
	Madras	E	e	03 35 55		
			e	40 02		
			e	43 42		

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	Δ km.	REMARKS
March 1961 (contd)						
20	Shillong	Z	iP	03 35 06		Slight, distant.
20	Shillong	Z	iPg iSg	05 03 14 03 23	80	Slight, Rarefaction.
20	Shillong	Z	iPg iSg	05 58 20 58 26	50	Slight, Rarefaction.
20	Shillong	Z	iP	06 35 47		Slight, distant. Rarefaction.
20	Dehra Dun	NE	e	06 39 13		Feeble, Phases not clear.
20	Hyderabad	E	M	07 40 27		Period= 21 sec., Gr. dis= 5 μ
	Madras	E	e	07 43 24		'M' waves.
20	Shillong	Z	eP eS	10 20 17 20 43	220	Slight.
20	Shillong	Z	eP	11 33 08		Slight, distant. Rarefaction.
20	Shillong	Z	iP	11 46 27		Slight, distant. Rarefaction.
20	Epc:- 35.5°N, 77.9°E Norther India. -H= 14h 00m 29.5s (USCGS) -h about 74 km.					
	Dehra Dun	N	iP	14 01 56	600	Slight.
			PP	02 03		
			Pg	02 20		
			LQ	02 47		
			i	02 51		
			iS	02 59		
			SS	03 09		
			S*	03 14		
			SSS	03 20		
			Sg,M	03 29		
	Chatra	Z	iP	14 03 20	1250	Slight, Compression.
			PPP	03 35		
			e	03 48		
			e	04 16		
			LQ	05 14		
			i	05 20		
			Sn	05 23		
			iS	05 27		
			SS	05 35		
			LR	05 44		
			SSS	05 47		
			S*	06 05		
			Sg(M)	06 37		
			PcP	09 19		
	Shillong	Z	eP	14 04 07	1640	Slight.
			i	04 16		
			eS	06 53		
	Poona	Z	eP	14 04 31	1790	Slight.
			eS	07 30		
	Madras	E	eP	14 05 31	2500	Slight.
			PP	05 56		
			eS	09 34		

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961 (contd).						
20	Madras	E	LQ	14 09 52		
			SS	10 08		
			SSS	10 25		
			M	12 42		
	Bokaro	E	e	14 06 05		Slight, distant.
	Bombay	E	e	14 07 32		Near, tremor.
20	Epc:- 18.4°S, 175.2°W Tonga Islands. -H= 15h 53m 09.9s (USCGS) -h about 175 km. Mag:- 6½-6¾(Pas), Berk.					
	Port Blair	E	iP	16 06 22	10710	
			PP	10 16		
			PPP	12 36		
			iSKS	16 41		
			iS	17 26		
			i	17 53		
			i	18 16		
			PS	19 14		
			PPS	19 55		
	Tocklai	E	e	16 06 41		Distant.
	Shillong	ZE	iP	16 06 41	11200	Initial ground motion towards East and Rarefaction.
		E	PP	10 49		
			iSKS	17 02		
			i	17 36		
			iS	17 56		
			SS	19 15		
			PS	19 57		
	Chatra	Z	e	16 07 05	11690	Other phases not clear.
			PP	11 18		
			SKS	17 24		
	Bokaro	NE	e	16 07 07	11710	
			PP	11 29		
			iSKS1	17 28		
			SKS2	18 11		
			i	19 05		
			PPS	21 53		
	Colombo	E	e	16 07 12		
			e	17 33		
			e	47 52		
			e	51 25		
	Madras	E	e	16 07 17	12110	
			e	09 56		
			e	11 30		
			PP	11 49		
			SKS	17 41		
			e	19 13		
			PS	21 14		
	Hyderabad	E	e	16 07 29		
			e	13 14		
			e	17 58		
			e	21 17		

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961 (contd)						
20	Dehra Dun	NE	e	16 11 39	12670	
			PP	12 39		
			PPP	14 55		
			SKS	17 59		
			SKKS1	19 25		
			PKKP	22 44		
	Bombay	E	e	16 11 34	12910	
			e	12 28		
			PP	12 42		
			PPP	14 56		
			e	16 10		
			SKS1	19 10		
			e	19 26		
			e	21 00		
			PS	22 21		
			e	23 23		
			eSS	28 52		
			SSP	29 06		
	Hyderabad	E	e	16 12 02		
			e	18 50		
			e	22 41		
	Kodaikanal	E	PP	16 12 07	12220	
			iSKS	17 46		
			e	21 46		
	Poona	Z	e	16 12 35		
20	Shillong	Z	iP	18 45 09		Slight, distant. Rarefaction.
20	Dehra Dun	NE	e	22 08 58		Feeble, Phases not clear.
			i	09 07		
20	Shillong	Z	iP	22 12 48		Slight, distant. Compression.
20	Dehra Dun	NE	e	23 17 43		Feeble, phases not clear.
			i	17 56		
	Bokaro	E	eP	23 20 48		Slight, Other phases not clear.
			e	22 07		
20	Shillong	Z	iP	23 56 33		Slight, distant. Rarefaction.
20	Epc:- 24.2°S, 175.9°W Tonga Island Region. -H= 23h 42m 33.9s (USCGS). Mag:- 6¼(Pas), 6½(Pal).					
	Port Blair	E	e	23 56 47		Slight.
			e	06 47		
21	Bokaro	N	ePKP	00 01 04		Feeble, Other phases not clear.
	Colombo	E	e	00 01 08		
			e	07 36		
			e	16 50		
			e	39 37		

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961 (contd).						
21	Bombay	E	e	00 02 00		
			e	04 43		
			e	06 23		
			e	08 18		
			e	09 35		
			e	12 17		
21	Dehra Dun	NE	e	00 02 21		Slight, Phases not clear.
			i	09 24		
21	Madras	E	e	00 07 35		
21	Hyderabad	E	M	00 07 53		Period= 18 sec., Gr. dis= 7
21	Dehra Dun	NE	e	05 14 11		Tremor.
21	Shillong	Z	iPg iSg	07 44 57 45 03	50	Slight.
21	Dehra Dun	NE N	eP iS SS SSS Sg, M	09 30 56 32 25 32 36 32 47 33 15	860	Slight.
21	Chatra	Z	eP e	09 32 29 35 13		Slight, Compression.
21	Shillong	Z	eP	09 48 17		Slight, near.
21	Shillong	Z	eP	12 27 59		Slight, near.
21	Chatra	Z	eP e	12 55 15 57 13		Feeble, phases not clear.
22	Shillong	Z	iP	03 50 08		Slight, distant. Compression.
22	Shillong	Z	iP	04 25 32		Slight, distant. Compression.
22	Shillong	Z	eP	06 44 02		Slight, distant.
22	Shillong	Z	eP	11 33 51		Slight, near.
22	Shillong	Z	iP	12 41 22		Slight, distant. Compression.
22	Shillong	Z	iP	12 47 32		Slight, distant. Compression.
22	Dehra Dun	NE	e i i	12 53 30 54 09 54 18		Feeble.
22	Shillong	Z	e	12 56 09		Slight, distant.
22	Dehra Dun	NE	e i	14 39 34 40 15		Feeble.
22	Chatra	Z	eP	14 40 33		Feeble, distant.
22	Shillong	Z	e	21 41 27		Feeble, very distant.
22	Shillong	Z	eP	21 51 05		Slight, near.
23	Shillong	Z	e	01 11 40		Feeble, very distant.
23	Shillong	Z	iP	01 55 49		Slight, distant. Compression.

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961 (contd)						
23	Shillong	Z	iP Sg	02 23 49 24 02	110	Slight.
23	Shillong	Z	i	08 13 53		Slight, very distant. Rarefaction.
23	Shillong	Z	eP	17 24 12		Feeble, distant.
23	Shillong	Z	eP Sg	19 01 15 01 45	220	Slight.
23	Shillong	Z	iP Sg	20 23 05 23 25	160	Slight.
23	Shillong	Z	iP	21 07 26		Slight, distant. Compression.
	Chatra	Z	eP	21 07 52		Feeble, distant.
24	Shillong	Z	i	05 28 34		Distant, Rarefaction.
24	Chatra	Z	eP	10 46 10		Feeble, distant.
24	Shillong	Z	i	10 46 37		Compression. Feeble, distant.
24	Shillong	Z	e	11 15 29		Feeble, distant.
24	Dehra Dun	NE	e i	12 13 41 13 59		Feeble.
24	Chatra	Z	e	12 14 58		Mild, near.
	Bombay	E	e	12 19 54		Near, Tremor.
24	Shillong	Z	eP	12 45 58		Slight, near.
	Chatra	Z	eP	12 46 40		Mild, Phases not clear.
24	Shillong	Z	iPg eSg	16 36 10 36 21	90	Slight
24	Shillong	Z	iP	19 17 36		Slight, distant. Compression.
	Chatra	Z	eP	19 18 15		Feeble, distant.
24	Shillong	Z	iP	22 45 14		Slight, distant. Rarefaction.
24	Epc:- 35.3°N, 140.9°E Near East coast of Honshu, Japan. -H= 22h 57m 14.2s (USCGS) -h about 102 km.					
	Tocklai	E	e	23 04 26		Slight, distant.
	Shillong	Z	iP pP PP PPP iS e e SS M	23 05 07 05 34 06 57 07 31 11 35 11 41 11 53 14 58 21 30	5000	Slight, compression.
24	Chatra	Z	iP eS	23 05 36 12 21	5300	Feeble, Compression.
	Calcutta	E	eP pS SS	23 05 46 13 00 17 40	5350	Slight.

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961 (contd)						
24	Dehra Dun	NE	eP eS	23 06 21 13 51	6110	Slight, phases not clear.
	Hyderabad	E	iP e S e ScS M	23 06 51 08 49 14 51 15 25 16 49 32 04	6670	Slight, Initial ground motion towards West. Period= 24 sec., Gr. dis= 8
	Madras	E	iP e e	23 07 08 10 54 15 15		Slight, Initial ground motion towards West.
	Poona	Z N	iP eS	23 07 23 15 40	6980	Slight, Compression.
	Bombay	NE E	eP eS	23 07 27 15 56	7200	Slight.
	Tocklai	E	e	23 14 19		Slight, distant.
	Colombo	E	e e e	23 16 08 32 04 36 04		
24	Shillong	Z	iP	23 46 47		Slight, distant. Rarefaction.
	Chatra	Z	eP	23 47 19		Feeble, distant. Phases not clear.
25	Shillong	Z	iP	00 12 14		Slight, near. Compression.
25	Shillong	Z	i	01 14 51		Feeble, very distant.
25	Shillong	Z	eP eS	15 10 29 10 49	160	Slight.
25	Shillong	Z	iP	16 15 30		Slight, distant. Compression.
25	Shillong	Z	ePg eSg	19 48 59 49 09	90	Slight.
25	Chatra	Z	eP	21 09 56		Feeble, distant. Rarefaction.
	Shillong	Z	iP	21 10 03		Slight, distant. Compression.
25	Shillong	Z	eP eS	23 38 46 39 23	330	Slight.
25	Dehra Dun	NE	e	23 41 28		Tremor.
25	Shillong	Z	iP	23 42 35		Slight, distant. Compression.
26	Shillong	Z	eP	01 27 55		Slight, distant.
26	Shillong	Z	ePg eSg	04 18 59 19 20	180	Slight.
26	Chatra	Z NZ Z NZ	iP i S i	09 34 55 35 06 35 18 35 21	190	Mild.
	Shillong	Z	eP	09 35 37		Slight, near.

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961 (contd)						
26	Dehra Dun	NE	e	09 35 39		Tremor
26	Chatra	Z	P S	09 49 17 49 34	130	Mild
26	Chatra	Z	iP	11 38 23		Feeble, distant.
26	Shillong	Z	eP eS	11 53 53 54 31	340	Slight.
26	Epc:- 5.7°N, 126.4°E Mindanao, Philippine Islands. -H= 14h 29m 23.8s (USCGS) -h about 147 km.					
	Port Blair	N	e	14 36 02		Slight.
	Shillong	Z	iP	14 36 34		Slight, distant. Compression.
	Chatra	Z	eP i e	14 37 13 42 44 47 01		Feeble, distant.
	Madras	E	iP e	14 37 38 44 00		Slight, Initial ground motion towards West.
	Dehra Dun	NE	e	14 38 22		Tremor.
	Bombay	E	e e e e	14 38 35 46 33 47 08 49 06		Slight.
26	Shillong	Z	eP eS	15 25 41 26 10	250	Slight.
26	Dehra Dun	NE	e i	19 42 53 43 51		Feeble.
	Chatra	Z	eP	19 44 32		Feeble, distant.
	Shillong	Z	eP	19 45 22		Feeble, distant.
26	Chatra	Z	iP	20 22 25		Feeble.
	Shillong	Z	iP	20 39 08		Slight, distant. Compression.
26	Port Blair	N	e	22 15 28		Slight.
26	Epc:- 30.6°N, 84.4°E Southern Tibet. -H= 23h 11m 38.9s (USCGS). -h about 24 km.					
	Chatra	Z	iP PP PPP eS SS SSS M	23 12 55 13 01 13 09 13 54 14 05 14 16 14 24	560	Slight, Rarefaction.
	Dehra Dun	NE N	eP e SS	23 13 11 13 54 14 21	670	Slight.
	Bokaro	N	eP e	23 13 25 16 27	780	Slight, Other phases not identifiable.

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961 (contd).						
26	Shillong	Z	iP	23 13 41	970	Slight, Rarefaction.
			PP	13 48		
			eS	15 21		
			SSS	15 54		
			M	16 15		
			PcP	19 53		
	Sehore	NE	eP	23 14 05	1030	Slight.
			PP	14 15		
			eS	15 51		
			SS	15 56		
			SSS	16 01		
			e	16 13		
			M	16 51		
	Calcutta	E	eP	23 14 31	1240	Slight.
	Hyderabad	E	eS	16 38		
			P	23 14 56	1510	Slight.
			SSS	17 48		
			M	19 02		Period= 6 sec., Gr. dis= 3 μ
	Poona	Z	eP	23 15 18	1640	Slight.
			iS	18 04		
	Bombay	E	PP	23 15 24	1730	Slight.
		NE	eS	18 10		
		E	SSS	18 37		
		NE	e	20 22		
			e	20 37		
		E	M	22 51		Period= 6 sec., Gr. dis= 3 μ
		N	M	23 30		Period= 6 sec., Gr. dis= 3 μ
	Madras	E	PP	23 15 56	2030	Slight.
			eS	19 08		
			SS	19 27		
			LR	20 01		
			M	21 25		
26	Chatra	Z	iP	23 40 10		Feeble, distant. Compression.
	Shillong	Z	e	23 40 55		Feeble, distant.
27	Shillong	Z	iP	00 31 44		Slight, distant. Compression.
27	Shillong	Z	iP	04 30 57		-do-
27	Shillong	Z	eP	10 37 36		Slight, near.
	Chatra	Z	eP	10 38 13		Mild, near.
27	Shillong	Z	iPg	11 07 35	90	Slight.
			iSg	07 45		
27	Chatra	Z	iP	12 21 57		Feeble, Compression.
28	Shillong	Z	e	06 50 32		Feeble, distant.
28	Epc:- 0.2°N, 123.6°E Northern Celebes. -H= 09h 35m 55.4s (USCGS) Mag:- 6 $\frac{3}{4}$ (Pas), 7 (Pal) -h about 83 km.					
	Port Blair	N	iP	09 42 27	3460	
			iS	47 33		
			e	53 33		

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961 (contd)						
28	Tocklai	E	eP	09 43 19	4120	
			i	43 49		
			iS	09 06		
	Shillong	ZNE NE	iP	09 43 25	4210	Initial ground motion towards North, West & Compression.
			i	43 58		
			PP	44 47		
			PPP	45 11		
			PcP	45 36		
			iS	49 17		
			PcS	49 29		
			SS	51 51		
			SSS	52 28		
	Calcutta	E	iP	09 43 36	4420	Initial ground motion towards West.
			PPP	45 35		
			iS	49 41		
			LQ	53 03		
	Vizianagram	N	eP	09 43 52	4720	Initial ground motion towards North.
			iS	50 15		
	Bokaro	NE N	iP	09 44 00	4720	
			i	45 31		
			iS	50 23		
			e	50 27		
			e	50 35		
			i	50 55		
			e	53 42		
			i	53 49		
			e	54 31		
			Lr	56 01		
			M	59 53		
	Chatra	ZNE NE	iP	09 44 01	4720	Initial ground motion towards North, West & Compression.
			i	44 43		
			PP	45 32		
			PPP	46 04		
			S	50 24		
			i	51 11		
			SS	53 20		
			e	53 41		
			e	53 48		
			SSS	54 07		
	Madras	E	iP	09 44 06	4720	Initial ground motion towards West.
			i	44 36		
			PP	45 47		
			PcP	45 56		
			PPP	46 23		
			i	46 49		
			iS	50 29		
			i	51 21		
			i	52 48		
			SS	53 38		
			LQ	54 11		
			SSS	54 24		
			i	55 34		
			i	58 27		
			M	59 21		

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961 (contd)						
✓	Hyderabad	E	iP	09 44 14	5090	Initial ground motion towards West.
			PP	46 14		
			PPP	46 56		
			PcS	49 38		
			iS	50 58		
			SS	53 51		
			LQ	54 50		
			LR	57 11		
	M	10 00 24	Period= 18 sec., Gr. dis= 29			
✓	Sehore	NE	iP	09 44 53	5450	Initial ground movement towards North.
			pP	45 15		
			sP	45 27		
			PP	46 47		
			PPP	47 39		
			iS	51 57		
			sS	52 33		
			SSS	56 51		
✓	Poona	Z N	iP	09 45 02	5540	Moderate, Initial ground motion towards North, West & Compression.
			PP	46 57		
			PPP	47 53		
			PcS	50 14		
			iS	52 12		
			ScS	54 47		
			SS	55 34		
			LQ	56 55		
	SSS	57 03				
	LR	59 15				
	M	10 03 21				
✓	Dehra Dun	NE N	eP	09 45 09	5630	
			PP	46 46		
			PPP	47 46		
			iS	52 24		
			SS	55 41		
			SSS	57 42		
			LR	10 00 13		
			M	03 20		
✓	Bombay	NE N NE	iP	09 45 11	5740	Period= 7 sec.
			e	45 56		
			PP	47 18		
			PPP	48 13		
			e	52 24		
			iS	52 32		
			i	53 27		
			i	53 38		
	SS	56 16				
	SSS	58 24				
	i	58 50				
	LR	10 02 01				
28	Shillong	Z	iP	10 37 15		Slight, distant. Rarefaction.
28	Shillong	Z	iP	10 46 05		Slight, distant. Compression.
28	Shillong	Z	iP	11 33 02		Slight, distant. Compression.
28	Shillong	Z	iP	12 00 17		Slight, distant. Rarefaction.



DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961 (contd).						
28	Epc:- 51.7°N, 176.2°W Andean of Islands, Alentian Islands. -H= 12h 29m 12.7s (USCGS). Mag:- 6½(Pas), 5½(Pal). -h= 60 km.					
✓	Tocklai	E	eP	12 40 20		Distant.
✓	Shillong	Z	iP	12 40 30		Distant. Compression.
✓	Vizianagram	N	iP	12 40 34		Initial ground movement towards South.
✓	Chatra	Z	iP	12 40 43	8040	Initial ground movement towards South, West & Compression.
✓		NE	iS	50 06		
✓	Dehra Dun	NE	eP	12 40 51	8340	
✓			eS	50 29		
✓	Bokaro	E	iP	12 41 00	8410	Initial ground motion towards West.
✓			iS	50 41		
✓	Port Blair	N	eP	12 41 28	8910	
✓			eS	51 33		
✓	Hyderabad	E	iP	12 41 33	9020	Initial ground motion towards West.
✓			e	51 59		
✓			PPS	52 41		
✓			e	53 35		
✓			e	12 57 56		
✓			Lr	13 08 26		
✓	Poona	Z N	iP	12 41 57	9240	Period= 15 sec., Gr. dis= 4 μ Initial ground motion towards South, West & compression.
✓			eS	52 17		
✓	Bombay	NE	eP	12 41 58	9640	
✓			eS	52 35		
✓	Madras	E	eP	12 41 59	9730	
✓			eS	52 40		
28	Shillong	Z	e	13 20 29		Slight, distant.
28	Shillong	Z	iP	14 10 18		Slight, distant. Compression.
	Chatra	Z	eP	14 10 31		Feeble, distant.
28	Shillong	Z	iP	15 31 06		Slight, distant. Rarefaction.
28	Shillong	Z	eP	19 30 48	360	Slight.
			eS	31 27		
28	Epc:- 22.0°S, 68.0°W Chile-Bolivia Border Region. -H= 21h 01m 56.2s (USCGS) Mag:- 6 (Pas). -h about 125 km.					
✓	Poona	Z	ePKP	21 21 24		Other phases not clear.
✓	Madras	E	e	21 21 27		
✓			e	21 44		
✓			e	22 28		
✓	Dehra Dun	NE	e	21 21 38		
✓			i	25 52		
✓	Chatra	Z	e	21 21 45		
✓			i	32 36		

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
March 1961 (contd)						
28	Bombay	NE	e	21 21 47		
			e	24 35		
			e	25 17		
			e	31 20		
			e	39 12		
			e	43 17		
	Bokaro	E	e	21 35 14		Slight, distant.
			e	32 32		
28	Shillong	Z	iP	22 02 46		Slight, distant. Rarefaction.
28	Shillong	Z	iP	22 21 50		Slight, distant. Rarefaction.
29	Bokaro	N	e	08 55 11		Slight, tremor.
			e	09 01 41		
29	Shillong	Z	eP	09 35 32		Slight, distant.
29	Shillong	Z	eP	12 28 42		Slight, distant.
29	Shillong	Z	ePg	14 55 41		Slight, near.
29	Shillong	Z	iP	18 18 17		Slight, distant. Rarefaction.
	Chatra	Z	iP	18 18 45		Feeble, distant. Compression.
29	Chatra	Z	eP	20 45 25		Mild, near.
			e	46 44		
29	Shillong	Z	eP	21 44 28	280	Slight.
			eS	45 00		
29	Shillong	Z	eP	23 03 24	110	Slight.
			eS	03 39		
30	Shillong	Z	iP	08 51 31	200	Slight, Rarefaction.
			eS	51 55		
	Chatra	Z	eP	08 52 12	430	Mild.
			eS	52 59		
30	Shillong	Z	eP	08 59 58		Slight, near.
30	Bombay	E	e	09 15 29		Slight, distant.
30	Epc:- 32.4°N, 103.8°E Szechwan Province. -H= 12h 00m 12.8s (USCGS) -h about 81 km.					
	Shillong	Z	iP	12 03 07		Slight, distant. Compression.
	Chatra	Z	eP	12 03 48		Feeble
		NE	e	08 25		
	Tocklai	E	e	12 04 04		Slight, distant.
	Dehra Dun	NE	e	12 05 07		Feeble.
			e	09 07		
			e	12 25		
	Bokaro	N	e	12 09 22		'M' waves.
	Calcutta	E	e	12 10 12		Slight.
	Bombay	E	e	12 16 49		Slight.
30	Shillong	Z	eP	14 51 52	280	Slight.
			eS	52 23		
30	Shillong	Z	iP	14 56 21		Slight, distant. Rarefaction.



DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km	REMARKS
March 1961 (contd)						
30	Shillong	Z	eP	17 48 35		Slight, near.
30	Shillong	Z	ePg	17 49 05	100	Slight.
			eSg	49 16		
30	Shillong	Z	iP	18 22 54		Feeble, distant. Rarefaction.
30	Shillong	Z	eP	18 39 10	110	Slight.
			eS	39 25		
30	Shillong	Z	ePg	21 02 10	80	Slight.
			eSg	02 19		
	Chatra	Z	eP	21 03 04		Mild, near.
31	Shillong	Z	eP	06 31 02		Slight, distant.
31	Shillong	Z	iP	11 07 00		Slight, distant. Rarefaction.
	Chatra	Z	iP	11 07 12		Feeble, near. Compression.
31	Shillong	Z	iP	13 46 00		Slight, distant. Rarefaction.
31	Chatra	Z	eP	18 11 07		Feeble, distant.
31	Shillong	Z	eP	18 22 06	230	Slight.
			eS	22 33		
31	Shillong	Z	ePg	18 28 24	70	Slight.
			eSg	28 32		
31	Shillong	Z	eP	23 03 56	620	Slight.
			eS	05 02		

EARTHQUAKE REPORTS.
(NON-INSTRUMENTAL REPORTS)

The following is the list of Earthquakes that are reported by voluntary observers from different stations during the month of March 1961:

Place	Date in G.M.T.	Time in G.M.T.	No. of shocks	Intensity of R.F. Scale	Duration of shock	REMARKS
S		h. m.				
Shillong	6.3.61	01 20	-	IV	10 sec.	-
Coach Behar	6.3.61	01 20	One	IV	5 "	Appeared to come from North.
Rupsi	6.3.61	01 19	One	IV	3 "	-
Kumbhi-gram	13.3.61	13 40	One	IV	5 "	NW to SE.

MICROSEISMIC TABULATION

DATE	HOUR	K	MEAN SIMPLE AMPLITUDE IN m.m.	MEAN PERIOD IN SECS.	DATE	HOUR	K	MEAN SIMPLE AMPLITUDE IN m.m.	MEAN PERIOD IN SECS.
STATION: Shillong COMPONENT: E-W MONTH: March 1961.									
01	00	..	-	-	13	00	3	0.2	5.2
	06	1	0.3	5.2		06	1	0.2	5.1
	12	1	0.2	5.0		12	1	0.1	5.3
	18	1	0.2	4.6		18	1	0.2	5.5
02	00	1	0.2	5.1	14	00	1	0.1	4.9
	06	1	0.2	4.9		06	1	0.1	4.7
	12	1	0.3	5.1		12	1	0.1	4.9
	18	1	0.3	5.2		18	1	0.1	4.6
03	00	1	0.1	4.8	15	00	1	0.1	4.7
	06	1	0.2	5.2		06	1	0.1	4.8
	12	1	0.2	5.1		12	1	0.2	5.4
	18	1	0.2	5.0		18	1	0.2	5.0
04	00	1	0.1	5.5	16	00	3	0.1	4.2
	06	1	0.3	5.1		06	3	0.1	4.0
	12	1	0.3	5.2		12	1	0.2	4.8
	18	1	0.2	4.9		18	..	-	-
05	00	..	-	-	17	00	..	-	-
	06	..	-	-		06	1	0.1	4.1
	12	1	0.2	5.4		12	1	0.2	5.0
	18	1	0.1	5.4		18	1	0.2	5.2
06	00	1	0.2	4.9	18	00	1	0.2	5.0
	06	1	0.2	5.1		06	1	0.2	5.1
	12	1	0.2	4.7		12	1	0.2	5.0
	18	3	0.1	5.4		18	..	-	-
07	00	3	0.1	4.8	19	00	1	0.2	5.1
	06	3	0.2	5.3		06	1	0.2	5.2
	12	..	-	-		12	1	0.2	5.2
	18	3	0.2	5.3		18	3	0.2	5.2
08	00	3	0.2	5.3	20	00	3	0.2	5.0
	06	3	0.1	5.9		06	1	0.2	5.0
	12	3	0.2	5.0		12	1	0.3	5.0
	18	..	-	-		18	3	0.2	5.0
09	00	..	-	-	21	00	..	-	-
	06	3	0.2	5.6		06	3	0.2	4.9
	12	3	0.2	6.0		12	1	0.2	5.0
	18	1	0.2	6.2		18	1	0.1	5.4
10	00	..	-	-	22	00	1	0.2	5.1
	06	3	0.3	5.6		06	1	0.2	5.2
	12	3	0.2	5.2		12	1	0.2	5.0
	18	1	0.2	5.1		18	1	0.2	5.0
11	00	1	0.2	5.1	23	00	3	0.1	5.1
	06	1	0.1	5.5		06	1	0.1	5.1
	12	1	0.1	5.8		12	1	0.1	4.9
	18	3	0.2	5.4		18	3	0.1	4.9
12	00	3	0.2	4.2	24	00	3	0.1	5.1
	06	1	0.2	4.8		06	3	0.1	4.9
	12	1	0.2	5.3		12	1	0.2	4.7
	18	2	0.2	5.1		18	3	0.1	4.7
							1	0.1	5.0



DATE	HOUR	K	MEAN SIMPLE AMPLITUDE IN m.m.	MEAN PERIOD IN SECS.	DATE	HOUR	K	MEAN SIMPLE AMPLITUDE IN m.m.	MEAN PERIOD IN SECS.
STATION: Shillong COMPONENT: E-W MONTH: March 1961 (contd)									
25	00	..	-	-	04	00	3	0.4	5.3
	06	1	0.2	4.0		06	3	0.3	2.0
	12	3	0.1	4.3		12	3	0.6	4.8
	18	3	0.2	4.6		18	3	0.2	2.2
26	00	1	0.1	4.6	05	00	3	0.4	4.8
	06	1	0.1	5.0		06	3	0.3	2.2
	12	3	0.1	5.0		12	3	0.4	5.0
	18	3	0.2	5.3		18	3	0.4	4.6
27	00	1	0.2	4.8		06	3	0.4	4.9
	06	1	0.2	4.8		12	3	0.3	2.2
	12	3	0.2	4.8		18	3	0.4	5.2
	18	1	0.1	5.2		06	00	3	0.4
28	00	1	0.2	4.8		06	00	3	0.4
	06	3	0.2	5.1		06	06	3	0.5
	12	..	-	-		06	12	3	0.4
	18	1	0.2	4.8		06	18	3	0.4
29	00	3	0.3	4.9		06	06	3	0.5
	06	1	0.2	4.8		06	12	3	0.4
	12	1	0.2	4.9		06	18	3	0.3
	18	3	0.2	4.9		06	00	3	0.5
30	00	1	0.2	4.7		06	06	3	0.3
	06	3	0.2	5.4		06	12	3	0.3
	12	..	-	-		06	18	3	0.5
	18	..	-	-		07	00	3	0.4
31	00	1	0.2	4.7		07	06	3	0.4
	06	..	-	-		07	12	..	-
	12	..	-	-		07	18	3	0.5
	18	..	-	-		07	00	3	0.3
STATION: Bombay (Colaba).									
01	00	3	0.5	5.1	08	00	3	0.5	6.0
	06	3	0.5	2.4		06	3	0.2	2.0
	12	3	0.5	5.4		06	3	0.5	5.9
	18	3	0.4	2.2		06	3	0.2	1.8
	06	3	0.5	5.2		06	3	0.5	5.8
	12	3	0.5	2.3		06	3	0.3	2.0
	18	3	0.5	5.0		06	3	0.5	5.8
	06	3	0.4	2.3		06	3	0.3	1.8
02	00	3	0.5	5.0	09	00	3	0.5	5.6
	06	3	0.4	2.5		06	3	0.3	2.0
	12	3	0.5	5.1		06	3	0.6	5.3
	18	3	0.4	2.4		06	3	0.4	2.0
	06	3	0.5	5.5		06	3	0.6	5.8
	12	3	0.3	2.5		06	3	0.4	2.1
	18	3	0.5	4.6		06	3	0.5	5.8
	06	3	0.3	2.0		06	3	0.3	2.1
03	00	3	0.5	5.0	10	00	3	0.5	6.0
	06	3	0.3	2.0		06	3	0.3	2.2
	12	3	0.4	5.1		06	3	0.5	5.6
	18	3	0.5	2.3		06	3	0.4	2.2
	06	3	0.5	5.1		06	3	0.5	5.6
	12	3	0.4	2.5		06	3	0.3	2.3
	18	3	0.5	5.1		06	3	0.4	5.2
	06	3	0.5	4.8		06	3	0.3	2.2
	12	3	0.4	2.0		06	3	0.4	2.2

III

DATE	HOUR	K	MEAN SIMPLE AMPLITUDE IN m.m.	MEAN PERIOD IN SECS.	DATE	HOUR	K	MEAN SIMPLE AMPLITUDE IN m.m.	MEAN PERIOD IN SECS.
March 1961.. (contd)									
STATION: Bombay (Colaba) .. (contd)									
11	00	3	0.5	5.6	20	00	3	0.5	5.2
			0.3	2.0		06	3	0.5	4.8
	06	3	0.5	5.5				0.5	2.5
			0.2	2.0		12	3	0.5	5.1
	12	3	0.5	5.2				0.4	2.3
			0.3	2.0		18	3	0.5	4.7
	18	3	0.5	5.3				0.4	2.0
			0.3	2.0	21	00	3	-	-
12	00	3	0.5	5.3		06	3	0.5	4.9
			0.3	2.0				0.5	2.5
	06	3	0.5	5.3		12	3	0.5	4.6
			0.3	2.2				0.5	2.3
	12	3	0.4	4.5		18	3	0.5	4.4
			0.3	2.0				0.4	2.5
	18	3	0.5	5.0	22	00	3	0.4	4.4
			0.2	2.0				0.4	2.0
13	00	3	-	-	06	06	3	-	-
	06	3	0.4	5.2		12	3	0.4	4.7
			0.2	1.8				0.3	2.0
	09	1	0.7	1.7		18	3	0.4	4.9
	12	1	0.9	1.7				0.4	2.0
	15	1	0.8	1.7	23	00	3	0.5	4.3
	18	3	0.6	5.2				0.5	2.3
			0.7	1.7		03	1	0.5	2.5
14	00	3	0.4	4.8		06	3	-	-
			0.3	1.7		09	1	0.6	2.7
	06	2	0.4	4.4		12	1	0.6	2.7
			0.4	4.6		15	1	0.4	2.6
	12	2	0.4	4.6		18	1	0.6	2.6
			0.3	4.5		21	1	0.7	2.6
15	00	2	0.4	4.6	24	00	1	0.8	2.8
	06	2	0.4	4.8		03	1	0.9	2.7
	12	2	0.3	4.7		06	1	1.0	2.9
	18	2	0.3	4.2		09	1	0.9	3.0
16	00	2	0.4	5.3		12	1	0.7	2.6
	06	2	0.4	5.0		15	1	0.7	2.8
	12	2	0.4	4.8		18	1	0.5	2.6
	18	2	0.3	4.7		21	1	0.5	2.6
17	00	2	0.4	5.0	25	00	1	0.6	2.7
	06	3	0.5	5.0		06	3	0.6	3.0
			0.3	1.8				0.4	2.2
	12	3	0.4	5.0		12	3	0.7	2.9
			0.3	1.7		18	3	0.5	2.0
	18	3	0.4	4.9				0.4	3.2
			0.5	1.6	26	00	3	0.4	2.9
18	00	2	0.4	4.9		06	3	0.3	2.0
	06	2	0.4	4.8		12	3	0.5	2.7
	12	2	0.4	5.1				0.4	2.0
	18	2	0.5	5.2		18	3	0.5	3.0
19	00	2	0.5	5.1				0.3	2.2
	06	2	0.5	5.3		18	3	0.5	4.4
	12	2	0.5	5.0				0.3	1.8
	18	2	0.4	5.4				0.3	

DATE	HOUR	K	MEAN SIMPLE AMPLITUDE IN m.m.	MEAN PERIOD IN SECS.	DATE	HOUR	K	MEAN SIMPLE AMPLITUDE IN m.m.	MEAN PERIOD IN SECS.
March 1961 .. (cond)									
STATION: Bombay (Colaba) .. (contd)									
27	00	3	0.5	4.6	03	00	3	0.2	1.5
			0.3	2.0		03	3	0.3	4.6
	06	3	0.5	2.9				0.4	4.7
			0.3	2.2		06	3	0.4	5.0
	12	3	0.5	4.4				0.2	1.4
			0.5	2.2		12	3	0.4	4.5
	15	3	0.5	4.8				0.1	1.5
			0.5	2.6		18	3	0.5	4.9
28	00	3	0.5	5.2				0.1	1.4
			0.5	2.5	04	00	3	0.4	4.6
	06	3	0.5	5.0				0.1	1.5
			0.5	2.5		03	3	0.4	4.7
	12	3	-	-				0.2	1.5
	18	3	0.6	5.6		06	3	0.4	4.7
			0.6	2.5				0.2	1.5
29	00	3	0.5	5.6		12	3	0.4	4.9
			0.5	2.2				0.2	1.6
	06	3	0.6	5.2		18	3	0.4	4.9
			0.4	2.5				0.2	1.6
	12	3	0.6	5.4	05	00	3	0.3	4.5
			0.4	2.5				0.2	1.8
	18	3	0.5	5.5		03	3	0.3	4.5
			0.5	2.5				0.1	1.5
30	00	3	0.6	5.3		06	3	0.1	1.7
			0.5	2.5		12	3	0.1	1.7
	06	3	0.5	5.1		18	3	0.3	4.6
			0.5	2.6				0.1	1.4
	12	3	0.5	5.3	06	00	3	0.1	1.5
			0.4	2.5		03	3	0.1	1.3
	18	3	0.5	5.0		06	3	0.1	1.3
			0.6	2.7		12	3	0.1	1.4
31	00	3	0.5	5.2		18	3	0.1	1.4
			0.4	2.5				0.3	4.9
	06	3	0.5	5.3	07	00	3	0.1	1.3
			0.4	2.5		03	3	0.1	1.7
	12	3	0.4	5.3		06	3	0.1	1.5
			0.4	2.2		12	3	-	-
	18	3	0.5	5.3		18	3	0.1	1.6
			0.4	2.0	08	00	3	-	-
STATION: Madras						03	3	0.5	6.3
01	00	3	-	-		06	3	0.5	6.3
	03	3	0.4	4.5		12	3	0.5	6.3
	06	3	0.4	4.5		18	3	0.6	6.4
	12	3	0.3	4.4				0.1	1.7
	18	3	0.4	4.7	09	00	3	0.5	6.3
02	00	3	0.3	4.4		03	3	0.6	6.4
	05	3	0.4	4.5		06	3	0.5	6.3
	06	3	0.4	4.8		12	3	0.5	6.2
	12	3	0.4	4.9		18	3	0.4	6.1
	18	3	0.4	4.7				0.1	1.7
			0.1	1.5					

DATE	HOUR	K	MEAN SIMPLE AMPLITUDE IN m.m.	MEAN PERIOD IN SECS.	DATE	HOUR	K	MEAN SIMPLE AMPLITUDE IN m.m.	MEAN PERIOD IN SECS.
March 1961 ... (contd)									
10	00	3	0.4	5.9	16	03	3	0.3	4.2
	03	3	0.4	5.6			3	0.2	2.4
		3	0.1	1.8			3	0.1	1.4
	06	3	0.4	5.1		06	3	0.3	4.2
		3	0.1	1.8			3	0.2	2.4
	12	3	0.3	5.1			3	0.1	1.6
		3	0.1	1.8		12	..	-	-
	18	3	0.3	5.3		18	3	0.4	4.6
		3	0.1	1.6			3	0.2	2.5
11	00	3	0.3	4.9	17	00	3	0.3	4.3
		3	0.1	2.2			3	0.2	2.5
	03	3	0.3	5.1		03	3	0.4	5.2
	06	3	0.3	5.1			3	0.2	2.4
		3	0.1	2.1			3	0.1	1.6
	12	3	0.5	5.4		06	3	0.4	5.0
	18	3	0.4	5.3			3	0.3	2.6
		3	0.1	2.1		12	3	0.4	5.3
12	00	3	0.3	4.8			3	0.2	2.5
		3	0.1	2.2		18	3	0.4	4.6
	03	3	0.3	5.3			3	0.2	2.2
	06	3	0.4	5.0			3	0.1	1.8
	12	3	0.3	4.8	18	00	3	0.3	4.4
	18	3	0.3	4.4			3	0.1	1.8
13	00	3	0.3	4.5		03	3	0.4	4.6
		3	0.1	2.1			3	0.1	1.3
	03	3	0.3	4.7		06	3	0.4	4.9
		3	0.1	1.8			3	0.1	1.2
	06	3	0.3	4.8		12	3	0.4	4.6
		3	0.1	1.7		18	3	0.1	1.3
	12	3	0.3	4.8			3	0.4	4.6
	18	3	0.3	4.6			3	0.1	1.3
14	00	3	0.2	4.5	19	00	3	0.4	4.8
		3	0.1	2.3			3	0.1	1.3
	03	3	0.3	4.6		03	3	0.4	4.7
		3	0.1	1.9			3	0.1	1.1
	06	3	0.2	2.3		06	3	0.4	4.6
		3	0.1	1.3			3	0.1	1.2
	12	3	0.2	2.3		12	3	0.3	4.3
	18	3	0.2	2.5		18	3	0.1	1.1
15	00	3	0.2	2.5			3	0.4	4.5
		3	0.1	1.7			3	0.1	1.2
	03	3	0.2	4.0	20	00	3	0.4	4.4
		3	0.2	2.4			3	0.1	1.2
		3	0.1	1.7		03	3	0.4	4.5
	06	3	0.3	4.6			3	0.1	1.3
		3	0.2	2.1		06	3	0.4	4.5
	12	3	0.2	2.3			3	0.1	1.4
	18	3	0.4	4.5		12	3	0.4	4.7
		3	0.2	2.4		18	3	0.2	1.7
		3	0.1	1.4			3	0.4	4.3
16	00	3	0.3	4.5	21	00	3	0.3	4.0
		3	0.2	2.3			3	0.1	1.6
		3	0.1	1.5		03	3	0.4	4.5
							3	0.1	1.2

DATE	HOUR	K	MEAN SIMPLE AMPLITUDE IN m.m.	MEAN PERIOD IN SECS.
March 1961 ... (contd)				
21	06	3	0.4	4.5
		3	0.1	1.3
	12	3	0.4	4.6
	18	3	0.4	4.6
		3	0.1	1.6
22	00	3	0.3	4.3
	03	3	0.3	4.2
	06	3	0.3	4.2
	12	3	0.3	4.1
	18	3	0.4	4.3
23	00	3	0.3	3.9
	03	3	0.3	3.8
	06	3	0.3	3.5
	12	3	0.3	3.7
	18	3	0.3	4.3
		3	0.2	2.2
24	00	3	0.2	2.5
	03	3	0.2	2.4
	06	3	0.2	2.3
	12	3	0.2	2.6
	18	3	0.4	4.4
		3	0.1	1.4
		3	0.2	2.5
25	00	3	0.3	3.9
		3	0.2	3.1
	03	..	-	-
	06	3	0.3	3.1
	12	3	0.3	3.3
	18	3	0.4	3.3
26	00	3	0.4	3.4
	03	3	0.3	3.3
	06	3	0.4	3.4
	12	3	0.3	3.3
	18	3	0.3	3.5
27	00	3	0.3	3.2
		3	0.1	1.3
	03	3	0.3	3.2
	06	3	0.3	3.3
	12	3	0.4	3.4
	18	3	0.4	3.8
		3	0.4	4.3
28	00	3	0.3	3.5
	03	..	-	-
	06	3	0.4	4.1
	12	..	-	-
	18	3	0.4	4.5
		3	0.3	3.3
29	00	3	0.3	3.2
	03	3	0.4	4.2
		3	0.3	3.5
	06	3	0.3	3.4
	12	3	0.3	3.3
	18	3	0.3	4.2
		3	0.3	3.2
		3	0.3	4.1

DATE	HOUR	K	MEAN SIMPLE AMPLITUDE IN m.m.	MEAN PERIOD IN SECS.
March 1961 ... (contd)				
30	00	3	0.3	3.0
		3	0.2	4.0
	03	..	-	-
	06	3	0.2	2.5
	12	3	0.2	2.6
	18	3	0.2	2.7
31	00	3	0.2	2.7
	03	3	0.2	2.7
	06	3	0.2	2.7
	12	3	0.2	2.7
	18	3	0.2	2.6

DATE	HOUR	K	MEAN SIMPLE AMPLITUDE IN m.m.	MEAN PERIOD IN SECS.
March 1961 ... (contd)				
STATION: Port Blair.				
01	00	..	-	-
	06	0,0	-	-
	12	0,0	-	-
	18	0,0	-	-
02 to 05	Data for all the hours are as above.			
06	00	0,0	-	-
	06	..	-	-
	12	1 0.4	-	7.2
	18	1 0.4	-	7.2
07	00	1 0.4	-	7.2
	06	..	-	-
	12	..	-	-
	18	1 0.4	-	7.2
08	00	1 0.4	-	7.2
	06	..	-	-
	12	1 0.4	-	7.2
	18	1 0.4	-	7.2
09	00	1 0.4	-	7.2
	06	0,0	-	-
	12	0,0	-	-
	18	0,0	-	-
10	00	0,0	-	-
	06	0,0	-	-
	12	0,0	-	-
	18	0,0	-	-
11	00	0,0	-	-
	06	..	-	-
	12	3 0.4	-	7.0
	18	3 0.4	-	7.2
12	00	3 0.4	-	7.2
	06	0,0	-	-
	12	0,0	-	-
	18	0,0	-	-
13	00	0,0	-	-
	06	0,0	-	-
	12	0,0	-	-
	18	0,0	-	-
14	00	0,0	-	-



DATE	HOUR GMT	K	MEAN SIMPLE AMPLITUDE IN m.m.	MEAN PERIOD IN SECS.	DATE	HOUR GMT	K	MEAN SIMPLE AMPLITUDE IN m.m.	MEAN PERIOD IN SECS.
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STATION: Port Blair (contd)

14	00	0..	-	-
	06	...	-	-
	12	...	-	-
	18	...	-	-
15	00	...	-	-
	06	0,0	-	-
	12	0,0	-	-
	18	0,0	-	-
16	00	0,0	-	-
	06	0,0	-	-
	12	0,0	-	-
	18	0,0	-	-
17 to 21) data for all the hrs. are as above.			
22	00	0,0	-	-
	06	0..	-	-
	12	0..	-	-
	18	0..	-	-
23	00	0..	-	-
	06	0..	-	-
	12	0..	-	-
	18	0..	-	-
24	00	0..	-	-
	06	0,0	-	-
	12	0,0	-	-
	18	0,0	-	-
25	00	0,0	-	-
	06	...	-	-
	12	...	-	-
	18	0,0	-	-
26	00	0,0	-	-
	06	0,0	-	-
	12	0,0	-	-
	18	0,0	-	-
27	00	0,0	-	-
	06	3	0.4	7.2
	12	3	0.4	7.2
	18	3	0.4	7.2
28	00	3	0.4	7.2
	06	...	-	-
	12	1	1.2	7.5
	18	1	1.2	7.5
29	00	1	1.2	7.5
	06	1	0.8	7.5
	12	1	0.8	7.5
	18	1	0.8	7.3
30	00	1	0.8	7.5
	06	1	0.8	7.5
	12	1	0.8	7.5
	18	1	0.8	7.5

March 1961 (contd)

STATION: Bokaro.

31	00	1	0.4	7.5
	06	1	0.4	7.5
	12	1	0.4	7.5
	18	1	0.4	7.5
01	00	...	-	-
	06	3	0.4	4.0
	12	3	0.5	5.0
	18	3	0.4	5.0
02	00	...	-	-
	06	...	-	-
	12	3	0.4	4.5
	18	3	0.5	5.0
03	00	3	0.5	5.0
	06	3	0.5	5.0
	12	3	0.4	5.0
	18	3	0.4	4.5
04	00	3	0.5	5.0
	06	3	0.5	5.0
	12	3	0.5	5.5
	18	3	0.5	5.0
05	00	3	0.5	5.0
	06	...	-	-
	12	...	-	-
	18	...	-	-
06	00	...	-	-
	06	3	0.5	5.0
	12	3	0.5	5.0
	18	3	0.5	5.0
07	00	3	0.5	4.5
	06	3	0.4	4.8
	12	...	-	-
	18	3	0.4	5.0
08	00	0,0	-	-
	06	3	0.3	5.0
	12	...	-	-
	18	3	0.5	5.0
09	00	3	0.5	6.0
	06	3	0.6	6.0
	12	3	0.5	6.0
	18	3	0.5	5.0
10	00	3	0.4	4.8
	06	...	-	-
	12	3	0.4	5.0
	18	3	0.5	5.0
11	00	3	0.5	5.0
	06	3	0.4	5.0
	12	3	0.4	5.0
	18	3	0.5	5.0