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SEISMOLOGICAL BULLETIN

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*Shri P.R. Krishna Rao,*  
Director General of Observatories

## List of Seismograph Stations with their Instruments and Constants

STATION	LATITUDE	LONGI- TUDE	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	5	Deccan Trap	Milne-Shaw	N	12	350	13:1	16
					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 (2) 6	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
					Wenner-Accelerograph	ZNE	-	-	-	-
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
COLOMBO	05°54'N	79°52'E	7	Beach Sand	Milne-Shaw	E	12	250	20:1	-
					Wenner-Accelerograph	ZNE	-	-	-	-
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
					Milne-Shaw	E	12	250	20:1	8
HYDERABAD	17°26'N	78°27'E	536	Granite	Milne-Shaw	E	12	250	20:1	8
					Milne-Shaw	N	12	250	20:1	8
KODAIKANAL	10°14'N	77°28'E	2346	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=1.6		Critical	30
					Wood-Anderson	E	4	1000	20:1	16
					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	56:1	30
					Milne-Shaw	N	12	350	20:1	8
					Wenner-Accelerograph	ZNE	-	-	-	-
SHILLONG	25°34'N	91°53'E	1600	Quartzite Sand Stone (Shillong Quartzite)	Wood-Anderson	N	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
					Sprengnether	E	To = Tg = 6.5		Critical	30
					Wenner-Accelerograph	ZNE	-	-	-	-
TOCKLAI	28°45'N	94°45'E	-	Alluvium	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
February 1961.						
01	Shillong	Z	iPg iSg	01 23 38 23 43	30	Slight.
01	Shillong	Z	iP	05 02 40		Slight, distant, Compression.
	Chatra	Z	eP	05 03 13		Feeble, distant.
01	Shillong	Z	iP Pg S Sg	10 53 31 53 32 53 42 53 43	90	Slight, Rarefaction.
01	Chatra	Z	iP	16 56 07 56 15		Feeble, distant. Compression.
01	Shillong	Z	eP	16 56 31		Slight, distant.
01	Shillong	Z	eP	17 26 07		Slight, distant.
01	Shillong	Z	iP	18 46 47		Slight, distant. Rarefaction.
01	Poona	Z	eP	19 21 16		Tremor
01	Chatra	Z	ePg? eSg?	20 41 29 41 39	90	Feeble.
01	Chatra	Z	iP	20 47 55		Feeble, local.
01	Chatra	Z	eP	20 55 04		Feeble, distant.
01	Chatra	Z	iP	21 25 15		Feeble, distant.
01	Chatra	Z	ePg Sg	21 32 41 32 51	90	Feeble.
01	Chatra	Z	eP	21 36 59		Slight, near.
01	Chatra	Z	ePg iSg	21 52 24 52 34	90	Feeble.
01	Chatra	Z	iPg	22 07 10	90	Feeble. Unusual local disturbances, probably due to landslides caused by rain after a prolonged dry weather with distances 80 to 100 Kilometers.
02	Epc: - 73°N, 127.3°E Near South Coast of Mindanao. -H= 00h 42m 07.2s (USCGS) -h= about 157 km.					
	Shillong	Z	iP	00 49 10		Slight, distant. Compression.
	Chatra	Z	eP	00 49 47		Feeble, distant.
	Madras	E	e	00 50 23		Surface waves.
	Poona	Z	eP	00 51 09		Feeble shock, other phases not clear.
	Dehra Dun	NE	e	00 51 13 58 13		Feeble phases not clear.
	Bombay	E	e	00 51 16 53 33 58 37		Very slight.
		N	e	59		

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
February 1961 .. .. (contd)						
02	Shillong	Z	iP	06 40 24		Slight, distant. Rarefaction.
02	Shillong	Z	iP	11 22 25 27 23	3330	Slight, Compression.
	Chatra	Z	iP	11 22 56		Feeble, distant.
02	Shillong	Z	eP	16 29 01		Slight, distant.
02	Shillong	Z	eP	17 42 38		Slight, distant.
02	Dehra Dun	NE	e	23 25 20		Tremor.
03	Shillong	Z	Pg Sg	01 03 26 03 31	40	Slight.
03	Shillong	Z	iP	02 30 53		Slight, distant. Compression.
03	Shillong	Z	iP	13 39 40		Slight, distant. Rarefaction.
	Chatra	Z	iP	13 40 05		Feeble, distant. Rarefaction.
03	Chatra	Z	iP	15 43 45		Feeble, distant. Compression.
03	Shillong	Z	iP	21 48 31		Slight, distant. Rarefaction.
03	Shillong	Z	Pg S Sg	22 33 05 33 16 33 21	130	Slight.
03	Shillong	Z	eP	22 58 02		Slight, distant.
03	Shillong	Z	iP	23 31 34		Slight, distant. Rarefaction.
	Dehra Dun	NE	e	23 32 42		Tremor.
04	Shillong	Z	Pg Sg	00 14 40 14 52	110	Slight.
04	Shillong	Z	i	00 44 47		Slight near. Other phases not clear.
04	Dehra Dun	NE	e	01 32 39		Tremor.
	Shillong	Z	iP	01 32 45		Slight, distant. Rarefaction.
04	Epc:- 24.7°N, 95.3°E Northern Burma. -H= 08h 51m 48.9s (USCGS). -h about 162 km. 24.3°N, 95°E -H= 08h 51m 50s (Shillong).					
	Tocklai	E	iP	08 52 22		Slight.
	Shillong	ZE	iP	08 52 38	320	Moderate, first motion- East.
		E	PP PPP iS	52 47 52 53 53 14		
	Calcutta	NE	iP	08 53 28	650	Moderate, first ground motion East.
			iS	54 37		

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
February 1961 .. .. (contd)						
04	Chatra	ZNE	iP PP PPP LQ S LR SS M	08 53 37 53 43 53 48 54 50 54 56 55 10 55 15 55 57	770	Moderate distant. Rarefaction.
	Bokaro	N	iP	08 53 51	900	Moderate, other phases unidentifiable due to overlapping. Initial Gr. movement towards North.
	Vizianagram	N	iP	08 54 25		Slight, distant.
	Port Blair	N	iP iS	08 54 53 57 20	1450	Slight.
	Dehra Dun	NE N	eP PP PPP iS SS SSS LR M	08 55 34 55 44 55 52 58 22 58 39 58 51 59 00 09 00 14	1670	Slight
	Hyderabad	EN E EN E L N	iP PP PPP i SSS e LR M M	08 55 46 56 01 56 33 59 18 59 33 09 00 06 00 24 01 54 02 03		Moderate, initial ground movement towards North and East.  Period= 8 secs., Gr. dis= 3 μ Period= 9 secs., Gr. dis= 4 μ
	Madras	E	iP PP PPP iS LQ SS SSS LR M	08 56 00 56 15 56 22 59 23 59 25 59 45 59 57 09 00 17 01 53	2050	Moderate. Initial ground motion towards East.
	Poona	Z N	iP iS LQ SS LR	08 56 23 09 00 01 00 07 00 48 00 57	2200	Moderate. Rarefaction. Initial ground movement towards North & East
	Bombay	NE	eP SP i i	08 56 33 57 17 09 00 24 01 21		Slight.
	Kodaikanal	E	iP eS LR M	08 56 40 09 00 25 01 25 03 10	2280	Slight, Initial ground movement towards West.  Period= 8 secs., Gr. dis= 2.4 μ

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ k. m	REMARKS
February 1961 .. .. (contd)						
04	Colombo	E	P	08 56 46		
			e	57 32		
			e	09 00 55		
			M	01 22		Amp= 1.0 m.m.
	Chatra	Z	eP	12 59 05		Feeble, distant.
04	Shillong	Z	iP	12 58 47		Slight distant. Rarefaction
04	Shillong	Z	Pg	14 28 52	250	Slight
			Sg	29 28		
04	Shillong	Z	i	15 31 43		Slight, near.
04	Bombay	E	e	15 44 09		Near, tremor.
	Poona	Z	iP	15 44 09		Tremor, Compression.
	Madras	E	e	15 44 14		Feeble.
	Shillong	Z	iP	15 44 32		Slight, distant. Compression.
04	Poona	Z	eP	16 44 02		Slight, phases not clear.
	Madras	E	e	16 44 54		Feeble near.
	Shillong	Z	iP	16 45 21		Slight, distant Rarefaction.
04	Epc:- 24.0°N, 122.7°E, Off coast coast of Formosa. -H= 19h 09m 12.9s (USCGS) -h= 14 km.ca.					
	Shillong	ZE	iP	19 15 06	3090	Moderate, Compression.
		E	PP	15 58		Initial Ground movement
			PPP	16 07		Westward.
			iS	19 49		
			i	20 36		
			LQ	20 46		
			SS	21 06		
			LR	22 21		
			M	24 27		
	Calcutta	E	eP	19 15 39		Moderate.
			i	21 39		
	Chatra	ZNE	iP	19 15 43		Feeble distant, phases not clear. Compression.
	Bokaro	E	iP	19 15 56	4020	Slight, other phases un- identifiable. Initial ground movement West.
			iS	21 39		
	Port Blair	N	i	19 16 04		Slight.
	Port Blair	N	i	19 16 04		
	Dehra Dun	NE	eP	19 16 50	4460	Slight.
		N	PP	18 35		
			PPP	19 00		
			iS	22 57		
			SS	25 41		
			SSS	26 11		
			M	31 44		
	Madras	E	iP	19 17 06	4620	Moderate. Initial ground motion towards West.
			PP	18 44		
			PPP	19 07		

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
February 1961 .. .. (contd)						
04	Madras	E	eS	19 23 23		
			LQ	26 59		
			SSS	27 16		
			LR	28 56		
			M	32 04		
	Hyderabad	EN	iP	19 17 08		
			i2	27 08		
		E	e	27 40		Moderate, Initial ground movement Southward and Westward.
			e	28 04		
			e	32 04		
			e	35 15		
			LQ	38 40		
		N	M	49 57		
		E	M	50 32		Period= 12 secs. Gr. dis= 3 μ Period= 12 secs., Gr. dis= 3 μ
	Colombo	E	P	19 17 20		
			e	24 03		
			L	30 30		
			M	35 35		Amp= 0.2 mm.
	Poona	Z	iP	19 17 36	5010	Slight, Compression
		N	PP	19 26		Initial ground movement towards West.
			iS	24 15		
			PPS	24 33		
			SS	27 26		
			LQ	28 07		
			SSS	28 30		
			M	34 03		
05	Chatra	Z	iP	00 08 05		Feeble distant. Rarefaction.
05	Shillong	Z	iP	02 45 20		Slight, distant. Rarefaction.
05	Shillong	Z	eP	04 59 02	250	Slight.
			Pg	59 18		
			S	59 31		
			S*	59 33		
			Sg	59 35		
05	Shillong	Z	iPg	06 16 07	20	Slight Rarefaction
			iSg	16 09		
05	Shillong	Z	eP	08 07 01		Slight, distant.
05	Shillong	Z	eP	13 15 52	230	Slight.
			Pg	15 54		
			Sg	16 27		
05	Chatra	Z	iP	15 58 04		Feeble, distant. Rarefaction.
	Poona	Z	iP	15 58 09		Tremor, Rarefaction.
	Shillong	Z	iP	15 58 11		Slight, distant. Compression.
05	Shillong	Z	eP	16 50 25	300	Slight
			Pg	50 26		
			Sg	50 59		
05	Port Blair	EW	e	17 00 21		Slight.

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
February 1961 .. .. (contd)						
05	Epc:- 38.4°S, 78.2°E Indian ocean. -H= 17h 50m 51.1s (USCGS). -h about 25 kms.					
✓	Madras	E	eP	18 00 08	5690	Slight.
			PPP	03 21		
			eS	07 26		
			PS	07 34		
			PPS	07 43		
			e	09 54		
			SS	10 52		
			SSS	12 30		
			LQ	12 50		
			LR	15 48		
			M	19 30		
✓	Hyderabad	N	P	18 00 39	6140	
			S	08 22		
			SS	12 16		
			M	21 09		
		E	M	21 19		
✓	Poona	Z	iP	18 00 39	6360	Slight, Rarefaction
		N	iS	08 34		
			PS	08 43		
			PPS	08 53		
			M	22 00		
✓	Bombay	NE	eP	18 00 47	6410	Slight.
		ES	es	01 03		
		NE	eS	08 45		
		E	M	23 33		
✓	Shillong	Z	iP	18 01 33		Slight distant. Rarefaction.
✓	Chatra	Z	iP	18 01 36		Feeble, distant. Compression.
✓	Dehra Dun	NE	eP	18 02 22	7170	Slight, Other phases not clear.
		N	iS	11 01		
			SS	15 35		
			M	25 20		
	Colombo	E	e	18 05 53		
			e	08 22		
			e	09 55		
			M	14 03		Amp= 0.5 m.m.
	Calcutta	E	e	18 09 30		Slight.
			e	22 09		
✓	Bokaro	E	e	18 10 00		Slight, distant, other phases not clear.
	Kodaikanal	EW	e	18 10 33		Tremor
05	Shillong	Z	eP	18 14 13		Slight, distant.
05	Shillong	Z	iP	19 27 27		Slight, distant Compression.
05	Shillong	Z	eP	19 29 52		Slight, distant. Compression
05	Shillong	Z	iP	19 37 45		Slight, distant. Compression.

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km	REMARKS
February 1961 .. .. (contd)						
05	Shillong	Z	eP	20 14 37	270	Slight.
			Sg	15 16		
05	Shillong	Z	iPg	20 41 11	20	Slight, compression.
			iSg	41 13		
05	Shillong	Z	Pg	22 39 55		Slight, local, felt, other phases not clear.
05	Chatra	ZN	eP	22 41 12	480	Feeble.
			iS	42 03		
05	Shillong	Z	Pg	23 44 10	320	Slight.
			Sg	44 46		
06	Shillong	Z	Pg	00 18 20	320	Slight.
			Sg	18 56		
06	Shillong	Z	eP	07 10 58	270	Slight.
			P	11 01		
			Pg	11 08		
			S	11 28		
			Sg	11 31		
06	Shillong	Z	iPg	12 19 54	200	Slight, Rarefaction.
			Sg	20 17		
06	Shillong	Z	iP	12 23 48		Slight, distant. Compression.
✓	Chatra	Z	iP	12 24 00		Feeble, distant. Rarefaction.
06	Shillong	Z	iP	12 35 23		Slight, distant. Compression.
06	Dehra Dun	NE	e	14 15 51		Feeble.
	Shillong	Z	iP	14 17 22		Slight, distant. Rarefaction.
05	Shillong	Z	Pg	15 36 07	290	Slight.
			Sg	36 40		
06	Shillong	Z	iP	18 24 15		Slight, distant. Compression.
06	Chatra	Z	iP	18 24 35		Feeble, distant. Compression.
✓	Madras	E	P	18 26 12		Feeble.
06	Chatra	Z	eP	18 40 13		Very feeble, distant.
06	Shillong	ZE	iP	19 39 46	6890	Feeble, compression. Other phases not clear.
		E	iS	48 10		
06	Madras	E	i	19 49 43		Presumably surface wave.
06	Shillong	Z	eP	20 29 17		Slight, distant.
06	Shillong	Z	iP	21 30 02		Slight, distant. Compression.
06	Chatra	Z	iP	21 30 31		Feeble, distant. Compression.
06	Epc:- 6.8°S, 155.3°E. Solomon Islands. Felt. -H= 21h 45m 13.5s (USCGS). -h about 59 km. 5°S, 156°E. -H= 21h 45m 15s (Shillong).					



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 DATE STATION COMPT PHASE G.M.T. h.m.s. Δ km REMARKS  
 February 1961 .. .. (Contd)

DATE	STATION	COMPT	PHASE	G.M.T. h.m.s.	Δ km	REMARKS
06	Port Blair	EW	iP	21 55 53	7110	Slight.
			PcS	22 00 34		
			iS	04 29		
			SS	09 04		
			M	12 38		
Tocklai	E	iP	21 56 16	7610	Slight distant, Rarefaction.	
Shillong	ZE E	iP	21 56 19	7610	Moderate, Compression first movement West.	
		PcP	56 42			
		PP	58 58			
		PPP	22 00 34			
		iS	05 21			
		PS	05 46			
		PPS	06 01			
		SKS	06 16			
		SS	09 52			
		SSS	12 54			
		LQ	13 59			
		LR	17 26			
		M	23 19			
		Chatra	ZNE NE			iP
PP	21 59 21					
PPP	22 01 16					
S	06 10					
ScS	06 31					
PS	06 55					
PPS	07 14					
eSS	11 16					
SSS	14 40					
LQ	17 15					
eLR	20 52					
M	27 00					
Bokaro	NE E	eP	21 56 50	8220	Slight, first directi of ground motion West	
		PcP	56 59			
		PP	59 42			
		PPP	22 01 25			
		iS	06 22			
		SKS	06 38			
		PS	07 08			
		PPS	07 24			
		i	07 42			
Colombo	E	P	21 57 03	8360	Amp= 0.4 mm.	
		S	22 06 42			
		L	28 40			
		M	33 50			
Madras	E	iP	21 57 07	8490	Moderate, Initial gr motion towards West.	
		PcP	57 15			
		i	59 24			
		PP	22 00 06			
		PPP	01 53			
		iS	06 52			
		ScS	07 13			
		PS	07 34			
		PPS	07 55			
		SS	11 45			
		SSS	14 57			
		LQ	17 46			
		LR	22 01			

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 International Seismological Centre  
 DATE STATION COMPT PHASE G.M.T. h.m.s. Δ km REMARKS  
 February 1961 .. .. (contd)

DATE	STATION	COMPT	PHASE	G.M.T. h.m.s.	Δ km	REMARKS	
06	Hyderabad	EN E	iP	21 57 19	8710	Moderate, Westward.	
			PcP	57 24			
			PP	22 00 26			
			PPP	02 03			
			iS	07 15			
			ScS	07 36			
			PS	08 15			
			SS	12 36			
			SSS	16 00			
			LQ	18 29			
			LR	22 16			
			M	25 57			
							Period=27 secs, . Gr. dis=20 μ
			Kodaikanal	EW			iP
i	22 07 08						
SS	12 08						
LR	21 38						
M	28 02						
		Period=24 secs, Gr.dis=22. μ					
Poona	Z N	iP	21 57 42	9200	Moderate, Compression.		
		iS	22 08 00				
		PS	08 54				
		PPS	09 16				
		SS	13 26				
		LQ	20 16				
		LR	24 18				
		M	31 11				
Bombay	NE E E NE	eP	21 57 47	9450	Slight.		
		PP	22 01 15				
		PPP	03 06				
		SKS	08 09				
		eS	08 16				
		ScS	08 28				
		PS	09 22				
06	Shillong	Z	eP	22 23 45		Slight, distant.	
07	Shillong	Z	eP	01 55 58		Slight, distant.	
07	Bombay	NE N E	e	03 02 13		Very slight.	
			e	05 43			
			e	07 00			
	Poona	Z	eP	03 02 25		Tremor.	
07	Shillong	Z	iP	03 05 05		Slight, distant, rarefaction.	
07	Shillong	Z	iP	03 10 07		Slight, distant, compression.	
07	Shillong	Z	iP	05 18 04		Slight, distant, compression.	
07	Bokaro	Z	iP	05 18 31		Feeble.	
07	Chatra	Z	i	05 21 04		Probably P phase of another distant shock, compression.	

					12			REMARKS
DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km			
					February 1961	..	..	(contd)
X 07	Shillong	Z	iP	05 24 33		Slight, distant, compression.		
07	Shillong	Z	iP	08 47 28		Slight, distant, compression.		
07	Shillong	Z	eP	15 34 12		Slight, distant.		
07	Shillong	Z	iP	19 39 04		Slight, distant, compression.		
07	Shillong	Z	iP	21 10 17		Slight, distant, compression.		
07	Chatra	Z	iP	21 10 38		Very feeble, distant other phases not clear		
07	Shillong	Z	iP	22 19 07		Slight, distant, compression.		
07	Shillong	Z	e i	22 21 46 21 51		Sligh, near.		
07	Shillong	Z	eP iS	23 06 47 07 01	110	Slight.		
07	Shillong	Z	iP	23 38 32		Slight, distant, compression.		
07	Shillong	Z	eP i	23 59 06 58 28		Slight, near.		
08	Dehra Dun	NE	e i	01 15 40 16 54		Feeble.		
08	Shillong	Z	iP	02 48 58		Slight, distant, compression.		
08	Chatra	Z	iP	02 49 19		Feeble, distant, compression.		
08	Chatra	Z	eP	05 07 27		Feeble, distant.		
08	Shillong	Z	Pg S Sg	06 49 09 49 40 49 41	270	Slight.		
08	Bombay	NE	e	08 22 44		Slight, distant.		
08	Poona	Z	e	08 22 45		Slight, compression. Other phases not clear		
08	Dehra Dun	NE	e	08 22 46		Feeble.		
08	Chatra	Z	eP	08 22 57		Feeble, distant.		

					13			REMARKS
DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km			
					February 1961	..	..	(contd)
08	Shillong	Z	iP	08 23 02		Slight distant. rarefaction.		
08	Shillong	Z	iP P* Pg LR iS Sg	09 44 12 44 15 44 20 44 40 44 46 09 44 51	300	Slight. Mag: -4½		
	Tocklai	E	iP	09 44 34		Slight, distant, rarefaction.		
08	Chatra	Z	eP S	09 45 02 46 01	560	Feeble.		
08	Shillong	Z	iP	09 54 46		Slight, distant. Compression.		
08	Shillong	Z	iP P* S S*	09 55 47 55 48 56 17 56 19	370	Slight.		
08	Tocklai	E	eP	09 56 05		Slight distant.		
08	Chatra	Z	eP	09 56 35		Feeble, distant.		
08	Shillong	Z	P S	10 29 23 29 54	280	Slight.		
08	Shillong	Z	P S	11 19 52 20 27	310	Slight.		
X 08	Shillong	Z	P S	18 05 32 06 02	270	Slight. <i>local</i>		
08	Chatra	Z	eP	18 06 19		Feeble, distant.		
08	Shillong	Z	e	18 52 14		Slight, distant.		
08	Shillong	Z	eP	19 36 38		Slight, distant.		
08	Shillong	Z	e iP iS	19 43 27 43 30 44 02	290	Slight.		
08	Tocklai	E	iP	19 43 49		Slight, distant.		
08	Chatra	Z	eP	19 44 15		Feeble, distant.		
08	Shillong	Z	Pg Sg	21 24 37 24 43	60	Slight.		
09	Shillong	Z	iP	00 10 17		Slight, distant, Compression.		

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DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	REMARKS km.
February 1961 .. .. (contd)					
09	Epc:- 28.2°S, 177.4°W Kermadec Islands Region. -H= 02h 08m 15.9s (USCGS) Mag:- 6 $\frac{3}{4}$ (Pas), 6 $\frac{1}{4}$ (Berk). -h= about 37 km.				
	Shillong	ZE	iP	02 22 11	11160 Rarefaction.
		E	PP	26 15	
			PPP	28 12	
			SKS	32 45	
			S	33 45	
			PS	35 10	
			PPS	35 55	
	Chatra	Z	e	02 25 51	Distant, begining of P not clear.
			eS	02 33 30	
	Madras	E	e	02 26 51	
			e	36 26	
			e	42 18	
	Poona	Z	iP	02 26 54	Other phases not clear.
	Dehra Dun	NE	e	02 27 55	
			e	33 44	
			e	37 52	
	Calcutta	E	e	02 29 04	
	Bombay	E	e	02 30 30	
			e	37 57	
			e	39 17	
	Port Blair	Z	i	02 32 14	
09	Shillong	Z	P	06 04 51	220 Slight, near.
			P*	04 53	
			Pg	05 01	
			S	05 17	
			S*	05 19	
			Sg	05 21	
09	Shillong	Z	Pg	11 57 32	90 Slight.
			Sg	57 42	
09	Shillong	Z	P	12 52 14	320 Slight.
			P*	52 16	
			Pg	52 18	
			S	52 50	
			Sg	52 51	
09	Shillong	Z	Pg	16 06 03	70 Slight
			S	06 10	
			Sg	06 11	
09	Chatra	Z	eP	17 52 26	95 Very feeble, local
		NZ	S	52 37	
09	Shillong	Z	Pg	17 55 43	70 Slight.
			S	55 50	
			Sg	55 51	
09	Epc:- 9.9°S, 113.3°E, Off South Coast of Java. -H= 20h 21m 20.1s (USCGS) -h= 73 km.Ca.				
	Madras	E	iP?	20 28 39	4290 Moderate, Initial ground movement towards East.
			iS	34 36	
			LQ	37 49	
			LR	39 43	
			M	43 10	

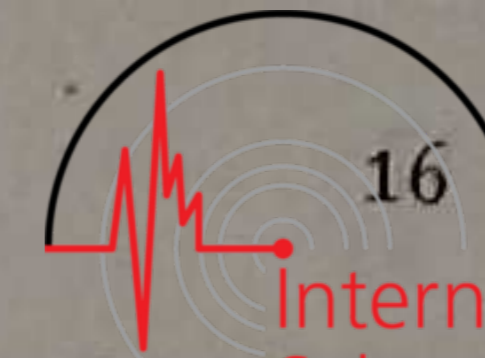
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DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	REMARKS km.
February 1961 .. .. (contd)					
09	Shillong	ZE	iP	20 28 52	4550 Slight, compression, first movement West.
		E	PPP	30 54	
			PcS	34 47	
			iS	35 05	
			PPS	35 21	
			LQ	38 12	
			LR	39 58	
			M	43 48	
	Hyderabad	E	eP	20 29 02	Slight.
			i	35 30	
			LR	40 52	
			M	43 54	Period= 18 secs., Gr. dis= 6 $\mu$
	Bokaro	N	eP	20 29 09	4610 Slight.
		NE	iS	35 25	
	Chatra	Z	iP	20 29 18	4850 Feeble, compression.
		NE	eS	35 48	
	Poona	Z	eP	20 29 44	5170 Slight.
		N	iS	36 33	
			PS	36 39	
			e	39 43	
	Bombay	E	eP	20 29 54	5270 Slight.
		E	eS	36 49	
	Dehra Dun	NE	eP	20 30 21	5610 Slight.
		N	iS	37 35	
			SS	41 09	
			SSS	42 20	
			LR	44 40	
			M	48 43	
	Kodaikanal	EW	e?	20 30 35	
	Calcutta	E	e	21 19 26	Slight.
	Colombo	E	e	21 19 30	
			e	29 00	
			e	55 00	
			M	59 20	Amp= 0.3 mm.
09	Shillong	Z	i	21 36 11	Slight, near.
			i	36 50	
10	Shillong	Z	iP	13 27 35	Slight, distant, rarefaction.
	Chatra	Z	eP	13 28 07	Feeble, distant.
10	Shillong	Z	iP	17 05 54	Slight, distant, compression.



DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
February 1961 .. .. (contd)						
10	Shillong	Z	eP P* Pg S S* Sg	17 15 16 15 18 15 23 15 46 15 47 15 49	280	Slight
10	Chatra	Z	eP	17 16 02		
10	Shillong	Z	P i i	18 54 39 55 10 55 11		Slight, near.
11	Shillong	ZE Z	iP i i	06 19 47 21 32 42 41		Slight, rarefaction, first movement Eastward appears to be a deep focus shock of distant origin.
	Chatra	Z	iP e	06 20 07 21 45		
	Poona	Z	iP	06 21 01		Tremor
	Dehra Dun	NE	e i i	06 21 08 28 03 30 12		Feeble.
11	Dehra Dun	NE	e i	09 36 06 37 48		Feeble.
11	Shillong	Z	iP	12 31 05		Slight distant, rarefaction.
11	Port Blair	EW	e e	20 14 34 25 03		Slight.
11	Shillong	ZE E	iP PP SKS S PPS	21 15 01 19 08 25 36 26 05 28 41	8890	Slight.
	Chatra	Z	iP	21 15 20		Feeble, distant, Rarefaction
	Madras	E	e e e e	21 18 43 19 42 25 56 29 09		Slight, phases could not be indentified.
	Bokaro	E	e	21 19 44		Slight, distant.
	Calcutta	E	e	21 19 26		Slight. <i>See next page</i>
	Dehra Dun	NE	e(P) i	21 19 46 30 35		Feeble, phases not clear.



DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
February 1961 .. .. (contd)						
11	Bombay	NE E	e e e	21 20 49 23 14 26 34		Slight.
		NE	e e	30 32 32 00		
	Bokaro	E	e	21 29 31		Slight, distant.
11	Chatra	Z	eP	23 30 13		Feeble, distant, compression.
12	Shillong	Z	iP	02 59 52		Slight, distant, rarefaction.
12	Shillong	Z	eP P* Pg S Sg	07 45 21 45 24 45 27 45 52 45 53	280	Slight.
12	Shillong	Z	eP eS	09 00 97 00 41	310	Slight.
12	Shillong	Z	eP	09 59 14		Slight, distant, compression.
12	Shillong	Z	iP	13 09 01		Slight, distant, compression.
12	Shillong	Z	iP i i S Sg	13 56 45 56 54 57 02 57 24 57 28	350	Slight.
	Tocklai	E	iP	13 56 59		Slight.
12	Shillong	Z	iP	15 29 28		Slight, distant, compression.
12	Chatra	Z	eP	15 30 00		Feeble, distant.
12	Epc:- 43.7°N, 147.6°E, Kurile Islands. -h= 45 kmca. -H= 21h 53m 43.5s(USCGS).					
	Tockalai	E	iP	22 02 10		Slight, distant.
	Shillong	ZE E	iP PP PPP iS PPS ScS SS SSS LR M	22 02 25 04 20 05 21 09 23 09 35 11 55 13 01 14 07 16 09 20 59	5370	Moderate, compression, first movement West.



DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
February 1961 .. .. (contd)						
12	Shillong	E	PPS	23 42 36		
			SS	45 26		
			LQ	46 50		
			SSS	47 06		
			LR	49 08		
			M	53 48		
	Chatra	ZNE	iP	23 35 38	5670	Feeble, compression
		NE	S	42 55		
	Dehra Dun	NE	eP	23 36 10	6170	Slight.
		N	PP	38 05		
			PPP	39 07		
			iS	43 55		
			SS	47 47		
			SSS	49 25		
			LQ	49 39		
			M	56 09		
	Port Blair	NS	i	23 36 21		Slight.
	Sehore	NE	iP	23 36 47		Slight, distant. First
			i	36 56		Ground movement West.
	Madras	E	eP	23 37 15	7200	Slight.
			P	37 35		
			PP	39 26		
			eS	45 56		
			PS	46 12		
			PPS	46 23		
			ScS	47 13		
			SS	50 11		
			SSS	52 53		
			LQ	53 37		
			LR	56 59		
			M	00 01 57		
	Poona	E	eP	23 37 17		Slight, other phases
						not clear.
	Bombay	NE	eP	23 37 23	7310	Slight.
			eS	46 11		
			PS	46 36		
13	Shillong	Z	Pg	00 25 35	290	Slight.
			S	26 06		
			Sg	26 08		
13	Shillong	Z	eP	02 12 06	470	Slight.
			P*	12 16		
			Pg	12 20		
			iS	12 56		
			S*	13 11		
			Sg	13 19		
13	Shillong	Z	P	05 00 55	200	Slight
			Pg	00 59		
			S	01 19		
			S*	01 21		
			Sg	01 23		
13	Madras	E	e	07 03 24		Slight, beginning not
			e	11 42		clear due to microseisms
13	Shillong	Z	eP	07 12 53		Slight, distant.

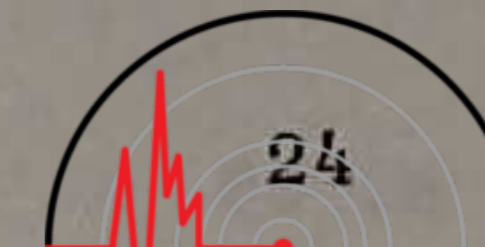
DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
February 1961 .. .. (contd).						
13	Shillong	Z	iP	09 15 42		Slight, distant, compression.
13	Shillong	Z	iP	13 57 11		Slight, distant, compression.
13	Chatra	Z	iP	13 57 38		Feeble, distant.
13	Epc:- 28°N, 81.5°E Nepal-Tibet Border. -H= 16h 10m 20s (Shillong). 29.7°N, 81°E., -H= 16h 10m 19.8s (USCGS) -h= 35 kmca.					
	Dehra Dun	NE	eP	16 11 05	260	Slight
		N	PP	11 07		
			PPP	11 10		
			iS	11 35		
			LQ	11 36		
		N	SS	11 39		
			SSS	11 41		
			LR	11 45		
			M	11 57		
	Chatra	ZNE	iP	16 11 53	730	Feeble, compression.
		NE	eS	13 09		
	Sehore	NE	eP	16 12 06	740	Slight.
			PP	12 13		
			PPP	12 21		
			i	13 21		
			S	13 23		
			i	13 29		
			SSS	16 13 41		
			M	13 52		
	Shillong	Z	iP	16 12 49	1290	Slight, Rarefaction
		E	LQ	14 48		
			iS	15 00		
			SS	15 12		
			SSS/LR	15 24		
			M	16 27		
	Poona	Z	iP	16 13 19		Slight, other phases
						not clear.
	Bombay	E	e	16 13 58	1500	Feeble.
			eS	16 08		
		NE	e	17 06		
		E	M	18 29		Period= 13 sec., Gr. dis= 13 μ
		N	M	18 29		Period= 11 sec., Gr. dis= 2 μ
	Madras	E	eP	16 14 08	1780	Slight.
			eS	17 06		
			SS	17 26		
			SSS	17 42		
			LR	17 49		
			M	19 11		
	Bokaro	NE	e	16 14 17		Slight, distant.
	Vizianagram	SN	eP	16 14 50		Slight, distant.
	Hyderabad	N	e	16 16 04		
			M	18 04		Period= 6 secs. Gr. dis= 2 μ
13	Shillong	Z	iP	16 25 51		Slight, distant, rarefaction.
13	Chatra	Z	iP	16 26 24		Feeble, distant.

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
February 1961 .. .. (contd)						
13	Epc:- 43.7°N, 149.6°E. Kurile Islands.			-H= 16h 27m 20.9s (USCGS) -h= 25 kmca.		
	Shillong	Z	iP	16 36 06	5330	Slight, compression.
		E	PcP	37 32		
			PP	38 00		
			PPP	38 58		
			PcS	41 28		
			iS	43 04		
			PPS	43 23		
			LQ	47 14		
			SSS	47 46		
			M	53 48		
	Chatra	Z	iP	16 36 26	5690	Slight.
		N	iS	43 44		
	Bokaro	E	eP	16 36 51	5890	Slight, Other phases not clear.
		N	iS	44 20		
	Dehra Dun	NE	eP	16 37 03	6140	Slight.
		N	iS	44 46		
			SS	48 31		
			LQ	50 42		
			LR	53 42		
			M	58 30		
	Port Blair	NS	i	16 37 22		Slight
			e	45 03		
	Hyderabad	E	P	16 37 57	6850	Slight.
			S	46 19		
			M	17 04 55		Period= 18 sec. Gr. dis=7 μ
		N	M	17 05 10		Period= 18 sec. Gr. dis= 6 μ
	Madras	E	eP	16 38 04	7200	Slight.
			PCP	38 36		
			PP	40 32		
			eS	46 45		
			PS	47 06		
			PPS	47 18		
			M	17 02 46		
	Bombay	NE	eP	16 38 13	7330	Slight
			eS	47 00		
			PS	47 20		
13	Shillong	Z	iP	17 58 56		Slight, distant. Rarefaction.
13	Shillong	Z	P	19 43 45	230	Slight
			Pg	43 56		
			S	44 12		
			Sg	44 19		
13	Shillong	Z	iP	22 39 58		Slight, distant, rarefaction.
13	Chatra	Z	eP	22 46 19		Feeble, distant.
13	Dehra Dun	NE	e	22 54 37		Feeble.
14	Shillong	Z	iP	00 24 16		Slight, distant, compression.
	Chatra	Z	iP	00 24 38		Feeble, distant.
14	Shillong	Z	iP	02 59 51		Slight, distant, compression.
	Chatra	Z	iP	03 00 10		Very feeble, distant. Other phases not clear.

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km	REMARKS
February 1961 .. .. (contd)						
14	Shillong	Z	iP	03 24 09		Slight, distant, compression.
	Shillong	Z	iP	03 30 50		Slight, distant, compression.
	Chatra	Z	iP	03 31 07	5650	Slight.
		NE	eS	38 23		
	Dehra Dun	Z	e(P)	03 31 46	6110	Slight, Other phases not clear.
			i(S)	39 27		
	Hyderabad	N	i	03 41 03		
		E	m	56 34		Period= 15 sec., Gr. dis= 4 μ
	Bombay	N	e	03 41 45		Slight.
14	Chatra	Z	e?	06 04 51		Feeble, distant. Other phases not clear.
	Shillong	Z	eP	06 04 59		Slight, distant.
14	Shillong	Z	iPg	06 05 06	70	Slight.
			Sg	05 14		
	Chatra	Z	e?	06 06 11		Probably a mild near shock
			i?	06 16		
14	Shillong	Z	iP	10 15 01		Slight, distant, compression.
14	Shillong	Z	eP	11 53 19	250	Slight, near.
			Sg	53 47		
14	Shillong	Z	eP	14 28 02	130	Slight, near.
			Sg	28 18		
	Chatra	Z	e	14 28 11		Mild.
			i	28 25		
			i	28 56		
15	Epc:- 41°N, 146.6°E. Off the coast of Japan.			-H= 10h 45m 15s (Shillong).		
	43.7°N, 147.4°E			-H= 10h 45m 15.9s (USCGS) -h= 69 kmca.		
	Shillong	ZE	iP	10 53 53	5370	Moderate, compression, first movement West.
		E	PP	55 49		
			PPP	56 51		
			iS	11 00 53		
			PS	01 00		
			PPS	01 10		
			SS	04 02		
			LQ	04 40		
			M	10 44		
	Chatra	Z	iP	10 54 16	5640	Slight, compression
		NE	eS	11 01 31		
		E	M	11 17 -		Period= 13.5 secs. Gr. dis= 14 μ
		N	M	11 18 -		Period= 17 secs. Gr. dis= 21 μ
	Calcutta	E	eP	10 54 33	5890	Moderate.
			iS	11 02 02		
	Bokaro	NE	iP	10 54 38	5930	Slight, first direction of gr. movement West & South
			iS	11 02 09		Other phases not clear.
		E	M	11 34 00		Period= 6.3 secs., Gr. dis= 9

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
February 1961 .. (contd).						
15	Dehra Dun	NE N	eP PPP iS SS LQ LR M	10 54 53 58 04 11 02 34 06 23 08 32 11 13 15 46	6110	Slight
	Port Blair	EW	e i	10 55 04 11 03 09		Slight.
	Hyderabad	EN	iP PP PPP iS E ScS SS EN LQ LR M N M	10 55 41 58 04 59 08 11 04 08 05 32 08 10 11 11 11 42 14 26 19 30 14 59	6940	Moderate, first ground movement-South, West.  Period= 16 sec, Gr. dis= 1 Period= 18 sec., Gr. dis=
	Madras	E	eP PP eS PPS ScS LR M	10 55 53 58 19 11 04 30 05 02 05 39 15 09 20 33	7130	Slight.
	Poona	E	eP	10 56 00		Slight, Other phases not clear.
	Bombay	NE	eP eS PS N M E M	10 56 04 11 04 47 05 13 27 45 27 49	7240	Period= 15 sec., Gr. dis=
	Colombo	E	e e e M	10 56 21 11 05 24 23 49 28 49		Amp= 0.2 mm.
15	Kodaikanal	EW	e	11 05 23		Tremor.
15	Epc:- 30°N 84.6°E. South Tibet. -H=11h 29m 00s (Shillong). 30.8°N 84.4°E. -h=66 kmca. -H= 11h 28m 55s (USCGS)					
	Chatra	ZNE	eP i	11 30 05 30 24	550	Feeble.
	Dehra Dun	NE N	eP LQ iS SS M	11 30 21 31 58 32 06 32 17 33 02	1020	Slight, Other phases not clear.
	Calcutta	NE	e e	11 30 50 31 50		Slight.

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
February 1961 .. .. (contd)						
15	Calcutta	NE	i e i	11 32 53 33 18 33 50		
	Shillong	ZE	eP PP PPP P* Pg LQ iS SS/LR SSS/S* Sg/M	11 30 53 31 01 31 07 31 15 31 33 32 03 32 18 32 30 32 43 32 03	820	Slight.
	Sehore	NE	eP PP LQ iS SS SSS M	11 31 32 31 31 32 58 33 06 33 23 33 30 34 14	1010	Slight
	Vizianagram	SN	e e	11 31 41 34 42		
	Hyderabad	E	e e i M	11 32 20 36 11 36 23 39 56		Slight.  Period= 8 sec, Gr. dis= 4 μ
	Bombay	NE	eP eS e M N M	11 32 32 35 24 36 55 40 00 40 09	1710	Slight.  Period= 6 sec., Gr. dis= 7 μ Period= 7 sec, Gr. dis= 8 μ
	Tocklai	E	e	11 32 53		Slight, distant.
	Madras	E	eS LQ SS SSS LR M	11 36 17 36 17 36 37 36 50 37 00 38 20	1920	Slight.
15	Shillong	Z	Pg Sg	14 59 25 59 37	100	Slight.
15	Chatra	Z	eP S	15 00 24 01 24	560	Feeble, near.
15	Chatra	Z	iP	16 01 53		Feeble, distant, compression.
15	Chatra	Z	eP	18 44 52		Feeble, distant.
15	Shillong	Z	eP P* Pg S S* Sg SSS	20 44 17 44 19 44 27 44 51 44 56 45 00 45 13	300	Slight, distant.
15	Chatra	Z	eP	20 45 04		Feeble, distant.



DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
February 1961 .. .. (contd)						
16	Epc:- 43.2°N, 148°E. Kurile Islands. -H= 13h 54m 53.7s (USCGS) -h= 71 kmca.					
	Shillong	Z	iP	14 03 32	5370	Slight, Compression.
		E	PP	05 26		
			PPP	06 02		
			eS	10 32		
			PS	10 37		
			PPS	10 49		
			LQ	14 37		
	Chatra	Z	iP	14 03 52		Feeble, distant.
	Dehra Dun	NE	e(P) i(S)	14 04 33 12 13	6090	Slight, Other phases not clear
	Poona	Z	eP	14 05 34	7320	Slight, Other phases not clear. Compression.
		N	eS	14 20		
	Bombay	NE	eP	14 05 40	7330	Slight.
			eS	14 27		
		E	PS	15 03		
			PPS	15 46		
	Hyderabad	EN	i	14 14 06		
		E	M	40 02		Period= 11 sec. Gr. dis= 3
		N	M	40 43		Period= 12 sec., Gr. dis= 3
16	Chatra	Z	iP	15 03 27		Feeble, distant.
16	Shillong	Z	eP	15 15 49	220	Slight.
			i	15 50		
			i	15 52		
			iS	16 15		
			Sg	16 19		
16	Chatra	Z	eP	15 15 53		Feeble.
		ZN	i	16 26		
16	Shillong	Z	iP	15 45 13		Slight, distant. Rarefaction
16	Shillong	Z	iP	16 16 42		Slight, distant, Compression
16	Chatra	Z	iP	16 17 08		Feeble, distant.
16	Shillong	Z	iP	20 40 12		Slight, distant, compression
17	Shillong	Z	iP	06 57 45		Slight, distant, compression
17	Tocklai	E	i	08 00 31		Slight,
17	Shillong	Z	eP	08 01 03		Slight, distant.
17	Dehra Dun	NE	e	08 03 46		Tremor.
17	Dehra Dun	NE	e	09 45 46		Tremor
	Shillong	Z	iP	09 46 33		Slight, distant, rarefaction
17	Shillong	Z	eP	12 51 55		Slight, distant.
17	Dehra Dun	NE	e	13 10 33		Feeble.
			i	12 07		
	Poona	Z	eP	13 12 27		Feeble, shock.
	Chatra	Z	iP	13 12 58		Feeble, distant.
	Shillong	Z	iP	13 12 59		Slight, distant, rarefaction.
17	Shillong	Z	iP	15 12 23		Slight, distant, rarefaction.

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
February 1961 .. .. (contd).						
17	Shillong	Z	iP	15 46 01		Slight, distant, compression.
17	Chatra	Z	iP	15 46 32		Feeble, distant.
17	Shillong	Z	iP	16 10 11		Slight, distant, compression.
17	Shillong	Z	eP	18 12 44	320	Slight.
			iS	13 20		
17	Shillong	Z	iP	19 05 48		Slight, distant, rarefaction.
18	Shillong	Z	eP	00 00 52		Slight, near.
			i	01 06		
			i	01 11		
18	Shillong	Z	iP	08 31 14		Slight, distant, rarefaction.
18	Shillong	Z	iP	12 18 41		Slight, distant, compression.
18	Shillong	Z	Pg	13 47 38	40	Slight.
			Sg	47 44		
18	Shillong	Z	iP	16 02 48		Slight, distant, rarefaction.
18	Shillong	Z	iP	20 07 56		Slight, distant, rarefaction.
18	Chatra	Z	iP	20 08 30		Feeble, distant.
19	Shillong	Z	eP	11 22 23		Slight, near.
			i	22 46		
			i	23 02		
19	Shillong	Z	iP	12 23 34		Slight, distant, compression.
19	Shillong	Z	iP	12 30 00		Slight, distant.
19	Shillong	Z	Pg	19 45 49	130	Slight, near.
			Sg	46 23		
19	Chatra	Z	eP	19 47 41		Very feeble, distant.
19	Dehra Dun	NE	e	21 27 57		Tremor.
20	Shillong	Z	eP	12 33 06		Slight, distant.
20	Shillong	Z	e	12 38 32		Slight, distant.
			iP	38 48		
20	Shillong	Z	iP	13 23 34		Slight, distant, rarefaction.
20	Shillong	Z	iP	14 28 15		Slight, distant, compression.
20	Chatra	Z	iP	14 28 43		Feeble, distant.
20	Shillong	Z	Pg	16 56 12	150	Slight.
			S	56 28		
			Sg	56 29		
20	Dehra Dun	NE	e	17 29 56		Feeble.
			i	31 09		
			i	31 47		
	Chatra	Z	eP	17 31 44		Feeble, distant.
			i	34 26		
	Shillong	Z	iP	17 32 39		Slight, distant, compression.
	Madras	E	e	17 39 12		Slight, Other phases could not be identified due to microseismic activity.
			e	42 09		
20	Shillong	Z	iP	18 17 46		Slight, distant, rarefaction.

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
February 1961 .. .. (contd)						
20	Shillong	Z	P	18 44 43	90	Slight.
			P*	44 46		
			Pg	44 48		
			S	44 57		
			Sg	44 59		
20	Poona	Z	eP	18 45 03		Tremor.
20	Madras	E	e	18 45 13		Slight. Seismic activity.
			e	51 08		
20	Chatra	Z	eP	18 45 23		Feeble, distant.
			i	45 28		
			i	46 00		
			i	46 33		
20	Dehra Dun	NE	e	18 45 27		Tremor.
20	Shillong	Z	iP	18 45 33		Slight, distant, rarefaction.
20	Shillong	Z	iP	18 51 29		Slight, distant, compression.
	Chatra	Z	iP	18 51 55		Feeble, distant.
20	Chatra	Z	eP	19 22 00		Very feeble, distant.
	Dehra Dun	NE	e	19 22 21		Tremor.
20	Chatra	Z	eP	22 46 48		Very feeble, distant.
			i	22 46 54		
20	Shillong	Z	eP	22 46 51		Slight, distant, compression.
20	Shillong	Z	eP	23 13 11		Slight, distant.
21	Shillong	Z	eP	0 39 59	170	Slight.
			Pg	40 00		
			Sg	40 20		
21	Chatra	Z	eP	03 11 21		Very feeble, probably distant, Phases not clear.
	Shillong	Z	eP	03 11 50		Slight, distant.
21	Shillong	Z	iP	05 45 43		Slight, distant, rarefaction.
21	Shillong	Z	eP	10 20 36		Slight, near.
21	Shillong	Z	iP	19 22 35		Slight, distant, rarefaction.
21	Shillong	Z	iP	21 13 32		Slight, distant, compression.
21	Shillong	Z	eP	23 36 27		Very feeble, probably distant. Other phases not clear.
21	Shillong	Z	iP	23 40 50		Slight, distant, rarefaction.
22	Tocklai	E	iP	01 03 29		Slight, distant.
			iS	01 03 55		
22	Shillong	Z	iP	02 34 56	210	Slight, rarefaction.
			P*	34 57		
			Pg	35 00		
			PP	35 03		
			eS	35 21		
			S*	35 23		
			Sg	35 25		
22	Shillong	Z	iP	03 00 19		Slight, distant, rarefaction.
22	Shillong	Z	eP	13 07 58		Slight, distant.

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
February 1961 .. .. (contd)						
22	Dehra Dun	NE	e	13 12 20		Tremor.
22	Shillong	Z	iP	14 46 31		Slight, distant, compression.
22	Shillong	Z	iP	15 48 30		Slight, distant, compression.
	Chatra	Z	iP	15 48 55		Feeble distant.
22	Chatra	Z	eP	17 56 49		Feeble distant.
22	Shillong	Z	iP	18 11 35		Slight, distant, rarefaction.
22	Chatra	Z	iP	18 12 09		Feeble distant.
22	Dehra Dun	NE	e	18 19 57		Tremor.
22	Shillong	Z	iP	21 28 59		Slight, distant, compression.
22	Dehra Dun	NE	e	22 00 06		Tremor.
22	Chatra	Z	iP	22 00 21		Feeble, distant, compression.
			i	03 19		Probably another shock, phases not clear.
22	Shillong	Z	eP	22 01 05		Slight.
22	Bombay	E	eP	22 13 45	7830	Slight.
			PP	15 29		
			eS	22 58		
			PPS	24 20		
22	Dehra Dun	NE	e	22 23 24		Feeble.
22	Calcutta	E	e	23 53 10		Slight.
			e	54 05		
		N	e	23 53 10		
			e	54 10		
			i	54 30		
23	Shillong	Z	iP	01 03 39	280	Slight, rarefaction.
		E	P*	03 44		
			Pg	03 46		
			S	04 10		
			Sg	04 15		
	Chatra	Z	eP	01 04 15	750	Feeble.
			PP	04 24		
			PPP	04 30		
			Pg	04 48		
			LQ	05 24		
			eS	05 33		
			LR	05 43		
			SS	05 45		
			SSS	05 56		
			S*	05 59		
			Sg, M	06 19		
	Dehra Dun	NE	e	01 08 08		Tremor
	Bombay	E	e	01 09 58		Slight.
			e	13 05		
	Poona	Z	eP	01 10 56		Feeble shock.
23	Shillong	Z	iP	03 09 00		Slight, distant, compression.
23	Chatra	ZN	ePg	03 28 27	110	Very feeble, local.

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	REMARKS
February 1961 .. .. (contd)					
23	Epc:- 36°N, 144°E, -H= 04h 16m 10s (Shillong). 38.2°N, 142.7°E -H= 04h 16m 25s (USCGS). -h= 119 km.				
✓	Calcutta	E	eP e	04 24 04 32 14	Slight.
✓	Shillong	Z E	iP PP PPP iS PS PPS SS LQ LR M	04 24 30 26 09 26 43 31 08 31 16 31 21 34 24 34 56 36 54 40 52	4980 Slight, compression
✓	Chatra	Z NE N E	iP eS M M	04 24 56 31 51 44 - 47 -	5290 Slight, distant, compressi Period= 12 sec., Gr. dis= Period= 13 sec., Gr. dis=
✓	Dehra Dun	NE N	eP PP PPP iS SS SSS/LQ LR M	04 25 40 27 38 29 38 33 11 36 59 38 54 41 11 45 39	5920 Slight.
✓	Hyderabad	EN E EN E N N E	iP PP iS ScS LQ LR M	04 26 22 28 39 34 32 36 13 38 46 49 10 49 25	6630 Slight, Southward, Westwa Period= 12 sec., Gr. dis= Period= 15 sec., Gr. dis=
✓	Madras	E	iP PcP PP PPP eS PS PPS SS LQ	04 26 30 27 04 28 48 30 20 34 59 35 14 35 25 39 00 42 18	6980 Slight, Initial ground motion towards West.
✓	Poona	Z	iP	04 26 41	Slight, other phases not clear.
✓	Bombay	NE E E N	eP e eS M M	04 26 47 29 10 35 22 04 56 36 57 06	7090 Slight. Period= 15 sec., Gr. dis= Period= 13 sec., Gr. dis=
23	Shillong	Z	P Sg	06 54 27 55 01	230 Slight
23	Shillong	Z	eP	07 56 33	Slight, distant.

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	REMARKS
February 1961 .. .. (contd)					
23	Chatra	Z	eP	07 57 29	Feeble, distant.
23	Shillong	Z	Pg Sg	18 52 15 52 21	40 Slight.
23	Chatra	Z	eP	18 53 20	Feeble, distant.
✓ 23	Chatra	Z	eP?	22 05 51	9030 Feeble, distant.
✓ 23	Shillong	Z	eP	22 55 29	Slight, distant.
24	Epc:- 26.1°N, 125.4°E Ryukyu Islands. -H= 03h 04m 11.7s (USCGS). -h= 25 kmca.				
✓	Shillong	Z E	eP PP PPP PcP iS LQ LR M	03 10 01 11 12 11 28 12 54 15 18 17 18 17 47 18 56 21 44	3530 Slight, begining not well recorded.
✓	Chatra	Z	iP	03 11 01	Slight.
✓	Dehra Dun	NE	eP i i i i	03 12 04 18 12 21 27 23 29 25 28	Slight, phases not clear.
✓	Bombay	E ES E	e e e	03 13 33 16 00 19 58	Slight.
✓	Calcutta	E	e	03 16 19	Slight.
24	Shillong	Z	eP	04 59 01	Slight, near.
24	Sehore	NE	e	09 45 08	Very distant, Begining obscure, phases not clear.
✓	Calcutta	E	e i	09 48 34 48 55	Slight.
✓	Shillong	Z	iP	09 49 35	Slight, near, rarefaction.
✓	Chatra	ZN	eP PP PPP Pg LQ S LR SS SSS Sg,M	09 49 47 49 39 49 45 49 50 50 14 50 25 50 28 50 35 50 44 50 48	500 Feeble.
✓	Dehra Dun	NE	e	09 52 51	Tremor.
✓	Bombay	E NE	e e	09 53 58 55 18	Near, tremor
✓	Poona	Z	iS	09 54 51	
24	Sehore	NE	e? e	10 12 44 10 12 53	



DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
February 1961 .. .. (contd)						
24	Chatra	Z	eP	15 18 00		Feeble, distant.
24	Dehra Dun	NE	e	21 16 12		Tremor.
24	Shillong	Z	eP	21 33 30		Slight, distant.
24	Shillong	Z	eP	21 40 49		Slight, distant.
24	Shillong	Z	P Pg Sg	22 11 51 11 53 12 15	280	Slight.
24	Chatra	Z	eP	22 12 11		Feeble, distant.
25	Shillong	Z	eP	03 07 30		Slight, distant.
25	Shillong	Z	Pg Sg	07 30 26 30 31	40	Slight.
25	Shillong	Z	Pg Sg	12 01 17 01 34	140	Slight.
25	Chatra	Z	eP? i	12 02 19 02 43		Very feeble, fairly near, Other phases not clear.
25	Shillong	Z	Pg Sg	12 56 22 56 24	190	Slight.
25	Shillong	Z	P P* Pg S S* Sg	16 46 26 46 27 46 28 46 41 46 42 46 43	110	Slight.
25	Shillong	Z	Pg Sg	18 21 42 21 47	40	Slight.
25	Shillong	Z	iP	19 21 21		Slight, distant, rarefact
25	Shillong	Z	Pg Sg	20 07 36 07 41	40	Slight.
25	Shillong	Z	eP	21 53 44		Slight, distant.
25	Shillong	Z	Pg Sg	23 11 45 12 00	130	Slight.
26	Poona	Z	eP	06 08 50		Slight, Other phases not clear.
26	Shillong	Z	iP	06 09 19		Slight, distant, compress
26	Dehra Dun	NE	e e e	06 09 22 14 26 22 24		Slight, Phases not clear.
26	Bombay	E	e e	06 11 03 34 21		Slight, distant.
26	Shillong	Z	iP P* Pg LR S S* Sg	08 07 38 07 44 07 52 08 17 08 19 08 28 08 36	380	Slight, rarefaction.
26	Shillong	Z	iP	14 28 23		Slight, near, compression

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
February 1961 .. .. (contd)						
26	Chatra	Z	iPg Sg	17 50 31 50 42	90	Feeble, compression.
26	Epc:- 31.5°N, 131°E Near Coast of Kyushu, Japan. -H= 18h 10m 49s (Shillong). 31.4°N, 131.2°E -H= 18h 10m 48.7s (USCGS) -h= 54 km Mag:- 7½ (Shillong)7-7¼ (Pasadena). 1 killed, several injured and extensive property damage at Miyazaki 3 ft tsunami observed in Southwest Shikoku.					
26	Tocklai	E	e	18 17 34		Distant.
26	Shillong	ZNE N	iP PP PPP PcP	18 17 39 18 56 19 12 20 08	3810	Compression, first movement West & South
26	Shillong	N	i iS PcS SS/LQ SSS LR M	18 20 37 23 06 24 05 25 26 25 49 27 19 30 05		Period= 15 sec., Gr. dis= 400 μ
26	Vizianagram	SN	iP i	18 17 43 19 37		Distant, compression.
26	Chatra	ZNE	iP PP PPP PcP S SS LQ SSS LR N E M M	18 18 13 19 45 20 14 20 43 24 11 26 56 27 04 27 21 29 00 34 00 36 00	4300	Compression, first ground movement South, West.
26	Calcutta	E	iP PP PPP PcS iS SS LQ M Mn	18 18 15 19 53 20 38 24 03 24 26 27 26 27 37 34 08 37 41	4520	First motion West. Period= 16 sec. Gr. dis= 925 μ Period= 16 sec., Gr. dis= 794 μ
26	Port Blair	EW	iP PcP iS LR	18 18 28 20 36 24 34 28 13	4450	Period= 20 sec., Gr. dis= 79 μ
26	Bokaro	NE E	iP PP/PcP PPP PcS i iS	18 18 31 19 43 20 23 23 52 24 18 24 59	4800	First direction of ground motion West and South.

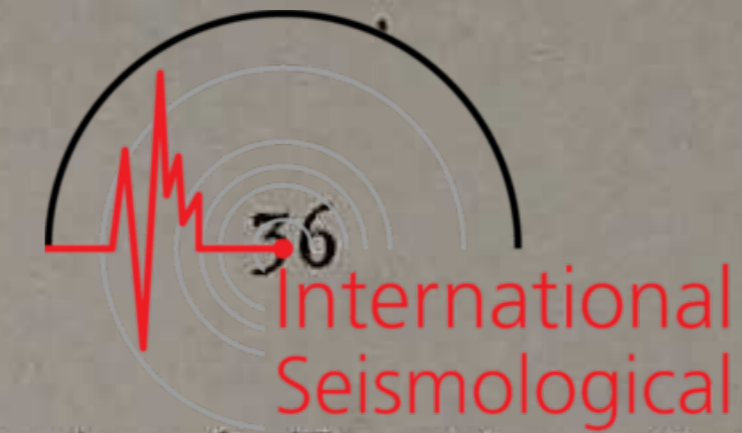
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Seismological  
Centre



DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	km.	REMARKS
February 1961 .. .. (contd)						
26	Bokaro	E	PS	18 25 22		
			PPS	25 37		
			SS	28 16		
			LQ	29 03		
			SSS	29 16		
			LR	30 47		
			M	35 02		
			Mn	36 00		Period= 15.7 secs., Gr. d
	Dehra Dun	NE	eP	18 19 09	5000	
		N	PP	20 59		
			PPP	21 59		
			iS	25 48		
			SS	29 03		
			SSS	30 06		
			LR	32 22		
			M	35 12		
	Madras	E	iP	18 19 45	5890	Initial ground motion towards West.
			PP	21 43		
			PPP	22 49		
			ScP	24 48		
			iS	27 14		
			PS	27 23		
			PPS	27 34		
			ScS	29 21		
			SS	30 43		
			LQ	32 12		
			LR	34 28		
	Poona	Z	iP	18 20 05	5900	Initial ground motion towards South & West.
		N	PcP	21 24		
			PP	22 11		
			PPP	23 08		
			PcS	25 12		
			iS	27 35		
			PPS	28 00		
			LR	35 29		
			M	39 23		
	Colombo	E	e	18 20 12		
			e	23 36		
			e	28 02		
			e	38 20		
			M	45 50		Amp= 22.8 mm
	Bombay	NE	iP	18 20 12	5980	
			PP	22 22		
			PPP	23 15		
		E	PcS	25 13		
		EN	iS, eS	27 46		
		NE	PS	27 58		
			PPS	28 08		
			SS	31 42		
			SSS	33 30		
		E	LQ	33 57		
		NE	LR	35 37		
		N	M	46 07		
		E	M	47 45		Period= 15 sec., Gr. dis=
						Period= 17 sec., Gr. dis=

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	km.	REMARKS
February 1961 .. .. (contd)						
26	Kodaikanal	EW	iP	18 20 15	6020	Initial ground movement West
			PP	22 15		
			PPP	23 33		
			iS	27 51		
			SS	31 30		
			SSS	33 27		
			LR	35 57		
			M	40 33		Period= 15 sec., Gr. dis= 71.4 μ
	Hyderabad	EN	i	18 20 41		Great, Southward, Westward
			e	22 08		
			e	22 40		
			e	23 41		
		E	e	25 53		
		EN	i	27 32		
		E	e	27 37		
			e	27 49		
			e	30 30		
			e	31 01		
			e	32 12		
		N	e	32 24		
			e	34 41		
		E	M	38 42		Period= 21 sec., Gr. dis= 316 μ
		N	M	39 42		Period= 20 sec., Gr. dis= 218 μ
26	Shillong	Z	iP	21 07 07		Slight, distant, compression.
	Chatra	Z	iP	21 07 45		Feeble, distant, compression.
	Dehra Dun	NE	e	21 08 56		Tremor.
	Poona	Z	iP	21 09 25		Tremor, compression.
	Bombay	NE	e	21 09 33		Slight.
			e	16 20		
26	Shillong	Z	iP	23 21 33		Slight, distant, rarefaction.
27	Shillong	Z	iP	01 22 09		Slight, distant, rarefaction.
27	Shillong	Z	iP	03 02 15		Slight, distant, rarefaction.
27	Dehra Dun	NE	e	03 22 09		Tremor.
27	Dehra Dun	NE	e	03 34 30		Tremor.
27	Poona	Z	eP	04 26 03		Tremor.
27	Bombay	E	e	04 26 32		Local Tremor.
27	Shillong	Z	Pg	06 58 50	110	Slight, near.
27	Shillong	Z	eP	10 46 46		Slight, distant, rarefaction.
27	Poona	Z	iP	10 49 21		Tremor.
27	Shillong	Z	iP	13 18 16		Slight, distant, compression.
27	Shillong	Z	iP	16 03 48		Slight, distant, compression.
27	Shillong	Z	iP	16 57 20		Slight, distant, compression.
27	Epc: - 38.4°N, 74.7°E. Tadzhik in U.S.S.R. H= 17h 53m 35.9s (USCGS)					
	Dehra Dun	NE	eP	17 55 48	900	Slight.
		N	LQ	57 12		
			iS	17 57 21		

DATE	STATION	COMPT	PHASE	G. M. T. h. m. s.	△ km.	REMARKS
February 1961 .. ... (contd)						
27	Dehra Dun	NE	SS SSS Sg, M	17 57 33 57 46 58 13		
	Chatra	Z	iP	17 57 21		Feeble, distant.
	Shillong	Z	iP	17 58 04		Slight, distant, compression
27	Shillong	Z	Pg Sg	20 19 31 19 46	130	Slight
27	Chatra	Z	eP	20 19 56		Feeble, distant.
27	Chatra	Z	eP	21 47 23		Feeble, phases not clear.
27	Shillong	Z	eP	21 48 56		Slight, distant.
27	Chatra	Z	eP	21 49 03		Feeble, phases not clear.
27	Chatra	Z	iP	22 03 35		Feeble, distant.
27	Shillong	Z	iP	22 04 08		Slight, distant, compression
27	Shillong	Z	iP	22 29 31		Slight, distant, compression
27	Shillong	Z	eP	23 59 45		Slight, distant.
27	Chatra	Z	eP	06 07 56		Feeble, distant, Other phases not clear.
28	Dehra Dun	NE	e i i	06 08 11 08 52 09 34		Feeble.
28	Bombay	E NE	e e	06 08 28 09 52		Feeble, near.
28	Shillong	Z	iP	06 08 47		Slight, distant, rarefaction
28	Shillong	Z	Pg Sg	06 57 40 57 52	100	Slight.
28	Shillong	Z	eP	08 47 11		Slight, distant.
28	Shillong	Z	iP	12 42 43		Slight, near, compression.
28	Chatra	Z	iP i	12 43 01 43 02		Very feeble, distant, rarefaction. Other phases not clear. Compression.
28	Dehra Dun	NE	e	17 42 17		Tremor.
	Chatra	Z	eP? e?	17 42 46 45 28		Very mild, distant, probably double shock.
28	Shillong	Z	iP	21 38 15		Slight, distant, rarefaction
28	Shillong	Z	iP	23 08 13		Slight, distant.



The following is the list of Earthquakes that were reported by voluntary observers from different places during the month of February 1961.

Place at which felt.	Date in GMT.	Time in GMT	Duration in secs.	No. of Shocks	Intensity in R.F. scales.	REMARKS
		h. m.				
Goalpara	3	20 55	60	1	IV	From West.
Lumding	4	08 52	6	2	IV	Felt twice 30 secs-interval.
Shillong	4	08 55	15	1	III	
N. Lakhimpur	4	08 55	5	2	IV	
Jorhat	4	08 55	7	3	IV	2 secs interval direction from NE to SW.
Shillong	6	22 40	5	1	IV	
Shillong	13	22 30	2	1	III	Rattling sound of windows.
Dehra Dun (U.P.)	13	16 08	7-10 each	4	V	
Mukteswar	13	16 15	0-5	1	V	Motion E-W.

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.
STATION: Shillong					COMPONENT: E-W: MONTH: February, 1961.				
01	00	1	0.3	4.1	13	12	1	0.4	5.0
	06	1	0.4	4.4		18	3	0.4	4.9
	12	1	0.4	4.6	14	00	1	0.3	4.5
	18	1	0.4	4.7		06	1	0.3	4.6
02	00	1	0.4	5.0		12	1	0.4	4.8
	06	1	0.3	4.6		18	1	0.4	4.7
	12	1	0.3	4.5	15	00	1	0.5	5.0
	18	1	0.3	4.5		06	1	0.5	5.1
03	00	1	0.3	4.6		12	-	-	-
	06	1	0.4	4.8		18	1	0.5	5.0
	12	1	0.3	4.5	16	00	1	0.4	4.9
	18	1	0.3	4.6		06	3	0.2	4.5
04	00	1	0.4	5.0		12	3	0.3	4.7
	06	3	0.2	4.0		18	3	0.3	4.6
	12	3	0.2	4.2	17	00	3	0.3	4.5
	18	1	0.3	4.6		06	1	0.3	4.6
05	00	1	0.3	4.6		12	1	0.3	4.5
	06	3	0.2	4.1		18	1	0.3	4.6
	12	3	0.3	4.5	18	00	1	0.4	4.8
	18	3	0.3	4.7		06	1	0.3	4.6
06	00	3	0.3	4.6		12	-	-	-
	06	1	0.3	4.7		18	-	-	-
	12	1	0.4	5.0	19	00	-	-	-
	18	1	0.3	4.8		06	1	0.4	4.7
07	00	1	0.3	4.7		12	1	0.4	4.9
	06	3	0.3	4.5		18	1	0.4	5.0
	12	3	0.4	4.8	20	00	1	0.4	5.0
	18	1	0.4	5.0		06	1	0.4	4.9
08	00	1	0.4	4.9		12	1	0.3	4.5
	06	1	0.4	5.0		18	1	0.3	4.4
	12	1	0.5	5.2	21	00	1	0.3	4.5
	18	1	0.5	5.1		06	1	0.3	4.4
09	00	1	0.5	5.0		12	1	0.4	4.7
	06	3	0.4	4.7		18	1	0.3	4.5
	12	3	0.5	5.1	22	00	1	0.3	4.4
	18	3	0.5	5.2		06	1	0.3	4.5
10	00	3	0.4	5.0		12	1	0.4	4.7
	06	3	0.3	4.4		18	1	0.4	4.6
	12	3	0.3	4.2	23	00	1	0.4	4.7
	18	3	0.2	4.0		06	-	-	-
11	00	3	0.2	4.0		12	1	0.4	5.0
	06	3	0.3	4.1		18	1	0.5	5.2
	12	3	0.3	4.0	24	00	-	-	-
	18	3	0.2	3.8		06	1	0.4	4.9
12	00	3	0.2	3.8		12	-	-	-
	06	3	0.3	3.9		18	-	-	-
	12	3	0.3	4.0	25	00	-	-	-
	18	3	0.3	4.2		06	1	0.4	5.0
13	00	-	-	-		12	3	0.3	4.7
	06	1	0.4	4.8		18	3	0.3	4.6

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: February 1961 (contd)									
26	00	1	0.3	4.5	06	15	1	0.9	2.4
	06	-	-	-		18	1	0.9	2.5
	12	3	0.2	4.2		21	1	0.8	3.0
	18	-	-	-	07	00	1	0.8	2.8
27	00	3	0.3	4.6		03	1	0.9	3.0
	06	3	0.3	4.5		06	1	1.3	2.9
	12	1	0.4	4.8		09	1	1.2	2.9
	18	-	-	-		12	1	1.1	2.9
28	00	3	0.2	4.3		15	1	1.0	2.8
	06	3	0.3	4.5		18	1	0.9	2.8
	12	3	0.2	4.4		21	1	1.1	2.7
	18	0,0	-	-	08	00	1	1.2	2.6
STATION: Bombay (Colaba).									
01	00	2	0.4	4.7		03	1	1.1	2.8
	06	2	0.4	4.7		06	1	1.1	3.0
	12	2	0.5	3.9		09	1	0.9	3.0
	18	2	0.4	4.5		12	1	1.0	3.0
02	00	2	0.4	4.7		15	1	0.8	2.9
	06	2	0.4	4.6		18	1	1.1	3.0
	12	2	0.4	5.2		21	1	1.3	3.0
	18	3	0.4	4.6	09	00	1	1.3	3.0
			0.4	1.9		03	1	1.1	3.3
	21	1	0.6	2.3		06	1	0.8	3.0
03	00	1	0.8	2.6		09	1	0.7	3.0
	03	1	1.0	2.6		12	1	0.6	2.8
	06	1	0.9	2.6		15	1	0.5	2.9
	09	1	0.8	2.6		18	1	0.5	2.5
	12	1	0.7	2.6		21	1	0.6	2.6
	18	3	0.4	3.0	10	00	1	0.7	2.6
			0.3	2.0		06	3	0.6	4.1
04	00	3	0.3	3.8				0.5	4.1
			0.3	1.8				0.5	2.5
	06	3	0.4	4.1				0.4	3.3
			0.3	1.9				0.2	1.5
	12	3	0.3	4.3				0.3	1.5
			0.3	1.9				0.3	1.5
	18	3	0.3	3.9	11	00	3	0.4	3.2
			0.3	2.0				0.3	2.0
05	00	3	0.5	2.4		06	3	0.6	3.0
			0.3	1.7				0.3	2.0
	06	3	0.6	3.1		12	3	0.6	2.9
			0.4	1.7				0.3	1.7
	12	3	0.7	3.0		18	3	0.6	2.7
			0.4	1.7				0.3	2.0
	18	3	0.5	3.3	12	00	3	0.5	3.1
			0.7	2.0				0.6	2.0
06	00	3.5	0.5	3.2		03	1	0.7	2.3
			0.3	2.0		06	1	0.6	2.6
	06	1	0.9	2.6		09	1	0.8	2.6
			0.3	2.0		12	1	0.7	2.6
	09	1	1.1	2.6		15	1	0.6	2.7
			0.8	2.7		18	1	0.5	2.6
	12	1	0.8	2.7		21	1	0.5	2.5

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.
STATION: Bombay (Colaba) COMPONENT: E-W MONTH: February, 1961 (contd)									
13	00	-	-	-	20	00	1	1.1	4.5
	03	1	0.9	2.6		03	1	1.0	4.5
	06	1	0.9	2.9		06	1	0.9	4.6
	09	1	0.9	2.9		09	1	0.8	4.3
	12	1	0.9	2.8		12	3	0.8	4.3
	15	1	0.8	2.9				0.5	2.2
	18	1	1.0	2.9		18	3	0.7	4.2
	21	1	0.9	2.8				0.5	2.1
14	00	1	1.2	2.9	21	00	3	0.8	4.0
	03	1	1.4	3.0				0.4	2.6
	06	1	1.0	3.0		06	3	0.8	4.0
	12	3	0.7	3.2				0.5	2.5
			0.4	2.0		12	3	0.7	3.1
	18	3	0.7	3.6				0.5	2.5
			0.3	2.1		18	3	0.7	3.5
15	00	3	0.6	3.2				0.4	2.0
			0.3	2.0	22	00	3	0.7	3.5
	06	3	0.5	3.0				0.6	2.3
			0.4	1.9		06	3	0.8	3.5
	12	-	-	-				0.6	2.3
	18	3	0.6	3.4		12	-	-	-
			0.3	1.5		18	3	0.7	3.0
16	00	3	0.6	3.6				0.6	2.0
			0.2	2.0				0.5	4.5
	06	3	0.5	3.5	23	00	3	0.8	4.2
			0.2	2.0				0.7	2.5
	12	1	0.6	3.5		06	3	0.6	2.7
	18	1	0.7	3.7				0.4	2.0
	21	1	0.8	3.7		12	3	0.8	2.7
17	00	1	0.9	3.8				0.4	1.8
	03	1	0.9	4.1		18	3	0.7	2.7
	06	1	1.0	4.1				0.3	1.6
	09	1	0.8	4.2	24	00	3	0.7	2.8
	12	1	0.9	4.2				0.5	2.0
	15	1	0.9	4.2		06	3	0.6	2.7
	18	1	0.9	4.2				0.4	2.0
	21	1	0.8	4.4		12	3	0.5	4.4
18	00	1	0.9	4.3				0.4	2.5
	03	1	0.9	3.9		18	3	0.6	4.9
	06	1	0.9	4.2				0.3	2.5
	09	1	0.9	4.3	25	00	3	0.5	3.6
	12	1	0.9	4.3				0.4	2.8
	15	1	0.8	4.4		06	3	0.5	4.8
	18	1	0.8	4.2				0.3	2.2
	21	1	0.9	4.3		12	3	0.6	5.4
19	00	1	0.8	4.3				0.3	2.5
	03	1	0.9	4.6		18	3	0.5	4.9
	06	1	1.0	4.8				0.4	3.0
	09	1	1.0	4.7	26	00	3	0.5	4.9
	12	1	0.9	4.6				0.4	2.5
	15	1	1.0	4.6		06	3	0.6	4.3
	18	1	1.1	4.7				0.4	2.5
	21	1	1.1	4.6					

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: Bombay (Colaba) COMPONENT: E-W MONTH: February 1961 (contd)									
26	12	3	0.5	5.0	06	00	3	0.3	3.9
			0.4	2.0		03	3	0.2	4.4
	18	3	0.5	5.0		06	3	0.3	4.3
			0.4	2.2		12	3	0.1	1.4
27	00	3	0.5	4.9		18	3	0.1	1.2
			0.4	2.3			3	0.2	2.6
	06	3	0.6	5.4	07	00	3	0.1	1.2
			0.6	2.4		03	3	0.1	1.3
	12	3	0.5	5.0			3	0.2	2.3
			0.6	2.5		06	3	0.1	1.3
	18	3	0.6	4.9			3	0.2	2.2
			0.5	2.0		12	3	0.3	2.7
28	00	3	0.6	5.2		18	3	0.4	2.9
			0.4	2.5	08	00	3	0.3	2.8
	06	3	0.6	5.5		03	3	0.3	2.9
			0.5	2.3		06	1	0.4	3.6
	12	3	0.5	4.7		12	1	0.4	3.4
			0.5	2.6		18	1	0.5	3.7
	18	3	0.5	5.2	09	00	1	0.5	3.6
			0.4	2.2		03	-	-	-
STATION: Madras.									
01	00	3	0.3	4.3		06	1	0.6	3.6
	03	3	0.3	4.4		12	1	0.6	3.7
	06	3	0.2	4.5		18	1	0.6	3.6
	12	3	0.3	4.6	10	00	1	0.5	3.5
	18	3	0.3	4.7		03	1	0.5	3.4
02	00	3	0.2	4.5		06	1	0.5	3.4
	03	3	0.3	4.4		12	1	0.5	3.5
			0.2	2.2		18	1	0.5	3.5
	06	3	0.3	4.4	11	00	1	0.4	3.1
			0.2	1.4		03	1	0.5	3.2
			0.2	2.3		06	1	0.5	3.1
	12	3	0.2	2.2		12	1	0.4	2.9
	18	3	0.2	2.1		18	1	0.4	2.9
03	00	3	0.1	2.2	12	00	1	0.5	3.2
	03	-	-	-		03	1	0.5	3.0
	06	3	0.2	2.2		06	1	0.4	3.0
	12	3	0.2	2.3		12	1	0.4	3.0
	18	3	0.2	2.6		18	1	0.4	3.1
04	00	3	0.3	3.1	13	00	-	-	-
	03	3	0.2	3.0		03	3	0.4	2.8
	06	3	0.2	2.9		06	3	0.4	2.8
	12	3	0.2	3.0		12	3	0.4	2.7
	18	3	0.2	2.7		18	3	0.4	2.8
			0.3	4.4	14	00	3	0.4	3.2
05	00	3	0.3	4.7		03	3	0.4	3.4
			0.1	1.4		06	1	0.4	3.5
	03	3	0.3	4.3		12	1	0.5	3.6
			0.1	1.4		18	1	0.5	3.7
	06	3	0.1	1.5			1	0.1	1.5
	12	3	0.2	3.8	15	00	3	0.4	3.3
	18	3	0.3	3.8			3	0.3	2.7
						03	3	0.1	1.4
							3	0.4	3.1
							3	0.1	1.3



International Seismological Centre

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: Madras COMPONENT: E-W MONTH: February 1961 (contd)									
15	06	3	0.4	3.1	23	02	3	0.4	2.8
			0.1	1.4		18	3	0.4	2.9
	12	3	0.3	3.0	24	00	3	0.3	2.8
			0.2	1.3		03	3	0.3	2.8
	18	3	0.3	3.3		06	3	0.3	2.8
			0.2	1.4		12	3	0.3	2.7
16	00	3	0.5	3.5			3	0.4	3.6
			0.2	1.5			3	0.3	2.8
	03	3	0.5	3.4	00	3	0.5	2.7	
			0.2	1.4	25	00	3	0.3	2.7
	06	3	0.6	3.3		03	3	0.4	2.7
			0.2	1.3			3	0.3	3.8
	12	1	0.7	3.5		06	3	0.3	2.8
			0.3	1.4		12	3	0.3	2.8
	18	1	1.0	3.7		18	3	0.4	4.4
			0.2	1.5			3	0.5	4.5
17	00	1	0.9	3.8		18	3	0.3	2.7
			0.1	1.5			3	0.5	4.8
	03	1	1.1	4.1	26	00	3	0.2	2.7
	06	1	1.1	4.0			3	0.4	4.2
	12	1	1.0	4.0		03	3	0.4	4.4
	18	1	1.0	4.0		06	3	0.4	4.4
18	00	1	1.2	4.1		12	3	0.4	4.4
	03	1	1.1	4.1		18	-	-	-
	06	1	1.2	4.1	27	00	-	-	-
	12	1	1.2	4.1		03	3	0.3	4.4
	18	1	1.1	4.0		06	3	0.4	4.5
19	00	1	1.0	4.1			3	0.1	2.5
	03	1	1.0	3.9		12	3	0.3	4.4
	06	1	1.0	4.1		18	3	0.2	2.5
	12	1	1.1	4.2			3	0.3	4.5
	18	1	1.2	4.4			3	0.1	2.4
20	00	1	1.1	4.4	28	00	-	-	-
	03	1	1.1	4.4		03	3	0.5	4.6
	06	1	1.0	4.5		06	3	0.4	4.8
	12	1	0.9	4.3		12	3	0.4	4.5
	18	1	0.9	4.3		18	3	0.4	4.6
21	00	3	0.7	4.1	STATION: Port Blair				
	03	3	0.6	4.0	01	00	0..	-	-
			0.4	3.1		06	-	-	-
	06	3	0.6	3.8		12	-	-	-
			0.4	2.9		18	-	-	-
	12	3	0.5	3.4	02	00	-	-	-
	18	3	0.5	3.3		06	0..	-	-
22	00	3	0.4	3.0		12	0..	-	-
	03	3	0.5	3.2		18	0..	-	-
	06	3	0.5	3.2	03	00	0..	-	-
	12	3	0.5	3.3		06	0..	-	-
	18	3	0.5	3.3		12	0..	-	-
23	00	3	0.4	3.2		18	0..	-	-
	03	3	0.5	3.3					
	06	3	0.4	3.1					

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: Port Blair COMPONENT: E-W MONTH: February 1961 (contd)									
04	00	0..	-	-	14	12	0,0	-	-
	06	0..	-	-		18	0,0	-	-
	12	0..	-	-	15	00	0,0	-	-
	18	0..	-	-		06	2 0.4	3.2	-
05	00	0..	-	-		12	-	-	-
	06	0..	-	-		18	2 0.8	3.2	-
	12	0..	-	-	16	00	2 0.8	3.2	-
	18	0..	-	-		06	-	-	-
06	00	0..	-	-		12	2 0.8	3.6	-
	06	0..	-	-		18	2 0.8	3.6	-
	12	0..	-	-	17	00	2 1.2	3.6	-
	18	0..	-	-		06	2 1.6	3.6	-
07	00	0..	-	-		12	2 1.6	3.6	-
	06	0,0	-	-		18	2 1.6	3.6	-
	12	0,0	-	-	18	00	2 1.6	3.6	-
	18	0,0	-	-		06	2 1.6	3.6	-
08	00	0,0	-	-		12	2 1.6	3.6	-
	06	0,0	-	-		18	2 1.6	3.6	-
	12	0,0	-	-	19	00	2 1.6	3.6	-
	18	0,0	-	-		06	-	-	-
09	00	0,0	-	-		12	2 1.6	3.6	-
	06	0,0	-	-		18	2 1.6	3.6	-
	12	0,0	-	-	20	00	2 1.6	3.6	-
	18	0,0	-	-		06	-	-	-
10	00	0,0	-	-		12	2 1.2	3.6	-
	06	0,0	-	-		18	2 0.8	3.4	-
	12	0,0	-	-	21	00	2 0.8	3.4	-
	18	0,0	-	-		06	-	-	-
10	00	0,0	-	-		12	3 0.4	3.2	-
	06	0,0	-	-		18	0,0	-	-
	12	0,0	-	-	22	00	0,0	-	-
	18	0,0	-	-		06	0,0	-	-
11	00	0,0	-	-		12	0,0	-	-
	06	0,0	-	-		18	0,0	-	-
	12	0,0	-	-	23	00	0,0	-	-
	18	0,0	-	-		06	0,0	-	-
12	00	0,0	-	-		12	0,0	-	-
	06	0,0	-	-		18	0,0	-	-
	12	0,0	-	-	24	00	0,0	-	-
	18	0,0	-	-		06	-	-	-
12	00	0,0	-	-		12	0,0	-	-
	06	0,0	-	-		18	0,0	-	-
	12	0,0	-	-	25	00	0,0	-	-
	18	0,0	-	-		06	0,0	-	-
13	00	-	-	-		12	0,0	-	-
	06	0,0	-	-		18	0,0	-	-
	12	0,0	-	-	26	00	0,0	-	-
	18	0,0	-	-		06	0,0	-	-
14	00	0,0	-	-		12	0,0	-	-
	06	-	-	-		18	0,0	-	-



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: Port Blair COMPONENT: E-W MONTH: February 1961 (contd)									
27	00	0,0	-	-	28	00	1 0.4	7.2	-
	06	-	-	-		06	-	-	-
	12	1 0.4	7.2	-		12	-	-	-
	18	1 0.4	7.2	-		18	-	-	-
STATION: Bokaro.									
11	12	3 0.5	5.0	-	19	12	3 0.4	4.5	-
	18	3 0.5	5.0	-		18	3 0.4	4.0	-
12	00	3 0.4	5.0	-	20	00	3 0.5	4.2	-
	06	0,0	-	-		06	3 0.5	5.0	-
	12	0,0	-	-		12	3 0.3	4.8	-
	18	3 0.5	5.0	-		18	3 0.4	4.5	-
13	00	-	-	-	21	00	0,0	-	-
	06	3 0.5	5.0	-		06	0,0	-	-
	12	3 0.5	5.0	-		12	0,0	-	-
	18	3 0.4	5.0	-		18	0,0	-	-
14	00	0,0	-	-	22	00	3 0.4	4.5	-
	06	3 0.5	4.5	-		06	0,0	-	-
	12	2 0.4	4.5	-		12	0,0	-	-
	18	2 0.5	5.0	-		18	0,0	-	-
15	00	3 0.5	4.5	-	23	00	0,0	-	-
	06	0,0	-	-		06	0,0	-	-
	12	-	-	-		12	3 0.4	5.0	-
	18	3 0.5	5.0	-		18	3 0.4	5.0	-
16	00	0,0	-	-	24	00	3 0.4	5.0	-
	06	0,0	-	-		06	0,0	-	-
	12	3 0.5	5.0	-		12	3 0.4	5.0	-
	18	3 0.4	4.5	-		18	3 0.4	5.0	-
17	00	0,0	-	-	25	00	3 0.3	4.8	-
	06	0,0	-	-		06	0,0	-	-
	12	3 0.5	4.7	-		12	3 0.5	5.0	-
	18	3 0.5	4.0	-		18	3 0.5	5.0	-
18	00	3 0.4	4.5	-	26	00	3 0.5	5.0	-
	06	3 0.5	4.5	-		06	0,0	-	-
	12	3 0.4	4.5	-		12	3 0.4	5.0	-
	18	3 0.4	4.2	-		18	3 0.5	5.0	-
19	00	3 0.4	4.5	-	27	00	3 0.5	5.0	-
	06	3 0.4	4.5	-					



International  
Seismological  
Centre

DATE HOUR K MEAN MEAN  
GMT SIMPLE PERIOD  
AMPLITUDE IN SECS.  
IN m.m.

DATE HOUR K MEAN MEAN  
GMT SIMPLE PERIOD  
AMPLITUDE IN SECS.  
IN m.m.

STATION: Bokaro .. (contd)

March 1961 .. (contd)

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.
12	00	3	0.5	5.0	21	00	3	0.5	4.5
	06	3	0.4	5.0	28	06	3	0.5	5.0
	12	3	0.5	5.0		12	3	0.5	5.0
	18	...	-	-		18	3	0.4	5.0
13	00	3	0.4	5.0	29	00	3	0.4	5.0
	06	3	0.5	5.2		06	3	0.5	5.0
	12	3	0.3	5.0		12	3	0.4	5.0
	18	3	0.4	4.8		18	3	0.3	5.0
14	00	3	0.4	5.0	30	00	3	0.3	5.0
	06	3	0.5	4.0		06	...	-	-
	12	3	0.5	5.0		12	...	-	-
	18	3	0.5	4.0		18	00.	-	-
15	00	3	0.4	4.0	31	00	0,0	-	-
	06	3	0.4	4.0		06	0,0	-	-
	12	3	0.5	3.5		12	0,0	-	-
	18	3	0.5	3.5		18	0,0	-	-
16	00	3	0.4	4.0					
	06	3	0.6	3.5					
	12	3	0.5	3.5					
	18	3	0.6	3.5					
17	00	3	0.5	4.0					
	06	3	0.5	4.5					
	12	3	0.5	3.5					
	18	3	0.5	4.0					
18	00	3	0.5	3.5					
	06	...	-	-					
	12	3	0.5	3.0					
	18	...	-	-					
19	00	3	0.5	2.5					
	06	...	-	-					
	12	3	0.6	3.5					
	18	3	0.6	3.5					
20	00	3	0.6	3.0					
	06	...	-	-					
	12	3	0.5	5.0					
	18	...	-	-					