

GOVERNMENT OF INDIA

METEOROLOGICAL DEPARTMENT.

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SEISMOLOGICAL BULLETIN.

January-March, 1946.

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PUBLISHED UNDER THE DIRECTION OF
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Director General of Observatories.

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SEISMOLOGICAL BULLETIN.

January-March, 1946.

INTRODUCTION.

Till the end of 1937, the seismic data from the observatories of the India Meteorological Department were being published annually as Part D of the Annual Summary of the India Weather Review. Since 1938, the data are being published in the present series of the quarterly Seismological Bulletin. With the kind co-operation of the Surveyor-General of India, the Director of the Nizamiah Observatory, Hyderabad, and of the Superintendent, Colombo Observatory, it has been possible to incorporate in the bulletin, the data of their respective observatories, viz. Dehra Dun, Hyderabad and Colombo. The instrumental seismological data and the non-instrumental voluntary observations are collected and edited at the Meteorological Office, P o o n a.

TABLE I.

List of Seismograph Stations.

Station	Latitude	Longitude	Height above M.S.L. 'Meters'	Lithologic Foundation	Officer-in-charge of Observatory
New Delhi	28°35'N.	77°12'E.	207	Massive Quartzites.	Superintending Meteorologist.
Bombay	18°54'N.	72°49'E.	6	Deccan Trap	Director
Calcutta	22°32'N.	88°20'E.	(i) 7	Alluvium	Meteorologist.
Colombo	6°54'N.	79°52'E.	(ii) 6 7	Beach-Sand resting on gnoiss probably decomposed.	Superintendent.
Dehra Dun	30°19'N.	78°03'E.	632	Gravel	Director, War Research, Survey of India.
Hyderabad	17°26'N.	78°27'E.	523	Granite	Curator, Nizamiah Observatory.
Kodaikanal	10°14'N.	77°28'E.	2343	Rock	Director

(1) Milne-shaw (2) Omori-Ewing.

TABLE II.

The instruments and their constants.

Station	Component	Type of Instrument	Mass. Kg.	Period. Sec.	Static magnification.	Damping Ratio.	Remarks.
New Delhi	E	Omori-Ewing	45	32	30	--	
	N	Milne-Shaw	0.47	12	262	20:1	
Bombay	N	Milne-Shaw	0.45	12	250	20:1	
	E	Milne-Shaw	0.45	12	350	40:1	
Calcutta	N	Milne-Shaw	0.45	12	250	20:1	
	E	Omori-Ewing	50	--	30	--	
	N	Omori-Ewing	50	--	32	--	
Colombo	E	Milne-Shaw	0.45	12	250	20:1	
Dehra Dun	N	Omori-Ewing	50	--	12	--	
Hyderabad	N	Milne-Shaw	0.45	12	250	20:1	
	E	Milne-Shaw	0.45	12	250	20:1	
Kodaikanal	E	Milne-Shaw	0.45	10	250	19:1	

THE OBSERVATORY, NEW DELHI.

DATE	COMPT.	PHASE	G. M. T.	Per.	AMP.	△	REMARKS
<u>1946</u>			h. m. s.	Sec.	μ	Km.	
<u>Jan.</u>							
2	N	e? F	04 31 52 57 --				Feeble.
4	N	i F	18 57 24 10 --				Slight. Distant.
4	N	e F	19 47 53 20 03 --				Slight. Distant.
4	N	i F	20 18 11 31 --				Slight. Distant.
5	N	eP PP iSKKS i i SS L	20 10 55 14 20 21 25 22 20 22 34 28 51 40 57			9400	Moderate
5	N	M F	20 47 36 23 31 --				
6	N	eS M F	09 27 08 28 50				Lost in the succeeding shock.
6	N	eP iS	09 59 43 10 01 47			1270	Slight. Probably tim correction -1½ min.?
	E	e i	01 51 03 28				
	N	M PcP F	03 33 06 07				Lost in the succeeding shock.
6	E N E N,E N E N N	e iS eS M PcP F F	10 19 21 21 12 21 17 22 54 25 34 52 -- 11 01 --				Slight. Probably from the same origin as the preceding one.
8	N	e i i i F	18 30 09 30 35 30 54 51 --				Slight. Distant.
10-11	N	eP iS M F	23 42 20 44 45 46 53 00 08 --			1450	Slight.
11	N	iP i	01 40 53 41 04				Slight, Depth of Focus about 400 Kms.
11	N	i sP i iS SS SS i SSS F	01 41 15 42 51 43 41 46 48 49 13 49 38 50 17 50 39 03 11 --				

THE OBSERVATORY, NEW DELHI.

DATE	COMPT.	PHASE	G. M. T.	PER AMP.	△	REMARKS
<u>1946</u>						
<u>Jan.</u>						
<u>JANUARY 1946.</u>						
			h. m. s.	sec.	Km.	
13	N	i	08 11 25			Slight, Near.
		i	12 03			
		i	12 25			
		F	21 --			
14	N	e	00 28 22			Slight, Near.
		i	29 40			
		i	29 52			
		F	31 --			
17	N	e	06 28 19			Slight, Near.
		i	28 43			
		F	35 --			
17	N	eP(?)	09 51 07		8290	Slight.
		S	10 00 44			
17	N	PS	10 01 23			
		SS	05 37			
		i	06 10			
		F	11 44 00			
20	N	eSKS	17 18 16			Slight.
		iSKKS	18 39			
		PS	20 44			
		SS	26 09			
		F	18 52 --			
20	N	iP	23 36 38		980	Slight
	E	eP	36 39			
	N,E	iS	38 17			
	N	S*	38 42			
	S	S	39 09			
	E	F	45 --			
	N	F	52 --			
21	N	e	11 38 22			Slight.
		e	42 45			Distant.
		F	12 04 --			
21	N	e	15 13 10			Slight.
		i	15 21			
		i	16 41			
		F	16 02 --			
24	N	ePcP	06 27 45		6660	Slight.
		iS	34 59			
		PS	35 08			
		ScS	36 37			
		SS	39 03			
		M	50 22			
		F	07 34 --			
25	N	e	16 12 21			Slight.
		F	27 --			Distant.
25	N	eP	17 41 28		6190	Slight
		iS	49 15			
		ScS	51 14			
		M	18 03 55			



THE OBSERVATORY, NEW DELHI.

DATE	COMPT.	PHASE	G. M. T.	PER.	AMP	Δ	REMARKS
<u>January 1946.</u>							
<u>1946</u>			h. m. s.	Sec.		Km.	
<u>Jan.</u>							
26	N	eP	06 41 29	00		1690	Slight.
	E	eP	41 30				
	N	iS	44 16				
		SS	44 33				
	E	SS	44 34				
	N	L	45 21				
		M	46 16				
	E	F	07 20 --				
	N	F	40 --				
28	N	i	04 26 28				Slight.
		F	47 --				Distant.
30	N	e	15 58 58				Slight.
		F	16 18 --				Distant.
31	N	i	13 49 27				Slight, Near.
		F	14 00 --				
<u>February 1946.</u>							
<u>Feb.</u>							
1	N	e	20 09 31				Slight.
1	N	e	21 19 33				Slight.
		F	Lost in microseisms.				
3	N	i	20 42 58				Feeble, Surface waves.
		F	Lost in microseisms.				
3	N	iP	22 03 38			90	Slight.
		iS	03 48				
		Sn	03 53				
		F	Lost in microseisms.				
4	N	i	03 14 08				Surface waves.
		F	26 00				
4	N	i	07 19 20				Slight.
		F	37 --				
5	N	PcP	19 39 07			3890	Slight.
		iS	42 07				
		SS	44 07				
		ScS	46 50				
		L	47 18				
		M	50 11				
		F	20 19 --				
7	N	e	01 11 20				Slight.
		i	12 56				
		i	14 02				
		M	15 14				
		F	48 --				
9	N	e	02 51 25				Feeble.
		F	03 17 --				
10	N	e	13 20 07				Slight.
		i	22 40				
		F	50 --				
11	N	i	12 03 58				Slight, Local.
		i	04 13				
		F	13 --				

THE OBSERVATORY, NEW DELHI.

DATE	COMPT.	PHASE	G. M. T.	PER.	AMP.	Δ	REMARKS	
February 1946.								
1946. Feb.			h. m. s.	Sec.	μ	Km.		
12	N	i i F	03 01 42 03 21 54 --				Slight. Distant.	
16	N	iS(?) M F	07 19 26 22 49 48 --			2110	Slight.	
16	N	e e	21 31 14 33 46				Slight. Very distant.	
17	N	Earthquake recorded at 09 h. 03 m. GMT. Phases could not be identified due to artificial disturbances.						
19	N	iP e L	18 58 08 e 58 27 59 55				Slight.	
	N,E	M	19 01 33					
	N	Mn	02 13	11	16			
	E	F	23 --					
	N	F	56 --					
20	N,E N,E N	eP iS i	03 49 45 55 38 59 07			4230	Slight.	
		M	04 04 33					
	E	F	41 --					
	N	F	05 51 --					
21	N	eP PP iS i SSS M F	15 50 29 52 03 56 29 56 40 59 26 16 05 06 46 --			4350	Feeble.	
22	N	e i F	03 15 34 20 34 37 --				Slight. Distant.	
24	N	i i F	03 17 14 18 33 47 --				Slight, Distant. Surface waves.	
24	N	e i F	07 52 06 54 26 08 18 --				Slight, Distant. Surface waves.	
24	N	e F	08 34 41 49 --				Slight, Distant. Surface waves.	
24	N	e F	09 13 11 26 --				Slight, Distant. Surface waves.	
24	N	i(P) PcP iS SS ScS L M F	09 38 05 40 39 45 01 47 37 48 47 51 59 55 56 10 54 --			4790	Slight.	

THE OBSERVATORY, NEW DELHI.

DATE	COMPT.	PHASE	G. M. T.	PER.	AMP.	Δ	REMARKS	
			<u>FEBRUARY, 1946.</u>					
<u>1946</u>			h.	m.	s.	per.	μ Km.	
<u>Feb.</u>								
24	N	e i F	11	00	56		Slight.	
				01	27			
				11	--			
28	N	iS ScS i M F	02	38	37		5670 Slight.	
				41	16			
				42	35			
				51	27			
			03	48	--			
			<u>MARCH, 1946.</u>					
<u>Mar.</u>								
2	N	i(P) i i(S) F	02	42	53		Slight.	
				44	20			
				44	52			
			03	04	--			
5	N	i F	04	54	54		Slight. Distant.	
			05	15	--			
7	N	iP PP iS M F	16	37	29		3480 Slight.	
				38	32			
				42	36			
				48	17			
			18	00	--			
7	N	eP iS M F	21	44	50		1570 Slight.	
				47	25			
				50	04			
			22	17	--			
9	N	e i F	09	12	05		Slight. Local.	
				12	21			
				18	--			
9	N	e F	16	37	41		Slight. Distant.	
			17	29	--			
10	N	e i M F	16	09	11		Slight.	
				11	06			
				11	58			
				23	--			
12	N	e F	01	22	16		Slight. Distant.	
			02	09	--		Surface waves.	
12	N	eP(?) i i PP iS eS i SS L M M Mn F F	02	26	32		2750 Moderate.	
				26	42			
				26	52			
	E N, E			27	05			
				30	50			
				30	52			
				31	08			
				31	35			
				33	02			
	E N E			34	06			
				34	45			
				37	56	19 90		
			02	55	--			
	N		04	13	--			

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THE OBSERVATORY, NEW DELHI.

DATE	COMPT.	PHASE	G. M. T.	PER.	AMP.	Δ	REMARKS
			March 1946.				
<u>1946.</u>			h.	m.	s.	Sec.	μ Km.
<u>Mar.</u>							
13	N	e F	09 29 40				Slight, Very distant.
			10 26 --				
15	N	eP iS L M F	03 13 51			6670	Slight.
			22 04				
			33 34				
			38 09				
			04 45 --				
15	N	e e F	14 23 24				Slight. Distant. Surface waves.
			55 18				
			15 41 --				
16	N	i M F	11 45 05				Slight. Distant.
			56 30				
			19 --				
16	N	e i Mn F	14 18 31				Slight. Probably near.
			21 23				
			22 15				
			47 --				
17	N	i F	21 06 07				Slight.
			Mixed up with the following shock.				
17	N	eP	21 09 02			1400	Slight.
	N	iS	11 22				
	N	L	12 47				
	N	M	13 43				
	E	M	13 44				
	E	F	34 --				
	N	F	22 22 --				
20	N	e(?) M F	15 31 04				Feeble.
			33 29				
			53 --				
26	N	e M F	13 57 21				Slight.
			58 08				
			14 09 --				
26	N	e M F	16 47 51				Feeble.
			17 02 13				Lost in the succeeding shock.
26	N	iP	17 16 41			4390	Moderate.
	E	eP	16 41				
	E	PP	18 16				
	E	PP	18 20				
	E	iS	22 43				
	E	iS	22 49				
	E	SS	25 50				
	E	SS	25 51				
		L	27 59				
	N	L	28 24				
	E	M	30 41				
	E	M	31 26				
	E	Mn	33 40	24	300		
	E	Mn	35 38	16	88		
	E	F	19 11 --				
	N	F	20 36 --				
27	N	e M F	06 17 42				Slight. Distant.
			33 00				
			07 09 --				

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THE OBSERVATORY, NEW DELHI.

DATE	COMPT.	PHASE	G.M. T.			PER.	AMP.	Δ	REMARKS
<u>1946.</u>			<u>March 1946.</u>						
<u>Mar.</u>			h.	m.	s.	Sec.	μ	Km.	
27-28	N	eP	23	33	16			1230	Slight.
	E	e		33	42				
	N	iS		35	19				
	E	M		37	20				
	N	M		37	22				
		Mn		38	15	13	51		
	E	F	00	13	--				
	N	F	01	07	--				
31	N	eP	11	33	56			1560	Feeble.
		iS		36	31				
		L		37	35				
		M		38	42				
		F	12	05	--				

THE OBSERVATORY,
NEW DELHI.

V. V. SOHONI,
Superintending Meteorologist,
Instruments and Supplies.

NCG. Sept. 20.

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COLABA OBSERVATORY, BOMBAY.

DATE	COMPT.	PHASE	G. M. T.	PER.	AMP.	Δ	REMARKS
			<u>January 1946.</u>				
<u>1946.</u>							
<u>Jan.</u>			h. m. s.	Sec.	μ	Km.	
2	N,E N,E	e F	04 36 --- 53 --				Feeble.
2	N,E N,E	e F	15 34 12 58 --				Feeble.
4	E N N,E	e e F	11 51 -- 53 -- 12 02 --				Very feeble.
4	N E N,E	e e F	19 48 -- 49 -- 20 00 --				Feeble.
5	N E N,E	e e F	01 37 36 49 -- 59 --				Feeble.
5	E N N,E E E N E N E	eP eP eSKKS i L L M M F F	20 10 58 11 00 21 34 33 17 38 03 39 27 21 02 17 04 27 23 23 -- 3 --				Moderate. 16°S., 167°E., H = 19 h. 57.3m. (USCGS) Possibly a double shock at interval of about 40 secs.
6	N E E N	eP e F F	09 24 47 27 12 52 -- 57 --				Slight. Probably from the same origin as the follow- ing shock.
6	N,E N E N,E E N N,E	eP eS iS L M M F	09 59 35 10 02 35 04 09 05 27 06 43 06 43 06 43				1335 Moderate. Probable epicentre, 33°N., 67°E and 0 = 9h.55.5m.
				11 12 8 7			Mixed up with the following shock.
6	N,E N E N E N N E	eP eS iS L L M M F F	10 19 05 22 05 23 33 23 36 24 50 26 09 11 26 -- 34 --				18 35 Moderate. Apparently from the same origin as the previous shock.
7	N,E N,E N E N E	eP iS L L F F	06 22 56 30 09 40 22 40 35 07 41 -- 44 --				5590 Moderate. Near 3°N., 121°E. in Celebes Sea. 0 = 6h. 14.1m.
8	N N,E E N	e e F F	18 28 16 30 19 53 -- 55 --				Slight.

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COLABA OBSERVATORY, BOMBAY.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>Feb.</u>							
<u>FEBRUARY 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
24	E E N	eP? F	03 14 34				Feeble.
			39 --				
			Record lost.				
24	N,E N,E	e F	07 52 --				Feeble.
			08 11 --				
24	N,E N,E E N E N	eP(?) iS L L F F	09 38 00			5485	Slight. Epc: 2°S., 119.5°E. East Celebes Island. 0 = 09h. 29.0m.
			45 07				
			52 26				
			52 56				
			10 31 --				
			42 --				
28	N,E E N N,E E N	eP iS) eS) L F F	02 31 46			5365	Slight. From the same origin as the previous shock (24d. 9h.) 0 = 02h. 22.7m.
			38 45				
			41 33				
			03 35 --				
			39 --				
<u>MARCH 1946.</u>							
Mar. 2	N N,E E N	e e F F	02 40 24				Very feeble.
			44 01				
			03 05 --				
			09 --				
7	N,E N,E E N E N E N	eP iP eS eS L L M F F	16 35 57			2635	Slight. Epc: 5°S., 73°E., Indian Ocean. 0 = 16h. 31.0m.
			35 59				
			40 05				
			40 08				
			42 05				
			42 09				
			50 21	8	2		
			17 27 --				
			42 --				
7	N,E N,E N E	eP e(S) F F	21 46 07			2635	Slight. Probable epicentre: 28°N., 93.5°E. Felt at Tezpur and Shillong. 0 = 21h. 41.4m.
			50 16				
			22 15 --				
			18 --				
12	N,E N,E E N E N	eP iS L L F F	02 26 51			2490	Moderate. 0 = 02h. 21.5m. B.C.I.S. gives: Destructive in Persia between Shiras and the Persian Gulf.
			30 49				
			34 06				
			34 09				
			03 28 --				
			49 --				
13	N,E E N	e F F	09 04 33				Slight, Distant.
			11 05 --				
			14 --				
15	N,E E N	e F F	03 14 16				Feeble.
			04 12 --				
			26 --				

COLABA OBSERVATORY, BOMBAY.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>Mar.</u>							
<u>MARCH 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
15	N,E N,E E N	e(P) eSKS? F F	07 59 25 08 10 03 09 31 -- 38 --				
16	N N,E E N	eSS e F F	14 22 33 24 15 46 -- 48 --				Slight. Epc: 28°N., 94°E., O = 14h. 15.2m. Felt at Gauhati, Cooch Behar, Tezpur and Dibrugarh.
17	N,E N,E E N N E E E N	eP eS L L M M F F	21 06 28 08 32 10 10 10 12 15 32 18 10 22 00 -- 15 --		15 15 13 6	1245	Slight. Epc: 25°N., 63°E., Mekran Coast. Felt at Pasni. O = 21h. 06.0m. A correction of 2 minutes to the abso- lute time is sugges- ted.
26	N E N,E E N E N E	eP P iS L L M M F F	17 16 15 Not identifiable due to con- gestion of lines. 21 58 26 08 26 11 29 13 30 19 19 44 --			4065	Moderate. Near 6°S., 100°E., north of Sumatra. O = 17h. 09.2m. Epc: 2°N., 110°E., (B.C.I.S.) O = 17h. 09.0m.
27-28	N,E N,E E N E N E N	e(P) iS L L M M F F	23 32 58 35 13 37 00 37 13 39 34 40 19 00 41 -- 47 --		7 6 12 11	1355	Moderate. 27°N., 64.5°E., in Baluchis- tan. O = 23h. 30.5m. Epc: 28°N., 65°E., H = 23h. 30.0m. (B.C.I.S.)
29	N,E E E N	e M F F	07 45 58 09 00 07 55 -- 10 00 --		15 4		Slight, distant.
31	E N E N N,E N E E N	iP) eP) iS) eS) L M M F F	11 35 06 38 36 40 12 41 19 41 55 12 04 -- 07 --		6 6 7 3	2155	Slight. Probable Epc: 26.5°N., 94.5°E. Assam. O = 11h. 30m. 40s.

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ALIPORE OBSERVATORY, CALCUTTA.

DATE.	COMPT.	PHASE.	G. M. T.	PER. AMP.	Δ	REMARKS.
<u>1946</u>						
<u>Jan.</u>						
			<u>JANUARY 1946.</u>			
			h. m. s.	Sec.	μ	Km.
4	N	e F	19 04 18			Feeble.
			15 --			
4	N	e F	19 52 32			Feeble.
			20 10 --			
5	N	eP iS PS iSS iSSS eL M F	20 09 37			9400 Moderate.
			20 06			
			20 56			
			25 24			
			29 17			
			38 12			
			44 41			
			23 33 --			
8	N	e e F	18 33 01			Feeble.
			35 12			
			56 --			
9	N	e F	23 45 41			Feeble.
			58 --			
10	N	e F	19 26 16			Slight. Near.
			43 --			
10-11	N	eP iS iS* iS F	23 40 41			622 Slight. Felt at Shillong.
			41 37			
			42 07			
			42 27			
			00 04 --			
11	N	iP i i iS F	01 42 31			h = 400 Km.
			44 18			
			45 35			
			47 56			
			Lost in microseisms.			
19	N	e F	14 14 12			Feeble.
			26 --			
20	N	e(P) e(PP) iSKS F	17 04 59			Slight. Distant.
			08 45			
			15 39			
			Lost in microseisms.			
21	N	e e F	15 17 31			Slight.
			19 06			
			16 06 --			
25	N	e Mn F	17 52 05			Slight. Distant.
			12 17			
			Lost in microseisms.			
30	N	e i F	16 03 24			Feeble.
			09 04			
			26 --			

ALIPORE OBSERVATORY, CALCUTTA.

DATE.	COMPT.	PHASE.	G. M. T.	PER. AMP.	△	REMARKS.
<u>1946</u>						
<u>Feb.</u>						
<u>FEBRUARY 1946.</u>						
			h. m. s.	Sec. μ	Km.	
8	N	e e F	01 17 15 19 23			Slight, near. Lost in microseisms.
9	N	iP p*? P S S* S F	02 47 15 47 27 47 40 48 19 48 38 48 52		610	Moderate. Lost in microseisms.
10	N	e e F	12 24 24 28 54 53 --			Feeble.
12	N	i F	03 04 07			Lost in microseisms. Feeble.
12	N	e i F	19 09 13 09 47 18 --			Slight, near.
17	N	e(P) e(S) i e? e F	14 08 46 10 56 11 19 11 56 14 36 42 --			Slight.
17	N	eP iP iS iS* iS F	18 25 34 25 55 26 30 26 45 26 56 54 --		525	Slight.
18	N	e F	00 36 45			Lost while changing chart. Slight, distant.
19	N	iP i i F	18 58 23 19 02 24 03 01 49 --			Slight. Direction of first movement north.
20	N	eP ePP ePcP iS iSS eL ScS M Mn F	03 48 13 49 10 51 12 53 20 54 56 56 53 58 50 59 23 04 03 18		3480	Moderate. Lost in microseisms.
22	N	e i F	03 18 25 19 00			Slight, near. Lost in microseisms.

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ALIPORE OBSERVATORY, CALCUTTA.

 DATE. COMPT. PHASE. G. M. T. PER. AMP. Δ R E M A R K S.

1946
Feb.
FEBRUARY 1946.

			h. m. s.	Sec.	μ	Km.	
24	N	e	03 23 10				Slight, near.
		i	24 32				
		F	55 --				
24	N	e	07 58 56				Feeble.
		F	08 15 --				
24	N	e?	09 38 36				Slight.
		iS	42 20				
		iSS	45 20				
		iSSS	46 40				
		eL	49 30				
		M	53 28				
		F	10 36 --				
28	N	eP	02 28 09			5055	Slight.
		iS	34 58				
		iSS	38 02				
		iSSS	39 09				
		eL	42 09				
		M	46 00				
		F	03 50 --				

MARCH 1946.

Mar.2	N	eP	02 45 59			2345	Slight.
		eS	50 02				
		SS	50 38				
		F	Lost in microseisms.				
7	N	e(P)	16 37 30				Slight.
		i(S)	42 40				
		F	Lost in microseisms.				
7	N	eP	21 42 58			555	Slight. Felt at Shillong.
		iS	43 57				
		iS*	44 14				
		iS	44 27				
		F	22 14 --				
9	N	e	16 37 58				Slight, distant.
		Mn	59 41				
		F	17 29 --				
10	N	e	16 15 53				Feeble.
		F	28 --				
12	N	eP	02 28 28			3365	Slight.
		iS	33 51				
		iSS	35 35				
		F	Lost in the congestion of lines.				
15	N	e	03 12 40				Slight, distant.
		e	20 16				
		Mn	39 03				
		F	Lost in the congestion of lines.				
15	N	e	14 21 13				Slight, distant.
		Mn	15 05 51				
		F	42 --				

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ALIPORE OBSERVATORY, CALCUTTA.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>Mar.</u>							
<u>MARCH 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
16	N	e	11 40 47				Slight, near.
		Mn	52 33				
		F	12 24 --				
16	N	eP	14 15 50			822	Slight. Probable
		iS	17 15				time correction:
		F	43 --				+1 min.
17	N	e	21 02 32				Phases lost in the movements due to a feeble preceding the onset of P.
		iS?	14 22				
		F	Lost in microseisms.				
26	N	iP	17 15 25			3210	Great. Direction of first movement - North.
		iPPP	16 31				
		iS	20 23				
		eL	23 54				
		M	26 34				
		Mn	34 20	16	341		
		F	Lost in microseisms.				
27-28	N	eP	23 36 38			2365	Slight.
		iS	40 33				
		iSS	41 34				
		eL	42 19				
		M	44 14				
		F	00 35 --				
31	N	i	11 32 54				Slight. Phases marked by strong microseisms.
		F	Lost in microseisms.				

 ALIPORE OBSERVATORY,
CALCUTTA.

 S. MULL,
Meteorologist.

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COLOMBO OBSERVATORY, CEYLON.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>Jan.</u>							
<u>JANUARY 1946.</u>							
			h. m. s.	Sec.	mm.	Km.	
5	E		Record lost				
			from 08	--	--		
			to 20	--	--		
5	E	S	20 20 48				
		M	51 01		1.0		
		F	21 40 --				
6	E		Record lost				
			from 00 42	--	--		
			to 20 28	--	--		
7	E	P	06 21 48				
		S	28 01				
		L	37 10				
		M	40 --		0.6		
		F	07 10 --				
8-9	E		Record lost				
			from 00 52	--	--		
			to 01 09	--	--		
9-10	E		Record lost				
			from 22 01	--	--		
			to 00 52	--	--		
11	E	P	01 42 23				
		S	49 35				
		F	02 28 --				
11-12	E		Record lost				
			from 07 58	--	--		
			to 00 58	--	--		
12	E	P	20 43 53				
		e	51 41				
		L	21 17 30				
		M	23 36		1.0		
		F	22 00 --				
13-14	E		Record lost				
			from 23 15	--	--		
			to 01 08	--	--		
14-15	E		Record lost				
			from 21 58	--	--		
			to 01 03	--	--		
17	E	P	09 50 32				
		L	59 21				
		M	10 01 09		1.6		
		F	11 20 --				
18	E		Record lost				
			from 07 25	--	--		
			to 22 10	--	--		
20	E	P	17 07 05				
		S	17 58				
		M	45 05		0.5		
		F	18 00 --				

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COLOMBO OBSERVATORY, CEYLON.

 DATE. COMPT. PHASE. G. M. T. PER. AMP. Δ R E M A R K S.

 1946
 Jan.

JANUARY 1946.

			h. m. s.	Sec.	mm.	Km.
22-23	E		Record lost from 03 45 -- to 01 10 --			
23-24	E		Record lost from 23 27 -- to 01 00 --			
24	E	S	06 33 37			
		L	53 02			
		M	55 58			<0.5
		F	07 30 --			
26	E	P?	06 41 14			
		S	47 03			
		L	54 24			
		M	57 34			<0.5
		F	07 25 --			
31-) Feb.1.)	E		Record lost from 04 49 -- to 00 00 --			

FEBRUARY 1946.

Feb.1-2	E		Record lost from 00 00 -- to 00 50 --			
4-5	E		Record lost from 07 30 -- to 00 54 --			
5	E	P	19 39 18			
		S	42 51			
		F	20 20			
18-19	E		Record lost from 18 57 -- to 01 00 --			
19	E	P	19 04 55			
		M	17 --			<0.5
		F	40 --			
20	E	P	03 49 49			
		S	56 10			
		L	04 04 30			
		M	09 --			<0.5
		F	05 10 --			
24	E	P?	09 36 43			
		S	42 52			
		L	49 53			
		M	55 07			<0.5
		F	10 30 --			
28	E	P	02 30 24			
		S	36 36			
		L	45 59			
		M	50 03			<0.5
		F	03 30 --			

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COLOMBO OBSERVATORY, CEYLON.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	REMARKS.
<u>1946</u>						
<u>Mar.</u>						
<u>MARCH 1946.</u>						
			h. m. s.	Sec.	mm.	Km.
Mar.2-3	E		Record lost from 17 13 -- to 00 56 --			
5-6	E		Record lost from 09 31 -- to 09 42 --			
7	E	P F	04 01 50 06 --			
7	E	P L M F	16 34 30 38 00 39 10 17 20 --		<0.5	
10-11	E		Record lost from 00 43 -- to 04 00 --			
12	E	P? S L M F	02 28 51 34 08 42 55 47 19 03 35 --		0.5	
15	E	e e L M F	07 56 30 08 09 34 31 -- 37 59 09 30 --		<0.5	P uncertain due to overlapping of lines.
16	E	P S L M F	14 20 14 24 19 36 -- 36 23 50 --		<0.5	
16-17	E		Record lost from 22 17 -- to 01 05 --			
17	E	e F	02 05 -- 03 40 --			Slight.
17	E	P S F	20 57 19 21 04 38			Lost in the following shock.
17	E	P S L M F	21 11 14 15 38 19 -- 20 58 22 10 --		0.5	
20	E		Record lost from 08 -- -- to 21 -- --			
26	E	P S M F	17 14 23 18 53 19 57 19 55 --		9.2	

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COLOMBO OBSERVATORY, CEYLON.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>Mar.</u>							
<u>MARCH 1946.</u>							
			h. m. s.	Sec.	mm.	Km.	
27-28	E	P	23 35 47				
		L	43 35				
		M	46 10		0.5		
		F	00 45 --				
29-30	E	Record lost from 08 01 -- to 00 44 --					
30-31	E	Record lost from 01 44 -- to 01 00 --					
31	E	P	11 34 58				
		S	39 01				
		M	39 34		<0.5		
		F	12 15 --				

COLOMBO OBSERVATORY,
CEYLON.

D. T. E. DASSANAYAKE,
SUPERINTENDENT.

HAIG OBSERVATORY, SURVEY OF INDIA, DEHRA DUN.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>Jan.</u>							
<u>JANUARY 1946.</u>							
			h. m. s.				Sec. On trace Km. in inch.
Jan. 6	N	e	09 29 06				
		M ₁	34 36				
		F ¹	39 --				
6	N	e	10 03 30				
		e	05 41				
		M ₁	07 35	12	0.03		
		M ₂	09 35	10	0.02		
		F ²	19 --				
6	N	e	10 22 17				
		e	24 48				
		M ₁	26 16	18			
		M ₂	27 03	12	0.02		
		M ₃	29 05	11	0.02		
		F ³	38 --				
11	N	eP	01 40 37				3176
		eS	45 26				
		eL	49 22				
		M ₁	50 27	20	0.01		
		F ¹	02 08 --				
12	N	e	20 37 00				
		e	46 56				
		M ₁	21 11 00	30	0.01		
		M ₂	15 28	24	0.01		
		M ₃	18 54	24	0.01		
		F ³	40 --				
<u>FEBRUARY 1946.</u>							
Feb. 19	N	e(P)	18 57 52				
		e	59 13				
		e	19 00 23				
		M ₁	00 48	11	0.02		
		F ¹	17 --				
<u>MARCH 1946.</u>							
Mar. 26	N	eP	17 17 18				5230
		eS	23 35				
		e	26 42				
		eL	31 22				
		M ₁	34 14	24	0.15		
		M ₂	36 09	24	0.10		
		M ₃	40 42	24	0.07		
		F ³	18 25 --				
27-28	N	e	23 37 22				
		e	38 44				
		eL	40 37				
		M ₁	41 12	15	0.03		
		F ¹	00 --				

DEHRA DUN.

DR. J. DE GRAFF HUNTER,
Director,
War Research,
Survey of India.

NIZAMIAH OBSERVATORY, HYDERABAD, DECCAN.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>Jan.</u>							
<u>JANUARY 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
Jan. 4	N	eP	19 00 30			630	
		eS	01 35				
4	N	M	03 41	9	2		
		M	54 33	15	4		
5	N	P	01 34 30			2030	
		(S)	37 48				
5	N	eP	20 10 32			10040	
		P	10 39				
		PP	13 56				
		SKS	21 09				
		S	21 30				
		SS	27 38				
		L	40 11				
		M	47 13	18	25		
		F	23 16 --				
6	N	eS	09 29 08				
		SS	29 30				
		L	31 10				
		M	33 38	9	4		
6	N	eP	10 00 05			2090	
		PP	00 13				
		eS	03 28				
		SS	04 22				
		L	05 31				
		M	07 39	11	14		
6	N	P	10 18 54			1950	
		S	22 05				
		SS	23 29				
		M	26 23	9	13		
7	N	P	06 22 19			4930	
		S	28 54				
		SS	32 11				
		L	35 45				
		M	40 42	15	8		
10	N	P	23 42 23			2030	
		PP	42 45				
		S	45 41				
		M	48 39	6	2		
11	N	P	01 41 41				
		pP(?)	42 50				
		?	46 30				
		?	53 09				
11	N	P	01 43 28			3160	
		PP	44 37				
		S	48 14				
		M	55 03	11	10		
11	N	P	01 45 46			3070	
		S	50 26				
		M	57 05	14	10		

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NIZAMIAH OBSERVATORY, HYDERABAD DECCAN.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>Jan.</u>							
<u>JANUARY 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
12	N	P	20 39 07			10600	
		PP	42 48				
		SKS	49 22				
		SKKS	50 03				
		S	50 27				
		PS	51 36				
		SS	56 34				
		L	21 11 42				
		M	20 35	16	17		
13	N	eP	11 19 02			1590	
		eS	21 39				
		L	22 57				
		M	23 50	14	3		
17	N	P	09 50 55			7780	
		PP	53 55				
		S	10 00 06				
		PS	00 40				
		SS	04 17				
		L	13 55				
		M	19 19	14	5		
20	N	eP	17 08 03			10700 Δ From SKS-PP.	
		PP	11 31				
		SKS	18 24				
		S	18 55				
		PS	20 04				
		SS	25 01				
		L	39 09				
		M	47 09	16	4		
20	N	P	23 39 46			1650	Absolute time uncertain?
		S	42 30				
21	N	(S)	15 16 20				
		M	20 21	9	5		
24	N	P	06 27 20			5200	
		PP	29 10				
		S	34 10				
		SS	37 05				
		L	42 09				
		M	47 24	14	5		
25	N	S	17 50 55				
		M	18 13 52	12	3		
26	N	M	03 05 39	16	4		
26	N	P	06 41 33			2160	
		S	45 04				
		L	47 06				
		M	48 31	11	21		
28	N	eS	04 26 37				
		L	28 29				
		M	30 33	12	3		
29	N	M	09 08 08	13	2		



DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>Jan.</u>							
<u>JANUARY 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
30	N	S	16 00 27				
		L	03 32				
		M	05 03	14	3		
31	N	S	23 23 23				
		M	30 10	11	2		
<u>FEBRUARY 1946.</u>							
Feb.3	N	eP	08 33 02			4330	
		eS	39 01				
		M	50 44	12	3		
3	N	M	20 47 06	9	2		
4	N	P	03 57 11			10240	
		S	04 08 17				
		M	32 58	12	2		
4	N	M	07 24 20	12	3		
5	N	P	19 38 37			1820	
		S	41 36				
		M	44 45	5	4		
8	N	S	01 15 00				
		SS	15 10				
		M	17 45	10	4		
9	N	P	02 48 43			1810	Times approxi-
		S	51 41				mate. Time
		M	54 06	7	5		marks absent.
10	N	P	13 18 30			2760	
		S	22 48				
		L	25 27				
		M	26 53	11	4		
12	N	SKS	03 03 05				
		M	23 57	15	3		
12	N	M	14 19 23	15	3		
15	N	eP	17 36 21			5920	
		eS	43 52				
		M	58 34	9	2		
16	N	eP	07 18 10			2240	△ From S-PP.
		PP	18 27				
		S	21 53				
		M	25 30	8	3		
16	N	M	23 08 35	16	4		
17	N	(S)	14 08 14				
		M	11 42	9	5		
17	N	(S)	18 32 12				
		M	33 50	11	3		
18	N	S	00 37 57				
		SS	41 57				
		L	48 31				
		M	55 25	15	4		

NIZAMIAH OBSERVATORY, HYDERABAD, DECCAN.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>Feb.</u>							
<u>FEBRUARY 1946.</u>							
			h. m. s.	Sec.	μ		Km.
19	N	P	18 59 51				2300
		PP	19 00 06				
		S	03 34				
		L	05 53				
		M	07 35	11	23		
20	N	eP	03 49 33				4420
		P	49 40				
		PP	50 54				
		S	55 44				
		ScS	59 23				
		L	04 02 32				
		M	05 48	16	23		
21	N	P	15 51 24				5130
		S	58 10				
		PS	58 16				
		SS	16 01 44				
		L	05 30				
		M	10 13	15	4		
22	N	M	03 24 09	12	3		
24	N	PP	03 17 41				1890
		S	20 39				
		M	22 25	10	4		
24	N	eP	07 53 46				1850
		PP	54 01				
		S	56 48				
		M	58 35	9	2		
24	N	eP(?)	09 37 00				5080
		S	43 43				
		PS	43 48				
		ScS	47 02				
		L	52 02				
		M	55 55	14	6		
25	N	M	02 35 24	15	3		
28	N	PP	02 32 18				5240
		S	37 27				△ From S-PP.
		SS	40 47				
		L	44 10				
		M	48 55	15	4		
<u>MARCH 1946.</u>							
Mar. 2	N	P	02 45 15				2040
		PP	45 23				
		eS	48 34				
		L	50 22				
		M	52 00	11	3		
7	N	P	16 35 59				2570
		S	40 03				
		SS	41 03				
		L	42 04				
		M	42 45	14	14		

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NIZAMIAH OBSERVATORY, HYDERABAD DECCAN.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>Mar.</u>							
			<u>MARCH 1949.</u>				
			h. m. s.	Sec.	μ	Km.	
7	N	eP	21 45 16			1950	
		S	48 27				
		SS	48 57				
		M	51 43	8	3		
9	N	M	17 04 24	14	5		
13	N	(PcP)	08 55 48			7160	
		S	09 03 52				
		PS	04 04				
		M	22 31	18	8		
15	N	eP	03 14 33			7260	
		S	23 18				
		M	40 37	15	3		
15	N	eP	07 59 14			10020	
		SKS	08 09 31				
		S	10 11				
		M	38 35	19	6		
15	N	M	15 09 13	15	4		
17	N	M	03 20 50	12	2		
17	N	e	21 05 13				
		PP	05 57				
		(SS)	12 53				
		(ScS)	15 38				
		M	17 31	14	15		
20	N	M	05 39 05	12	2		
24	N	M	16 31 03	18	4		
26	N	P	17 15 31			3400	
		PP	16 25				
		S	20 33				
		SS	21 52				
		L	24 50				
		M	26 38	18	95		
		F	20 08 --				
27	N	S	06 08 47				
		M	31 06	20	7		
27	N	P	23 34 06			1730	
		S	36 57				
		L	38 16				
		M	40 46	11	17		
28	N	(S)	17 49 25				
		M	18 01 52	18	5		

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NIZAMIAH OBSERVATORY, HYDERABAD DECCAN.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>Mar.</u>							
<u>MARCH 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
29	N	P ₂	07 46 12			17780	Δ approximate.
		PP	50 11				
		SKKS	56 46				
		SKSP	08 00 27				
		SS	09 54				
		M	48 05	18	13		
30	N	eS	13 44 06				
		L	50 20				
		M	55 05	11	3		
31	N	P	11 33 59			1830	
		S	36 59				
		M	39 35	5	5		

 NIZAMIAH OBSERVATORY,)
 HYDERABAD, DECCAN.)

 AKBAR ALI,
 Curator.

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KODAIKANAL OBSERVATORY, KODAIKANAL.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>Jan.</u>							
<u>JANUARY 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
Jan.5	E	eP	20 11 55			9620	Moderate. Probable time correction -1 min.
		e	15 30				
		iSKS?	22 35				
		SS	28 50				
		M	48 00	20	32		
		F	21 12 --				
6	E	eP	10 01 30			2255	
		eS	05 10				
		L	07 10				
		M	08 45	15	10		
		F	Not clear.				
6	E	eP	10 20 45			2255	Originating at the focus of the preceding earthquake.
		eS	24 35				
		L	26 35				
		M	30 05	15	10		
		F	11 05 --				
7	E	iP	06 22 23			4855	Slight.
		PP	24 03				
		iS	28 53				
		SS	32 33				
		M	41 33	20	12		
		F	07 10 --				
11	E	iP	01 42 02				Slight.
		e	43 47				
		iS	49 20				
		SS(?)	51 00				
		i	55 05				
		i	02 01 35				
12	E	e	20 48 21				Moderate.
		e	50 46				
		e	56 51				
		M	21 12 51	30	80		
		F	49 --				
20	E	e	17 11 10				Phases not very clear.
		F	18 29 --				
21	E	i	15 14 26				Slight.
		e	17 56				
		M	21 31	10	3		
		F	16 15 --				
24	E	eP	06 27 12			5300	Slight.
		PP	28 42				
		eS	34 07				
		SS	36 23				
		L	41 03				
		M	45 33	10			
		F	07 13 --				

KODAIKANAL OBSERVATORY, KODAIKANAL.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>Jan.</u>							
<u>JANUARY 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
26	E	eP	06 42 27			2780	Moderate.
		PP	42 57				
		iS	46 47				
		L	48 57				
		M	52 07	15	10		
		F	07 21 --				
<u>FEBRUARY 1946.</u>							
Feb.3	E	e	07 43 10				Feeble.
		F	56 --				
5	E	iP	19 39 18			2190	Slight.
		PP	39 31				
		iS	42 51				
		SS	43 10				
		L	44 30				
		M	46 10	12	5		
		F	20 09 --				
8	E	e	01 15 50				Feeble.
		F	40 --				
16	E	e	07 31 35				Feeble.
		F	45 --				
17	E	e	14 08 06				Slight.
		e	08 13				
		e	11 15				
		e	11 28				
		L	12 46				
		M	14 16	15	4		
		F	30 --				
18	E	e	00 29 00				Feeble.
		F	01 41 52				
19	E	eS	19 05 44				Moderate.
		e	06 02				
		e	09 34				
		e	09 56				
		L	10 29				
		M	13 16	12	14		
		F	46 --				
20	E	iP	03 50 02			4855	Moderate.
		PP	51 42				
		iS	56 32				
		SS	59 34				
		L	04 03 39				
		M	07 24	18	8		
		F	27 --				
24	E	iP	09 37 04			4855	Slight.
		PP	37 46				
		iS	43 34				
		PS	43 42				
		SS	46 35				
		L	50 34				
		M	52 22	18	7		
		F	10 29 --				

KODAIKANAL OBSERVATORY, KODAIKANAL.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>Feb.</u>		<u>FEBRUARY 1946.</u>					
			h. m. s.	Sec.	μ	Km.	
28	E	eP	02 30 48			4690	Slight.
		PP	32 23				
		iS	37 08				
		PS	37 19				
		SS	40 04				
		ScS	40 15				
		L	43 56				
		M	44 46	18	8		
		F	03 55 --				
<u>MARCH 1946.</u>							
Mar. 7	E	iP	16 34 50				Slight.
		e	38 40				
		L	40 47				
		M	42 42	13	7		
		F	17 40 --				
7	E	e	21 46 05				Feeble.
		F	22 02 --				
12	E	e	02 27 23				Slight.
		PP	28 48				
		iS	33 13				
		M	42 13	16	10		
		F	04 06 --				
13	E	e	08 05 48				Feeble.
		F	09 08 --				
15	E	e	03 23 02				Feeble.
		F	54 --				
15	E	i(P)	07 58 01				Slight, distant.
		e	08 01 16				
		iSKS?	08 28				
		e	09 18				
		e	13 48				
		L	26 18				
		M	33 00	17	5		
		F	09 21 --				
16	E	e	11 49 58				Feeble.
		F	12 14 --				
16	E	eP	14 19 59			2320	Slight, near.
		PP	20 19				
		iS	23 44				
		SS	24 11				
		L	25 41				
		M	27 23				
		F	40 --				
17	E	iP	21 10 30			2270	Slight.
		PP	10 45				
		iS	14 11				
		SS	16 35				
		L	18 03				
		M	19 48	17	13		
		F	22 09 --				

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KODAIKANAL OBSERVATORY, KODAIKANAL.

 DATE. COMPT. PHASE. G. M. T. PER. AMP. Δ R E M A R K S.

1946
Mar.
MARCH 1946.

			h.	m.	s.	Sec.	μ	Km.	
27	E	e	06	23	17				Feeble.
		F		46	--				
27/28	E	iP	23	34	53			2320	Slight.
		PP		35	10				
		iS		38	38				
		SS		39	00				
		L		40	30				
		M		42	17	16	13		
		F	00	40	--				
29	E	e	07	40	57				Moderate.
		e		42	47				
		e		48	05				
		e		51	30				
		L		56	37				
		M	08	00	42	17	12		
		F		39	--				
31	E	eP	11	34	42			2145	Slight.
		eS		38	10				
		L		39	50				
		M		41	30				
		F	12	01	--				

 KODAIKANAL OBSERVATORY,)
 KODAIKANAL.)

 A. L. NARAYANAN,
 DIRECTOR.

The following table contains a list of earthquakes reported by
voluntary observers from various stations.

Place at which felt.	Date.	G.M.T. of earth- quake.	Dura- tion.	Inten- sity Rossi- Forel Scale.	Num- ber of shocks.	Remarks.
		Hr. Mn.	Secs.			
Tezpur	10-1-1946	23 47	3	4	1	
Dibrugarh	10-1-1946	23 40	1	4	1	
Jubbulpore	17-1-1946	19 54	10	4	1	
Peshawar	20-1-1946	23 40	10	4	2	
Kabul	20-1-1946	23 33	9	4	2	
Drosh	20-1-1946	23 00	30	4	1	
Drosh	20-1-1946	23 39	2	4	1	
Tezpur	26-1-1946	15 15	12	5		No record.
Drosh	30-1-1946	23 30	30	4	1	No record.
Port Blair	31 -1-1946	01 22	2	3	2	
Port Blair	31-1-1946	03 45	0.5	2	1	No record.
Drosh	31-1-1946	13 50	40	4	1	
Drosh	1-2-1946	06 19	15	3	1	No record.
Drosh	11-2-1946	12 04	30	3	1	
Katmandu	12-2-1946	19 15	4	4	1	
Peshawar	14-2-1946	08 00	5	3	1	
Srinagar	25-2-1946	01 37	4	5	2	
Srinagar	3-3-1946	01 14	1	5	1	No record.
Tezpur	7-3-1946	21 45	25	5	1	
Gauhati	16-3-1946	14 15	3	4	1	
Cooch Behar	16-3-1946	14 15	3	4	3	
Tezpur	16-3-1946	14 20	30	4	1	
Dhubri	16-3-1946	14 30	2	4	1	

C. G. PENDSE,
Seismological Officer,
Poona.

GOVERNMENT OF INDIA
 METEOROLOGICAL DEPARTMENT.

SEISMOLOGICAL BULLETIN

April-June 1946.

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PUBLISHED UNDER THE DIRECTION OF
 S. K. BANERJI, O.B.E., M.Sc., D.Sc., F.N.I.,
 Director General of Observatories.

SEISMOLOGICAL BULLETIN

APRIL - JUNE 1946.

INTRODUCTION.

Till the end of 1937, the seismic data from the observatories of the India Meteorological Department were being published annually as Part D of the Annual Summary of the India Weather Review. Since 1938, the data are being published in the present series of the Quarterly Seismological Bulletin. With the kind co-operation of the Surveyor-General of India, the Director of the Nizamiah Observatory, Hyderabad, and of the Superintendent, Colombo Observatory, it has been possible to incorporate in the bulletin, the data of their respective observatories, viz. Dehra Dun, Hyderabad and Colombo. The instrumental seismological data and the non-instrumental voluntary observations are collected and edited at the Meteorological Office, Poona.

TABLE - 1.

List of Seismograph Stations.

Station.	Latitude.	Longitude.	Height above M.S.L.	Lithologic foundation.	Officer-in- charge of Observatory.
New Delhi	28° 35' N.	77° 12' E.	207 meters	Massive Quartzites	Superintending Meteorologist.
Bombay	18° 54' N.	72° 49' E.	6 meters	Deccan Trap	Director.
Calcutta	22° 32' N.	88° 20' E.	(1) 7 meters (2) 6 meters	Alluvium	Meteorologist.
Colombo	6° 54' N.	79° 52' E.	7 meters	Beach sand resting on gneiss pro- bably de- composed	Superintendent.
Dehra Dun	30° 19' N.	78° 03' E.	682 meters	Gravel	Director, War Research, Survey of India.
Hyderabad	17° 26' N.	78° 27' E.	528 meters	Granite	Curator, Nizamiah Obser- vatory.
Kodaikanal	10° 14' N.	77° 28' E.	2343 meters	Rock	Director.

(1) Milne-Shaw. (2) Omori-Ewing.

TABLE - 2.

The instruments and their constants.

Station.	Compo- nent.	Type of instru- ment.	Mass. Kg.	Period. Sec.	Static magni- fication.	Damping Ratio.	Remark.
New Delhi	E	Omori-Ewing	45	30	30		
	N	Milne-Shaw	0.47	12	262	20 : 1	
Bombay	N	Milne-Shaw	0.45	12	250	17 : 1	
	E	Milne-Shaw	0.45	12	350	40 : 1	
Calcutta	N	Milne-Shaw	0.45	12	250	20 : 1	
	E	Omori-Ewing	50	16	30		
Colombo	N	Omori-Ewing	50	15	32		
	E	Milne-Shaw	0.45	12	250	20 : 1	
Dehra Dun	N	Omori	50		12		
Hyderabad	N	Milne-Shaw	0.45	12	250	20 : 1	
	E	Milne-Shaw	0.45	12	250	20 : 1	
Kodaikanal	E	Milne-Shaw	0.45	10	250	19 : 1	

THE OBSERVATORY, NEW DELHI.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
			<u>APRIL 1946.</u>				
			h. m. s.	Sec.	μ	Km.	
1946 Apr.							
Apr. 1	N	iP	12 41 21				Great. Direc- tion of first motion north.
	E	eP	41 23				
	N	i	42 04				
		PP	44 01				
		PPP	45 35				
		i(SKS)	51 04				
		S	51 42				
	E	PS	51 43				
	N	PPS	52 05				
		SS	55 48				
		i	57 47				
		SSS	59 09				
		i	13 00 50				
	E	i	01 30				
	N	M	09 46				
		M	11 44				
		Mn ₁	16 25	27	580		
		Mn ₂	23 15	20	298		
	E	F	15 49 --				
	N	F	Lost in the following shock.				
1	N	iP	17 11 39			9020	Slight.
		i	12 24				
		iS	21 51				
		PPS	22 55				
		SS	26 20				
		M	43 42				
		F	Lost in the following shock.				
1	N	iP	19 10 01			9080	Moderate.
		iS	20 16				
	E	i	20 22				
	N	PPS	21 20				
		M	41 43				
	E	M	41 51				
		F	20 24 --				
	N	F	22 26 --				
2	N	iP	04 26 24			8620	Slight.
		iS	36 17				
		M	57 42				
		F	Lost in the following shock.				
2	N	eP	05 50 40			9260	Slight.
		eS	06 01 04				
		F	Lost due to overlapping of lines.				
2	N	eP	16 42 47			9080	Slight.
		iS	53 02				
		M	17 14 27				
		F	18 21 --				
3	N	iP	03 19 35			3760	Feeble.
		PP	20 37				
		iS	24 59				
		i	25 21				
		i	28 14				
		F	04 19 --				

3 A second shock at about 0900 hours G.M.T. Phases lost due to overlapping of lines.

THE OBSERVATORY, NEW DELHI.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>Apr.</u>							
<u>APRIL 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
4	N	e	16 40 54				Feeble. Very distant.
		e	53 44				
4	N	e	17 16 55				
		F	18 03 --				
5	N	i	21 08 56				Feeble. Distant.
		i	09 23				
		F	44 --				
5	N	i	22 02 30				Feeble. Distant.
		i	04 51				
		F	38 --				
6	N	e	03 15 02				Slight. Distant.
		i	22 29				
		M	32 22				
		F	04 41 --				
6	N	Phases of two shocks lost due to overlapping of lines.					
6	N	e	14 06 47				Feeble. Distant.
		M	43 05				
		F	16 15 --				
8	N	Phases of an earthquake shock lost due to overlapping of lines.					
8	N	eP	17 48 53			9050	Slight.
		eS	59 07				
		M	18 20 30				
		F	19 12 --				
9	N	e	20 50 42				Feeble. Distant.
		F	21 40 --				
10	N	i	17 45 25				Feeble. Very distant.
		i	45 53				
		F	22 30 --				
11	N	e	02 05 42			9780	Moderate.
		ePP	09 18				
		e(S)	16 43				
		ScS	16 55				
		iPS	17 37				
		PPS	18 12				
		SS	22 20				
11	N	SSSS	02 29 06				
		i	33 18				
		M	42 03				
		F	05 35 --				
14	N	i	04 50 25				Feeble.
		i	52 14				
		F	05 02 --				

THE OBSERVATORY, NEW DELHI.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>Apr.</u>							
<u>APRIL 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
15	N	i	18 00 10				Slight. Dis-
		i	04 30				tant.
		M	07 33				
		F	34 --				
16	N	e	15 21 20				Slight. Near.
		i	22 17				
		F	54 --				
18	N	e	20 06 38				Feeble. Dis-
		e	19 43				tant.
		F	46 --				
23	N	e	05 12 20			11670	Slight.
		iSKS	19 57				
		SKKS	20 45				
		M	53 36				
		F	07 54 --				
25	N	e	01 03 29				Slight. Dis-
		i	10 48				tant.
		M	14 46				
		F	30 --				
29	N	iP	16 32 59			1000	Slight.
		iS	34 40				
		F	44 --				
<u>MAY 1946.</u>							
May 3-4	N	i	22 07 35				Moderate.
		i	26 19				Very distant.
		i	26 39				
	N, E	i	35 59				Probable
	N	i	45 54				beginning of
	E	i	45 55				another earth-
	N	i	57 20				quake.
		M	23 02 47				
		F	02 40 --				
7	N	i	14 50 16				Slight.
		i	51 50				
		i	52 41				
		F	15 19 --				
8	N, E	iP	05 27 23			3920	Moderate.
	N, E	iS	32 57				Directions of
	N	SS	35 02				first motion
	E	SS	35 05				South in N
		M	38 49				and East in E.
	N	M	41 18				
	E	Mn	42 26	21	697		
	N	Mn	42 41	20	301		
	E	F	07 37 --				
	N	F	08 04 --				

THE OBSERVATORY, NEW DELHI.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.	
<u>1946</u>								
<u>May.</u>								
			<u>MAY 1946.</u>					
			h. m. s.	Sec.	μ	Kn.		
8	N	iP	09 56 32			7760	Slight.	
		iS	10 05 42				Direction of	
		PS	06 05				first motion -	
		ScS	06 29				South.	
		M	23 08					
		F	12 35 --					
9	N	e	10 10 57				Slight. Near.	
		F	16 --					
9	N	e	22 44 30				Slight. Dis-	
		M	59 10				tant.	
		F	23 40 --					
10	N	e	00 48 05				Slight. Dis-	
		F	01 19 --				tant. Surface	
							waves.	
10	N	e	14 13 25				Slight. Near.	
		F	21 --					
11	N	i	18 57 38				Slight. Dis-	
		M	19 14 38				tant.	
		F	44 --					
12	N	e	14 12 40				Slight.	
		F	37 --					
15	N	eP	14 08 56			20	Slight.	
		iS	08 58					
		F	41 --					
15	N	PKP	22 32 43				Slight.	
		i	33 30					
		PP	34 39					
		SKP	35 39					
		S	42 26					
		PS	44 49					
		PPS	46 03					
		SSS	55 45					
		F	Lost while changing the paper.					
18	N	e	01 10 46				Slight. Near.	
		F	17 --					
18	N	iP	05 52 28			40	Slight.	
		iS	52 33					
		F	56 --					
19	N	e	01 05 19				Slight. Dis-	
		F	02 00 --				tant. Surface	
							waves.	
19	N	e	05 05 52				Slight. Near.	
		i	06 55					
		i	07 07					
		F	15 --					

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THE OBSERVATORY, NEW DELHI.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>May.</u>							
<u>MAY 1946.</u>							
			h. m. s.	Sec.	μ	Kn.	
19	N	e i i F	15 36 02 37 02 37 56 59 --				Slight. Distant.
21	N	iPP iSKS iSKKS PS F	09 36 54 42 26 43 53 46 38 11 31 --			13330	Slight.
22	N	i i F	15 10 16 12 10 17 17 --				Slight. Pro- bably some nonseismic disturbance.
23-24	N	e F	23 35 07 01 21 --				Slight. Pro- bably non- seismic dis- turbance.
27	N	e F	01 41 05 02 05 --				Slight. Dis- tant.
29	N	i i F	07 00 23 02 49 09 --				Slight.
29	N	e i i e F	19 34 31 38 55 41 44 47 19 20 19 --				Slight. Dis- tant.
29	N	i F	23 29 26 37 --				Slight. Sur- face waves.
31	N	iP iS SS M F	03 19 07 24 17 25 51 31 55 04 35 --			3520	Slight
<u>JUNE 1946.</u>							
June 1	N	i F	01 58 14 02 10 --				Feeble.
1	N	i i M F	16 26 01 26 42 35 27 17 13 --				Slight. Dis- tant.
2	N	P(?) F _c P PP iS i L M F	01 15 14 16 41 16 56 22 27 22 48 30 20 34 14 02 26 --			5590	Slight.

THE OBSERVATORY, NEW DELHI.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>June.</u>							
<u>JUNE 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
3	N	e F	14 32 31 54 --				Slight. Dis- tant. Surface waves.
3	N	e F	17 26 39 44 --				-do-
5	N	i F	22 24 10				Slight.
			Lost in microseisms.				
7	N	i i i i i i F	04 35 57 36 27 41 40 47 00 54 29 05 19 22 06 43 --				Moderate. Very distant.
8	N	e e i F	23 26 43 27 46 27 58 33 --				Slight. Near.
12	N	e F	10 22 27 40 --				Slight. Dis- tant.
12	N	eP eS PS M F	16 19 12 27 24 27 34 43 54 17 33 --		6650		Slight.
16	N	i i M F	10 15 30 15 58 25 10				Slight.
			Lost in microseisms.				
16	N	i i F	17 06 24 07 14				Slight. Near.
			Lost in microseisms.				
20	N E N,E N E E N	eP eP iS S S F F	00 37 11 37 12 38 54 40 02 40 04 01 12 00 01 30 --			1020	Slight.
23	N E N	e i iSKS iSKKS S PS PPS SS M L M F	17 27 02 31 08 35 17 36 36 37 37 39 01 40 19 45 33 18 01 11 04 04 12 24 20 23 --				Moderate.

THE OBSERVATORY, NEW DELHI.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>		<u>JUNE 1946.</u>					
<u>June.</u>		h. m. s. Sec. μ Km.					
24	N	e i F	04 14 35 20 08				Slight.
			Lost in microseisms.				
25	N	e i F	00 13 02 14 07				Slight. Distant.
			Lost in microseisms.				
26	N	eSKS eSKKS SS F	13 03 24 04 36 13 53			13030	Slight.
			Lost in microseisms.				
26	N	eP iS F	15 23 45 25 26			1000	Slight.
			Lost in microseisms.				
28	N	e F	08 13 16				Slight. Distant. Surface waves.
			Lost in microseisms.				

THE OBSERVATORY,)
NEW DELHI.)

V. V. SOHONI,
Superintending Meteorologist
(Instruments & Supplies).

COLABA OBSERVATORY, BOMBAY.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>Apr.</u>							
			<u>APRIL 1946.</u>				
			h. m. s.	Sec.	μ	Km.	
Apr. 1	N,E N,E N,E E N,E E N E N	eP ePP eSKS iSS L M M F F	12 42 15 45 52 52 40 59 53 13 08 22 21 36 22 04 16 26 -- 34 --				Great. Δ from P-O. B.C.I.S. gives: $53^{\circ}.1N.$, $163^{\circ}.5W.$ O = 12h. 28m. 53s. Destructive in Hawaii due to tidal wave.
1	N,E E N	e F F	17 12 30 18 16 -- 27 --				Feeble. Probably after shock of the preceding great shock.
1	N,E N,E E N E N	eP e(SKS) M M F F	19 10 48 21 41 49 18 49 43 21 30 -- 33 --			9935	Slight. Probably after shock of the preceding great shock.
2	N N	eP F	04 27 01 05 41 --				-do-
2	N N	e F	06 02 56 07 37 --				
2	E	Record lost from 02 22 -- to 15 35 --					
2	N,E E N	eP F F	16 43 41 18 00 -- 03 --				Slight. Probably after shock of the preceding great shock.
3	E N N,E E N	iP) eP) eS F F	03 19 09 24 11 04 02 -- 16 --			3400	Slight. $3^{\circ}N.$, $100^{\circ}.5E.$ North Coast of Sumatra. O = 3h. 12.9m.
3	N,E E N	e F F	09 11 51 10 26 -- 28 --				Slight; distant.
6	N,E N,E E N	eP eS F F	03 13 48 20 11 04 17 -- 25 --			4745	Slight. $23^{\circ}.5S.$, $71^{\circ}.5E.$ Indian Ocean. O = 3h. 5.9m.
6	N,E N,E	e F	05 39 -- 06 18 --				Surface waves.
6	N,E E N	eP F F	08 26 29 44 -- 47 --				Very feeble.

COLABA OBSERVATORY, BOMBAY.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>Apr.</u>							
<u>APRIL 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
6	N,E E N	e F F	14 36 -- 15 32 -- 34 --				Surface waves.
11	N E E N N,E E N N,E	eP P iS) eS) L M M F	02 05 15 Lost while changing chart. 16 00 32 29 51 22 53 30 05 20 --			9735	Moderate. O = lh. 52.4m. B.C.I.S. gives: 4°S., 12° 8W., Atlantic.
14	N,E N,E	e F	04 48 -- 05 02 --				Feeble.
14	N,E N	e F	10 58 -- 11 09 --				Very feeble.
15	N,E N E	e F F	01 06 10 26 -- 30 --				Very feeble.
15	E N N,E	e e F	17 59 43 18 02 00 41 --				
16	N,E N,E	eP F	15 19 30? 48 --				Slight. Times approximate due to the failure of time marks.
23	N,E N,E E N N E N	eP eS L? L M F F	05 09 05 20 05 36 07 38 12 49 12 07 17 -- 27 --			19 5 10090	Moderate. 52°S., 140°E., Pacific to south of Australia. O = 4h. 56.2m.
23	N,E N E	e F F	20 49 33 58 -- 21 00 --				Feeble.
26	N,E N,E N E	e e F F	08 19 11 27 15 50 -- 53 --				Very feeble.
29	E N N E	e e F F	16 33 49 34 38 50 -- 56 --				Feeble.

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COLABA OBSERVATORY, BOMBAY.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>May.</u>							
			<u>MAY 1946.</u>				
			h. m. s.	Sec.	μ	Km.	
May 3	N,E N,E N,E	eP eS F	22 16 38 26 56			9135	Slight. Region of 38°N., 170°E., Pacific. O = 22h. 04.5m.
3-4	E N E N E E N E N N,E	iP) eP) iS) eS) eSS) iSS) L L M M F	22 36 15 46 23 52 23 23 01 03 01 16 10 03 13 27 01 58 --			8935	Moderate.
7	N N E	eP F	14 48 38 15 19 --				Slight. Region of 2°N., 98°E. North of Sumatra. O = 14h. 44.8m.
8	N N N N N N N E	iP PP iS SS L M F	05 26 56 28 04 32 08 33 31 36 02 40 23 09 36 --		20	3555	Moderate. 0°N., 100°E. Sumatra. O = 5h. 20.4m. Epc: 0°, 98°E. (B.C.I.S.)
8	N N N N E	eP eS L F	09 56 48 10 06 09 22 07 11 56 --			7965	Moderate. 2.5°S., 143°E. North of New Guinea.
9	N,E N,E	eP F	22 37 55 23 27 --				Feeble.
9-10	N N	e F	23 57 -- 00 11 --				
10	E N,E N E	e e F F	00 31 20 45 45 01 12 -- 17 --				
11	N N E N,E	i i e F	06 31 40 31 52 32 23 41 --				Feeble, near.
15-16	N,E N,E	e F	22 30 16 00 38 --				Feeble, dis- tant.

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COLABA OBSERVATORY, BOMBAY.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.	
<u>1946</u>								
<u>May.</u>								
			<u>MAY 1946.</u>					
			h. m. s.	Sec.	μ	Km.		
19	N,E	e	00 43 10					
	N,E	e	52 40					
	N	M	01 14 36	19	6			
	E	M	14 51	16	3			
	N,E	F	Lost while changing chart.					
19	N,E	e	15 33 53				Slight, near.	
	E	M	40 16	7	2			
	N	M	42 00	7	2			
	N,E	F	16 03 --					
21	N,E	eP	09 37 19					
	E	F	11 30 --					
	N	F	34 --					
23	N	e	01 41 00					
	E	i)	51 05					
	N	e)						
	N	F	02 19 --					
	E	F	25 --					
27	N	e	01 31 47				Feeble.	
	E	Time of Phase lost during shifting chart.						
	N,E	F	02 11 --					
29	N	eP)	19 32 32				Feeble.	
	E	iP)						
	N	e)	34 23					
	E	i)						
	E	F	20 27 --					
	N	F	29 --					
31	N,E	eP	03 19 31				40.5°N., 41.5°E.	
	N,E	S?	25 00				0 = 03h. 12.8m.	
	E	M	34 36	16	5		Epc: 39°N.,	
	N,E	F	04 28 --				42°E. (B.C.I.S.)	
			<u>JUNE 1946.</u>					
June 1	N,E	e	16 20 34				Slight.	
	N,E	e	27 30					
	E	F	17 09 --					
	N	F	11 --					
2	N	e	01 16 11				25°N., 123°E.	
	E	i	16 29				Pacific near	
	E	i	18 21				Formosa Islands.	
	N	F	02 20 --				0 = 01h. 09.5m.	
	E	F	22 --					
3	E	e	14 23 13				Feeble.	
	E	F	15 02 --					
	N	Record full of microseisms.						
7	E	e	04 15 59				Slight, dis-	
	E	F	06 44 --				tant.	
	N	Record full of microseisms.						

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COLABA OBSERVATORY, BOMBAY.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.	
			h. m. s.	Sec.	μ	Km.		
1946 June			JUNE 1946.					
9	E N N E	e e F F	10 03 -- 08 -- 23 -- 26 --					
12	N,E N,E E N	e(P) e(S) F F	16 19 26 28 31 17 28 --				Slight. Near 40°N., 150°E. Pacific. O = 16h. 09.9m. (?)	
			Mixed up with microseisms.					
15	E N N E E E N	iP P eS iS L F F	18 39 12 47 04 47 10 18 55 11 19 36 --			6390	Slight. M waves not well developed. Near 13°S., 123°E. Pacific. O = 18h. 29.4m.	
			Not identifiable due to congestion of lines.					
			Mixed up with microseisms.					
16	N,E N N	e F F	10 09 36 39 --				Feeble.	
			Mixed up with microseisms.					
20	N,E N,E N E N E E N	eP e e S M M F F	00 39 00 40 46 41 37 41 57 45 18 46 02 01 22 -- 32 --	9 7	19 16	1055	Moderate. 37.5°N., 74°E. South of Tashkent. O = 00h. 35.0m.	
23	N,E E E E N E E N	PP iS eSS L L M F F	17 32 21 40 19 47 55 58 38 19 00 15 10 54 21 09 --	35	70		Moderate. BCSF gives 49.5°N., 122.5°W. H = 17h. 13.5m. Felt strongly at Olympia, Seattle, Vancouver.	
			Mixed up with microseisms.					
24	N,E E N	e F F	04 16 36 34 --				Very feeble.	
			Mixed up with microseisms.					
26	N,E E N	e F F	13 13 -- 14 11 --				Surface waves.	
			Mixed up with microseisms.					
26	N N N,E	i(P) e i(S)	15 25 33 26 18 28 48				Slight. 37.5°N., 74°E. South of Tashkent. Felt at Tashkent. O = 15h. 21.6m.	

 COLABA OBSERVATORY,)
 BOMBAY.)

 S. K. CHAKRABARTY,
 Director.

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ALIPORE OBSERVATORY, CALCUTTA.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.	
<u>1946</u>								
<u>Apr.</u>								
<u>APRIL 1946.</u>								
			h. m. s.	Sec.	μ	Kn.		
Apr. 1	N	eP	12 41 01			9110	Great.	
		iPP	44 11					
		iPPP	46 01					
		iS	51 17					
		iPS	52 11					
		iSS	56 43					
		iSSS	13 00 07					
		eL	07 46					
		M	14 01					
		Mn	22 44	18	243			
		F	Lost in microseisms.					
1	N	eP	17 06 32			8745	Slight. After shock of the previous great shock. Time correction +5min.	
		eS	16 32					
		F	Lost in microseisms.					
1	N	eP	19 04 14			9080	Slight. After Shock of the previous great shock. Time correction +5 min.	
		iS	14 28					
		L	28 08					
		M	35 08					
		F	Lost in microseisms.					
2	N	e	04 34 24				Feeble.	
		F	Lost in microseisms.					
2	N	e	17 15 01				Slight, distant.	
		F	Lost in microseisms.					
3	N	iP?	03 17 51			(2610)	Slight.	
		iS?	22 06					
		F	Lost in microseisms.					
3	N	e	09 19 09				Slight, distant.	
		F	Lost in microseisms.					
6	N	e	03 14 52				Slight, distant.	
		i	22 02					
		F	Lost in microseisms.					
6	N	e	05 15 27				Slight, distant.	
		F	Lost in microseisms.					
6	N	e	08 21 07				Slight, near.	
		i	21 57					
		i	25 47					
		F	Lost in microseisms.					
6	N	e	14 17 09				Slight, distant.	
		F	Lost in microseisms.					
11	N	eP?	02 06 10			(9300)	Moderate.	
		ePPP	11 15					
		i	16 28					
		iPS	17 16					
		iSS	22 01					
		iSSS	25 32					
		eL	33 25					
		M	39 55					
		F	Lost in microseisms.					

ALIPORE OBSERVATORY, CALCUTTA.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>Apr.</u>							
<u>APRIL 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
16	N	e	15 25 27				Slight, near.
		i	28 21				
		F	Lost.				
17	N	e	14 34 27				Slight, near.
		i	35 27				
		F	Lost in microseisms.				
23	N	e	20 44 46				Slight, near.
		i	45 18				
		F	50 --				
<u>MAY 1946.</u>							
May 3	N	e	22 05 21				Feeble.
		F	Lost in the following shock.				
3	N	e	22 24 31				Moderate.
		e	29 51				Probably two
		e	34 37				shocks.
		e	35 16				
		e	36 11				
		e	36 36				
		i	41 01				
		i	44 51				
		L	52 51				
		M	59 41				
		F	Lost while changing chart.				
7	N	e	14 54 38				Slight, near.
		i	57 10				
		F	15 24 --				
8	E	eP	05 26 00		2845		Great.
		iPPP	26 49				
		iS(?)	30 32				
9	N	e	22 33 01				Feeble.
		i	42 50				
		Mn	23 00 04				
		F	Lost in microseisms.				
12	N	e	14 13 19				Feeble.
		Mn	21 32				
		F	Lost in microseisms.				
15	N	e	22 33 46				Slight, distant.
		e	46 44				
		Mn	53 55				
		F	Lost in microseisms.				
19	N	e	15 41 59				Slight, near.
		i	42 15				
		F	16 00 --				
27	N	e	01 30 42				Slight, distant.
		Mn	43 26				
		F	Lost in microseisms.				
29	N	e	19 30 23				Slight, deep
		iS?	35 23				focus.
		F	Lost in microseisms.				

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ALIPORE OBSERVATORY, CALCUTTA.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>May.</u>							
<u>MAY 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
31	N	e	03 21 54				Phases masked due to congestion of lines.
		iS	27 04				
		M?	37 24				
		F	Lost in the congestion of lines.				
<u>JUNE 1946.</u>							
June 1	N	i	16 22 37				Phases masked by strong microseisms.
		e	27 47				
		F	Lost in microseisms.				
2	N	iS?	01 18 04		3600		Slight.
		iSS?	19 49				
		L	21 51				
		M	25 01				
		F	Lost in microseisms.				
3	N	e	17 15 16				Feeble.
		e	19 44				
		F	Lost in microseisms.				
12	N	e	16 17 50				Slight, distant.
		iS?	25 22				
		i	27 37				
		iSSS?	31 28				
		Mn	45 10				
		F	Lost in microseisms.				
15	N	e	01 57 19				Slight, near.
		i	57 37				
		F	Lost in microseisms.				
15	N	eP	18 38 19		4745		Slight. Deep focus; focal depth about 100 Km.
		ipP	39 12				
		iS	45 29				
		isS	45 54				
		F	Lost in microseisms.				
16	N	e	05 12 44				Slight, near.
		i	13 16				
		F	Lost in microseisms.				
20	N	i(S)	00 42 24				Slight.
		i	44 04				
		i	44 39				
		i	45 04				
		F	Lost in microseisms.				
23	N	eP?	17 25 55		11110		Moderate. Phases masked by microseisms.
		iS	37 30				
		PS	38 45				
		PPS	39 27				
		i?	40 26				
		SS	44 23				
		i?	46 04				
		SSS	48 25				
		L	18 00 29				
		M	08 26				
		F	Lost in microseisms.				

 ALIPORE OBSERVATORY,)
 CALCUTTA.)

 S. MULL,
 Meteorologist.

Faint, illegible text and markings on aged, yellowed paper, possibly a document or report. The text is mirrored across the page, suggesting bleed-through from the reverse side. A large, irregular tear is visible in the upper left corner.

COLOMBO OBSERVATORY, CEYLON.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>Apr.</u>							
<u>APRIL 1946.</u>							
			h. m. s.	Sec.	mm.	Km.	
Apr. 1	E	Record lost					
		from	08 02	--			
		to	21 44	--			
2-3	E	Record lost					
		from	09 17	--			
		to	00 41	--			
3	E	P	03 17 19				
		L	21 04				
		M	21 18		1.0		
		F	04 15 --				
6	E	P	03 12 21				
		S	17 30				
		L	19 20				
		M	22 03		<0.5		
		F	04 45 --				
8	E	P	08 47 39				
		S	51 24				
		L	53 48				
		M	55 50		<0.5		
		F	09 15 --				
11	E	P	02 05 55				
		SKS	16 36				
		L	39 14				
		M	47 05		0.9		
		F	05 10 --				
16-17	E	Record lost					
		from	01 04	--			
		to	00 29	--			
17	E	e	20 05 --				Slight.
		F	30 --				
18	E	e	07 59 --				Slight.
		F	08 20 --				
23	E	P	05 08 05				
		S	17 39				
		L	31 30				
		M	32 49		<0.5		
		F	07 30 --				
30-May 1	E	Record lost					
		from	20 44	--			
		to	00 00	--			
<u>MAY 1946.</u>							
May 1-2	E	Record lost					
		from	00 00	--			
		to	00 45	--			
3-4	E	Record lost					
		from	00 35	--			
		to	00 45	--			

COLOMBO OBSERVATORY, CEYLON.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>May.</u>							
			<u>MAY 1946.</u>				
			h. m. s.	Sec.	mm.	Km.	
4	E	Mn F	00 54 -- 02 09 --		<0.5		Beginning lost while changing chart.
7	E	e F	14 58 -- 15 25 --				Slight.
8	E	P S M F	05 25 05 28 51 29 32 09 00 --		43.3		Great.
8	E	P S M F	09 55 50 10 04 20 33 42 11 35 --		<0.5		
9-10	E		Record lost from 22 08 -- to 00 53 --				
10-11	E		Record lost from 01 05 -- to 00 55 --				
12	E		Record lost from 07 50 -- to 20 58 --				
13-14	E		Record lost from 22 24 -- to 00 46 --				
14	E		Record lost from 01 23 -- to 12 57 --				
15-16	E	e F	23 30 -- 00 15 --				Slight.
17-18	E		Record lost from 09 48 -- to 00 42 --				
19	E	e F	01 15 -- 40 --				
20-21	E		Record lost from 16 42 -- to 00 36 --				
22	E	e F	10 20 -- 50 --				Slight.
22-27	E		Intermittent loss of record. from 10 40 -- to 10 34 --				
29	E	e F	19 30 -- 20 10 --				Slight.

COLOMBO OBSERVATORY, CEYLON.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>May.</u>							
<u>MAY 1946.</u>							
			h. m. s.	Sec.	mm.	Km.	
31	E	S	03 23 10				
		L	40 --				
		M	44 02		<0.5		
		F	04 30 --				
<u>JUNE 1946.</u>							
June 2	E	P	01 17 16				
		S	23 46				
		L	32 --				
		M	35 06		<0.5		
		F	02 05 --				
12	E	Record lost					
		from 01 05 --					
		to 03 03 --					
12	E	P	16 18 30				
		S	27 44				
		L	45 32				
		M	51 02		<0.5		
		F	59 --				
15	E	P	18 37 56				
		PP	39 52				
		S	44 57				
		M	19 01 21		<0.5		
		F	35 --				
18	E	Record lost					
		from 00 42 --					
		to 03 38 --					
20	E	PcP?	00 44 43				
		L	49 06				
		M	49 21		1.1		
		F	01 10 --				
21	E	Record lost					
		from 01 15 --					
		to 03 27 --					
23	E	PP	17 33 49				
		S	41 48				
		SS	50 02				
		L	18 06 --				
		M ₁	10 37		0.7		
		M ₂	14 52		0.7		
		F	19 32 --				
25-26	E	Record lost					
		from 16 40 --					
		to 00 50 --					

COLOMBO OBSERVATORY,)
CEYLON.)

D. T. E. DASSANAYAKE,
Superintendent.

HAIG OBSERVATORY, SURVEY OF INDIA, DEHRA DUN.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>Apr.</u>							
<u>APRIL 1946.</u>							
			h. m. s.	Sec.	On trace	Km.	
					in in-		
					ches.		
Apr. 1	N	eP	12 42 52				9074
		eS	53 04				
		e	13 02 52	25	0.16		
		eL	06 04				
		e	09 34				
		M ₁	17 40	24	0.36		
		M ₂	20 55	24	0.37		
		M ₃	23 10	24	0.29		
		F	14 30 --				
<u>MAY 1946</u>							
May 8	N	eP	05 27 39				4779
		eS	33 24				
		eL	40 38				
		M ₁	43 34	21	0.59		
		F	06 57 --				
8	N	e	09 56 42				
		e	10 05 58				
		F	37 --				

JUNE 1946.

No shocks were recorded during the month.

DEHRA DUN.

MAJOR J. S. O. JELLY, R.E.,
Director,
War Research,
Survey of India.

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NIZAMIAH OBSERVATORY, HYDERABAD, DECCAN.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>Apr.</u>							
<u>APRIL 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
Apr. 1	N	P	12 42 09			9810	Δ from SKS-P.
		PP	45 53				
		SKS	52 41				
		S	53 05				
		PS	54 34				
		SS	59 15				
		M	13 16 59	21	411		
		F	17 02 --				
1	N	P	17 12 25			10440	
		S	23 39				
		M	49 12	20	17		
1	N	P	19 10 42			9810	Δ from SKS-P.
		SKS	21 14				
		SS	28 15				
		L	42 42				
		M	46 18	20	60		
2	N	P	04 26 52			10000	
		SKS	37 16				
		S	37 48				
		L	55 19				
		M	05 03 47	22	24		
2	N	P	05 51 30			9930	
2	N	S	06 02 23				
		M	29 04	16	7		
2	N	eP	06 10 32			9910	
		SKS	20 54				
		S	21 24				
		M	48 05	19	12		
2	N	eP	13 17 30			10090	
		SKS	28 05				
		S	28 30				
		M	55 16	15	4		
2	N	S	14 51 38				
		M	15 18 32	20	6		
2	N	P	16 43 35			10000	
		SKS	54 02				
		S	54 01				
		M	17 21 36	18	8		
3	N	P	03 18 21			2890	
		S	22 49				
		M	27 35	15	4		
3	N	P	09 11 42			10440	
		SKS	22 28				
		S	22 56				
		L	43 29				
		M	50 30	15	5		
4	N	M	17 21 20	20	7		
4	N	M	22 16 36	20	6		

NIZAMIAH OBSERVATORY, HYDERABAD, DECCAN.

 DATE. COMPT. PHASE. G. M. T. PER. AMP. Δ R E M A R K S,

1946
Apr.

APRIL 1946.

			h. m. s.	Sec.	μ	Km.	
6	N	eP S M	05 05 35 16 31 43 37	16	8	10000	
6	N	M	08 30 48	8	2		
6	N	S M	10 05 43 08 20	9	2		
6	N	N	14 40 26	18	6		
8	N	S M	08 53 51 58 38	11	3		
8	N	M	18 27 56	16	4		
11	N	eP PP SKKS? PS M F	02 06 07 09 54 17 05 18 06 41 10 05 45 --	18	11	10040	
14	N	eP eS L M	04 47 30 51 25 53 56 54 55	11	3	2460	
15	N	eP eS SS M	18 00 00 03 23 03 32 06 05	12	3	2090	
16	N	eP eS S L M	15 20 00 23 22 23 39 25 21 26 24	9	4	2080	
18	N	M	12 03 07	15	3		
23	N	P S L M	05 08 39 19 09 36 04 41 15	18	8	9400	
29	N	eP eS	16 35 04 38 36			2180	Slight.

MAY 1946.

May 3	N	(PP) SKS S M	22 19 26 25 55 26 26 23 01 05	21	27		
3	N	(P) (S)	22 35 48 46 33			9730	
7	N	eP eS SS M	14 49 54 54 02 54 21 57 16	5	2	2620	

NIZAMIAH OBSERVATORY, HYDERABAD, DECCAN.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>May.</u>							
<u>MAY 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
8	N	P S	05 26 09 30 19			2650	Light failed between 5h.27m. and 5h.42m. GMT.
8	N	M	08 39 14	16	4		
8	N	P S PS SS L M	09 56 11 10 04 58 05 26 09 30 13 02 23 10			7310	
9	N	M	23 06 16	12	2		
10	N	M	00 59 04	17	3		
11	N	e e M	06 28 58 29 55 29 58	6	2		
11	N	P PP S SS L M	18 50 42 53 05 59 45 19 04 08 12 10 17 05	12	2	7620	
15	N	P ₂ SKSP M	22 30 25 44 01 23 46 45	15	4		
19	N	P PP S SS M	00 42 55 45 30 52 23 57 04 01 12 24	16	6	8110	
19	N	M	15 43 50	8	2		
29	N	(PP)	19 33 14			4910	
29	N	S SS M	19 38 10 41 19 49 19	15	3		
31	N	P PP S SS M	03 17 42 19 16 23 43 26 54 32 38	20	22	4370	Absolute times uncertain.
<u>JUNE 1946.</u>							
June 1	N	eP PP S SS M	16 19 13 20 51 26 02 29 36 37 23	12	3	5190	

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NIZAMIAH OBSERVATORY, HYDERABAD, DECCAN.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
			<u>JUNE 1946.</u>				
<u>1946</u>			h. m. s.	Sec.	μ	Km.	
<u>June.</u>							
2	N	eP eS ScS M	01 16 46 22 59 26 44 34 29	12	5	4570	
7	N	P ScS M	04 32 49 42 38 54 38	17	5		
12	N	S M	16 27 24 50 17	15	3		
15	N	eP S L	18 38 22 45 38 54 45			5640	P masked by micro-seisms.
16	N	M	10 15 48	9	3		
20	N	S M	00 42 46 45 39	11	16		
23	N	PP SKKS M	17 34 54 42 00 18 12 49	24	39		
24	N	M	04 26 53	9	4		
25	N	M	00 12 56	9	3		
26	N	S M	13 00 33 27 55	19	3		
26	N	eP S	15 26 01 29 32			2160	P masked by microseisms.
28	N	M	08 06 22	16	4		

 NIZAMIAH OBSERVATORY,)
 HYDERABAD, DECCAN.)

 AKBAR ALI,
 Curator.

KODAIKANAL OBSERVATORY, KODAIKANAL.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>Apr.</u>							
<u>APRIL 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
Apr. 1	E	iP	12 40 23			9400	Moderate.
		i(SKS)	50 53				Probable time
		SS	57 23				correction
		L	13 07 48				+2 min.
		M	16 18	20	151		
		F	16 39 03				
1	E	e	17 27 23				Feeble.
		F	13 26 --				
1	E	i	19 14 33				
		e	25 03				
		L	37 58				
		M	50 53	20	8		
		F	20 52 --				
2	E	e	04 38 43				Feeble.
		F	05 41 03				
2	E	e	06 03 23				Feeble.
		F	07 09 03				
2	E	e	16 56 33				
		F	17 59 03				
3	E	iP	03 17 55			2610	Slight.
		iS	22 03				
		L	23 28				
		M	25 48	20	12		
		F	04 22 --				
6	E	e	03 12 30				Feeble.
		F	04 27 --				
6	E	e	05 42 56				Feeble.
		F	06 23 --				
6	E	e	10 18 16				Feeble.
		F	31 --				
6	E	e	14 34 58				Feeble.
		F	15 19 --				
8	E	e	14 22 05				Feeble.
		F	52 --				
11	E	eP	02 05 45				Moderate.
		PP	09 10				
		i	15 50				
		SS	21 55				
		M	41 50	15	10		
		F	04 42 --				
16	E	e	15 24 52				Feeble.
		F	44 --				
16	E	e	17 59 44				Slight.
		e	18 03 34				
		L	05 14				
		M	07 34	15			
		F	32 --				

KODAIKANAL OBSERVATORY, KODAIKANAL.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>Apr.</u>							
<u>APRIL 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
18	E	e F	07 58 30 08 15 --				Feeble.
23	E	eP iS SS L M F	05 03 21 18 36 20 31 33 36 39 01 07 09 --	17	6	9020	Moderate.
<u>MAY 1946.</u>							
May 3	E	eP eS	22 16 10 25 45			3245	Feeble. The later phases lost in the next shock.
3-4	E	i e i e e Mn F	22 35 30 38 25 45 22 46 02 50 19 23 07 22 02 43 20	29	49		Slight.
8	E	iP PP iS SS L M F	05 25 28 25 59 29 44 30 28 32 13 34 28 08 58 --	12	110	2610	Moderate.
8	E	iP PP iS SS L M F	09 56 05 58 30 10 04 55 09 07 17 49 23 13 12 02 --	24	34	7365	Slight.
9	E	e F	04 51 30 05 01 --				Feeble.
9	E	e F	23 46 26 00 11 --				Feeble.
11	E	e F	13 24 15 59 --				Feeble.
15-16	E	e F	23 26 49 00 24 --				Feeble.
18	E	e F	01 03 03 50 --				Feeble.
21	E	e F	09 29 10 11 21 --				Feeble.
23	E	e F	01 40 35				Lost while changing chart. Feeble.

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KODAIKANAL OBSERVATORY, KODAIKANAL.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.	
<u>1946</u>								
<u>May.</u>								
<u>MAY 1946.</u>								
			h. m. s.	Sec.	μ	Km.		
29	E	e F	19 39 00 20 18 --				Feeble.	
31	E	eP eS SS L M F	03 19 37 26 07 29 09 33 07 36 58 04 34 --	21	9	4855	Slight. Probable time correction +1 min.	
<u>JUNE 1946.</u>								
June 2	E	e F	01 11 14 02 10 --				Feeble.	
7	E	e F	04 33 08 06 19 --				Feeble.	
12	E	eP PP eS L M F	16 18 20 20 42 26 57 39 25 44 45 17 10 --	18	7	7120	Slight.	
15	E	iP PP iS L M F	18 38 31 40 24 45 44 54 19 58 29 19 31 --	17	9	5590	Slight.	
20	E		Record lost for about 24 hours.					
23	E	ePP e e SS L M	17 33 13 36 33 43 40 49 10 18 02 06 08 51	34	102		Moderate.	
26	E	e F	13 14 30 48 --				Feeble.	

 KODAIKANAL OBSERVATORY,)
 KODAIKANAL.)

 A. L. NARAYANAN,
 Director.

The following table contains a list of earthquakes reported by voluntary observers from various stations.

Place at which felt.	Date.	G.M.T. of earthquake.			Duration.	Intensity Rossi-Forel Scale.	Number of shocks.	Remarks.
		Hr.	Mn.	Secs.				
Harnai (Baluchistan).	24-4-46	19	35	2		4	1	
Simla	22-4-46	15	43	2		3	Continuous.	
Yatung	10-5-46	03	42	4		4	Several.	
Srinagar	8-6-46	23	25	4		4	2	
Gulmarg	8-6-46	23	40	3		4	1	
Hindubagh	10-6-46	13	15	1/2		2	2	Second shock at 13 25hrs.
Yatung	14-6-46	02	03	2		3	2	

C. G. PENDSE,
Seismological Officer,
Poona.

GOVERNMENT OF INDIA
METEOROLOGICAL DEPARTMENT.

SEISMOLOGICAL BULLETIN
July-September, 1946.

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PUBLISHED UNDER THE DIRECTION OF
S. K. BANERJI, O.B.E., M.Sc., D.Sc., F.N.I.,
Director General of Observatories.

July - September, 1946.

INTRODUCTION.

Till the end of 1937, the seismic data from the observatories of the India Meteorological Department were being published annually as Part D of the Annual Summary of the India Weather Review. Since 1938, the data are being published in the present series of the Quarterly Seismological Bulletin. With the kind co-operation of the Surveyor-General of India, the Director of the Nizamiah Observatory, Hyderabad, and of the Superintendent, Colombo Observatory, it has been possible to incorporate in the bulletin, the data of their respective observatories, viz., Dehra Dun, Hyderabad and Colombo. The instrumental seismological data and the non-instrumental voluntary observations are collected and edited at the Meteorological Office, Poona.

TABLE - 1.

List of Seismograph Stations.

Station.	Latitude.	Longitude.	Height above M.S.L.	Lithologic foundation,	Officer-in-charge of Observatory.
New Delhi	28° 35' N.	77° 12' E.	207 meters	Massive Quartzites.	Deputy Director General of Observatories.
Bombay	18° 54' N.	72° 49' E.	6 meters	Deccan Trap.	Director.
Calcutta	22° 32' N.	88° 20' E.	(1) 7 meters (2) 6 meters	Alluvium.	Director.
Colombo	6° 54' N.	79° 52' E.	7 meters	Beach-sand resting on gneiss probably decomposed.	Superintendent.
Dehra Dun	30° 19' N.	78° 03' E.	682 meters.	Gravel.	Director, War Research, Survey of India.
Hyderabad	17° 26' N.	78° 27' E.	523 meters	Granite.	Curator, Nizamiah Observatory.
Kodaikanal	10° 14' N.	77° 23' E.	2343 meters	Rock.	Director.

(1) Milne-Shaw. (2) Omori-Ewing.

TABLE - 2.

The instruments and their constants.

Station.	Component.	Type of Instrument.	Mass. Kg.	Period. Sec.	Static magnification.	Damping Ratio.
New Delhi	E	Omori-Ewing	45	30	30	-
Bombay	N	Milne-Shaw	0.47	12	262	20 : 1
	E	Milne-Shaw	0.45	12	250	15 : 1
Calcutta	N	Milne-Shaw	0.45	12	350	40 : 1
	E	Milne-Shaw	0.45	12	250	20 : 1
Colombo	N	Omori-Ewing	50	16	30	-
	E	Omori-Ewing	50	15	32	-
Dehra Dun	N	Milne-Shaw	0.45	12	250	20 : 1
	E	Omori	50	-	12	-
Hyderabad	N	Milne-Shaw	0.45	12	250	20 : 1
	E	Milne-Shaw	0.45	12	250	20 : 1
Kodaikanal	E	Milne Shaw	0.45	12	250	19 : 1

THE OBSERVATORY, NEW DELHI.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.	
<u>1946</u>								
<u>July.</u>								
<u>JULY 1946.</u>								
			h. m. s.	Sec.	μ	Km.		
July 1	N	eP	22 47 36			8700	Slight.	
		iS	57 33					
		i	58 56					
		SS	23 02 48					
		L	14 18					
		M	21 48					
		F	Lost in microseisms.					
2	N	iS	11 18 07				Slight.	
		M	19 56					
		F	Lost in microseisms.					
8	N	e	11 34 12				Slight.	
		F	46 00					
9	N	e	01 33 48				Slight. Very distant.	
		F	03 45 00					
9	N	iSKS	13 37 43			12330	Slight.	
		iSKKS	38 40					
		i	40 04					
		F	15 04 00					
10	N	e	14 30 21				Slight. Dis-	
		F	Lost in microseisms.					tant.
11	N	e	05 00 53			14550	Slight.	
		iSKKS	09 52					
		PSKS	12 48					
		PPS	14 59					
		SS	20 16					
		F	Lost in microseisms.					
13	N	e	02 06 51				Slight. Dis-	
		F	Lost in microseisms.					tant. M waves.
16	N	ePPP	05 36 37			5670	Slight.	
		iS	41 10					
		SS	44 33					
		M	53 54					
		F	06 40 00					
19	N	eP	21 25 36			5780	Slight.	
		iS	33 00					
		i	33 20					
		M	45 16					
		F	22 25 00					
20	N	e	14 54 21				Slight. M waves.	
25	N	eP	16 53 59			8350	Slight.	
		iS	03 39					
		SS	08 34					
		M	25 00					
		F	18 30 00					
26	N	e	07 14 46				Slight; very distant.	
		i	27 09					
		e	08 07 40				M waves.	
		F	42 00					

THE OBSERVATORY, NEW DELHI.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>July.</u>							
<u>JULY 1946.</u>							
			h. m. s.	Sec.	μ	Kn.	
27	N	iS M F	18 36 03 41 43 27 00			3110	Slight.
<u>AUGUST 1946.</u>							
Aug. 1	N	i i F	11 20 02 20 49 24 00				Slight. Near.
2	N	e F	02 27 40 48 00				Slight. Surface waves.
2	N	eP ₁ ' eP ₂ ' SKKS SS M F	19 38 49 38 58 49 05 20 01 19 34 38 22 01 00			16280	Slight.
3	N	e M F	13 35 59 39 54				Slight. Distant. Lost in microseisms.
4	N	e F	06 31 12				Slight. Lost in microseisms.
4	N	i F	13 37 29				Slight. Probably near. Lost in microseisms.
4	N	e PP	13 07 04 11 54			13450	Great. Time marks not recorded.
6	N	i i F	03 10 47 11 32				Slight. Very distant. Lost in microseisms.
7	N	e e F	19 53 29 20 20 33				Slight. Very distant. Surface waves. Lost in microseisms.
7	N	eS SS L M M F F	22 52 06 52 23 53 26 54 45 55 17 23 18 00 38 00			1830	Slight.
8	N	eP' iPP SKP SKP SKS SKKS PS PPS SS	13 47 15 49 02 50 26 50 27 54 25 56 11 58 58 14 00 34 06 06			13950	Moderate.
	E N, E N						

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THE OBSERVATORY, NEW DELHI.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>Aug.</u>							
<u>AUGUST 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
8 (Contd.)	E	SS	14 06 03				
	N	SSS	10 39				
	E	SSS	10 42				
	N	SSSS	15 39				
		L	25 54				
	E	M	35 17				
	N	M	35 34				
	E	F	16 00 00				
	N	F	17 19 00				
9	N	e	05 21 47				Slight. Near.
		F	29 00				
11	N	eP	02 06 59			9150	Slight.
		iS	17 18				
		PS	17 57				
		SS	22 39				
		i	27 15				
		M	39 19				
		F	04 42 00				
15	N	eSKS	15 48 50			13020	Slight.
		iSKKS	50 04				
		e	54 40				
		M	16 28 30				
		F	17 54 --				
15 ^a	N	eP	19 27 56			1150	Slight.
	E	e	28 00				
	N,E	iS	29 51				
	N	M	31 12				
	E	M	31 16				
		F	19 54 --				
	N	F	20 46 --				
16	N	e	04 11 45				Slight.
		F	30 24				
16	N	iP	23 45 48			2380	Feeble.
		iS	49 37				
		M	53 13				
		F	Lost while changing paper.				
17	N	iS	09 58 30			5000	Slight.
		sS	58 51				
		L	10 05 13				
		F	Lost in microseisms.				
17	N	ePcP	23 43 24			5000	Slight.
		iS	48 06				
		sS	48 27				
		SS	51 10				
		L	55 00				
		F	Lost in microseisms.				
19	N	i	20 11 38				Slight. Dis-
		e	20 20				tant. Surface
		F	Lost in microseisms.				
							waves.
21	N	i	05 43 37				Slight. Dis-
		e	49 25				tant.
		F	06 27 --				

THE OBSERVATORY, NEW DELHI.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>Aug.</u>							
			<u>AUGUST 1946.</u>				
			h. m. s.	Sec.	μ	Kn.	
21	N	i	18 25 26				Slight. Very distant.
		i	27 20				
		F	19 36 --				
21	N	i	19 33 13				Slight. Very distant.
		e	20 19 19				
		F	21 34 --				
26	N	e	11 56 57				Slight. Distant. Surface waves.
29	N	e	06 34 10				Feeble. Distant.
		F	56 --				
<u>SEPTEMBER 1946.</u>							
Sept. 1	N	e	08 23 14				Slight. Surface waves.
		F	45 --				
4	N	i	01 36 13			420	Slight.
		eP	36 22				
	E	e	36 24				
	N	P*	36 28				
	E	P*	36 30				
	N	P	36 35				
	E	P	36 36				
	N, E	i	36 51				
		iS	37 06				
	E	S*	01 37 13				
		S	37 20				
		F	49 --				
	N	F	02 02 --				
11	N	i	10 13 00				Slight. Distant. M waves.
		e	23 15				
		F	56 --				
11	N	i	13 34 30				Slight. Near.
		i	35 00				
		F	41 --				
12	E	iP	15 21 18			1900	Great.
		PP	21 28				
		iS	24 24				
		L	25 29				
		M	27 04				
		F	18 25 --				Maximum for about 10 mts.
13	N	e	16 11 59				Slight. Very distant.
		i	13 04				
		e	52 49				Surface waves.
		F	17 26 --				
13	N	iP	19 09 33				Slight.
		eS	18 39				
		ScS	19 16				
		SS	21 12				
		SSS	23 24				
		M	33 05				
		F	20 33 --				

THE OBSERVATORY, NEW DELHI.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>Sept.</u>							
<u>SEPTEMBER 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
14	N	i	20 13 29				Slight. Distant. Surface waves.
		e	41 19				
		F	21 16 --				
15	N	i	07 27 47				Slight. Distant.
		i	31 34				
		F	54 --				
15	N	iP	15 55 19			1090	Slight.
		iS	57 09				
		S	58 34				
	E	S	58 36				
	N	F	16 51 --				
15	N	i	22 14 39				Slight.
		i	16 39				
		F	46 --				
17	N	i	12 52 44				Slight. Near.
		i	53 23				
		i	53 28				
		i	53 46				
		F	13 00 --				
21	N	e	20 39 25				Slight.
		F	59 --				
22	N	e	10 34 16				Slight.
		F	54 --				
27	N	i	19 53 09				Slight. Distant. M waves.
		M	20 08 26				
		F	33 --				
29	N	eP	03 14 06			3370	Great.
	E	iP	14 17				
	N	iP	14 20				
		PP	17 08				
	E	iS	24 05				
	N	iS	24 10				
		ScS	24 33				
		PS	24 43				
		PPS	25 08				
		SS	29 22				
	E	SS	29 26				
	N	i	35 34				
	E	i	35 54				
		M	45 43				
	N	M	46 43				
	E	F	07 14 --				
	N	F	25 --				
30	N	i	11 59 12				Slight. Distant.
		e	12 04 04				
		M	24 12				
		F	56 02				

THE OBSERVATORY,)
NEW DELHI.)

S. C. ROY,
Deputy Director General of Observatories
(Instrument & Supplies).

COLABA OBSERVATORY, BOMBAY.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>July.</u>							
<u>JULY 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
July 1	E E N E N	i i) e) F F	22 47 18				Slight. Near 4°S., 153°E. Solomon Islands. O = 22h. 35.4m.
			57 29				
			23 54 --				
			Lost in microseisms.				
2	N,E N,E E N N E	e(S) e M M F F	11 21 35				Probable origin 29°N., 90°E. Tibet. O = 11h. 14.3m.
			24 11				
			27 02	7	3		
			27 37	7	4		
			Mixed up with microseisms.				
			Lost in microseisms.				
9	E N,E E N	iP e F F	01 22 14				Feeble. P lost in N compt.
			02 10 --				
			03 42 --				
			Mixed up with microseisms.				
9	N,E N,E N E E N	eP iS L L F F	13 27 46			8220	Slight.
			37 20				
			54 30				
			54 37				
			14 37 --				
			Mixed up with microseisms.				
16	E N E N E E E N	iP) eP) iS) eS) SS L F F	05 34 59			4700	Slight. 36°N., 23°5E. to the southwest of Turkey. O = 05h. 27.2m.
			41 20				
			43 48				
			47 28				
			06 47 --				
			Mixed up with microseisms.				
18	E E N	e F	08 09 --				Surface waves.
			52 --				
			Record full of microseisms.				
18	N,E E	e F	18 42 54				Feeble.
			Lost with microseisms.				
19	N,E E E N	eP M F F	21 24 19				
			56 04	15	4		
			22 44 --				
			Mixed up with microseisms.				
25	N,E E N E N	iP? e i F F	16 54 55				Feeble.
			17 05 13				
			05 28				
			18 17 --				
			Mixed up with microseisms.				
26	E E N	e F	07 52 --				Surface waves.
			08 36 --				
			Microseisms throughout the record.				
27	E E N	e F	16 33 53				Slight.
			17 10 --				Mesopotamia?
			Microseisms throughout the record.				

COLABA OBSERVATORY, BOMBAY.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>Aug.</u>							
<u>AUGUST 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
Aug. 2	E N E E E E E E N	iP) eP) iSKP eSKKS ? SS Mn F F	19 38 25 42 14 48 36 54 21 20 01 -- 38 14 21 58 --				Moderate. U.S.C.G.S. gives 27°S., 70°W. Ottawa gives H = 19 h. 19.0 m.
			Lost in microseisms.				
4	N,E E E E E N E E N	P' PP SKSP iSS i L M M F F	18 10 51 12 28 22 54 30 02 34 35 47 05 19 06 28 07 01 22 37 --		19 13 23 15		Moderate. U.S.C.G.S. gives 19° .3 N., 69° .0 W. H = 17h. 51.3m. (Ottawa).
			Mixed up with microseisms.				
7	N,E E N N E N E N E	eP eS eS L L M M F F	22 49 04 52 00 52 06 53 28 53 35 56 16 22 58 01 23 34 -- 42 --		14 12 9 5	1790	Slight.
8	N,E N,E E N N E N E	ePP(?) SS L L M M F F	13 49 55 14 07 17 25 23 26 01 43 01 46 34 16 05 -- 20 --		22 31 21 13		Moderate.
11	N E N E N N E E E N	eP(?) S? S L L M M F F	02 07 28 17 40 17 43 29 36 30 14 47 27 47 40 03 54 -- 04 06 --		17 5 20 6	9020	P phase lost in E Compt. while change- ing chart. U.S.C.G.S. gives 8°S., 155°E. H = 1h. 54.4m. (Ottawa).
15	E E N	i F	15 42 31 17 07 --				Slight. Phase not identifiable due to the congestion of lines.
15	N N E N,E N,E N,E	eP iS) eS) iL M F	19 25 00 30 12 30 58 31 40 20 30 --		11 10	2365	Moderate. 26° .5N., 63°E. West of Balu- chistan. O = 19h. 25.3m.

COLABA OBSERVATORY, BOMBAY.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.	
<u>1946</u>								
<u>Aug.</u>								
<u>AUGUST 1946.</u>								
			h. m. s.	Sec.	μ	Km.		
17.	E	e	09 59 00				Feeble.	
	E	F	10 22 --					
	N		Movement not identifiable due to congestion of lines.					
17-18	N,E	e	23 43 35					
	E	F	00 21 --					
	N	F	26 --					
21	N,E	e	05 41 37				Feeble.	
	E	F	06 13 --					
	N	F	Mixed up with microseisms.					
21	E	e	18 22 35				Very feeble.	
	E	F	19 23 --					
	N		Record full of microseisms.					
21	E	e	19 38 20				Feeble; distant.	
	E	F	20 27 --					
	N		Record full of microseisms.					
24	N,E	e	00 24 38				Very feeble.	
	E	F	01 09 --					
	N	F	12 --					
29	E	e	06 21 21				Feeble.	
	E	F	07 02 --					
	N		Phases not identifiable due to congestion of lines.					
<u>SEPTEMBER 1946.</u>								
Sept.4	N	e	01 41 38				Slight. P lost while changing charts. Probably in the region 33°N., 79°E. 0 = 01h. 35.5m. Felt at Dehra Dun.	
	N	S?	42 14					
	E		Phases lost during shifting time.					
	N	F	Lost in microseisms.					
	E	F	02 01 --					
9	E	eP	10 44 57			5490	Slight. Congestion of lines in N Compt. 15°N., 121°E. in Philippine Islands. 0 = 10h. 36.7m.	
	N	eP	45 00					
	N	eS	51 40					
	E	S(?)	52 04					
	E	L	59 17					
	E	M	11 04 06	23	9			
	E	F	12 18 --					
11	E	eP?	10 04 19				Slight.	
	E	M	24 56	15	3			
	E	F	11 19 --					
	N		Record lost.					
11	N	e	15 07 12				Feeble.	
	E	e	14 34					
	N	F	28 --					
	E	F	30 --					

COLABA OBSERVATORY, BOMBAY.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>Sept.</u>							
<u>SEPTEMBER 1946.</u>							
			h. m. s.	Sec.	μ.	Km.	
12	E N N,E N,E	iP) eP) iS L	15 22 19 26 30			2655	Very great. 23.5°N., 93.5°E. North-east Burma. 0 = 15h. 17.2m. Felt at Narayanganj, Noakhali and Sil- char. At Noakhali all water tanks and ponds were found to roll up in high waves overflowing banks for about 10 minutes.
	E N N E	M M F F	31 ? 39 -- 19 41 -- 49 --	20 15	702 857		
13	N,E N,E N,E	e e F	16 05 47 12 08 17 23 --				Very feeble.
13	N,E E N E N E	eP? eS M M F F	19 10 49 20 03 45 19 45 49 20 18 -- 22 --	19 18	6 6		Slight. 51.5°N., 159°E., south-east of Kamatchatka. 0 = 18h. 59m. 06s. P times from Ottawa, Trieste, Brisbane and Firenze agree very well with the above determination.
15	N,E E N	e F F	07 29 15 51 -- 59 --				Very feeble.
15	N,E N E N,E E N E N	eP eS) iS) L M M F F	15 54 54 53 53 59 35 16 06 20 06 22 49 -- 56 --	9 8	11 10	2565	Moderate. 7.5°N., 94°E. in the Bay of Bengal, south of Nicobar Islands. 0 = 15h. 49.9m.
15	N N	e F	18 37 -- 52 --				Feeble tremors.
15	N,E E N	e F F	22 16 32 44 -- 48 --				
16	N,E N,E	e F	01 36 45				Lost while changing chart.
17	N N N E	eP? S? F	12 56 22 53 16 13 10 --			1135	Feeble. Record too faint.
19	N N E	e F	00 16 00 48 --				Feeble. Record lost.
21	N,E N,E	e F	20 40 -- 21 00 --				Feeble tremors.

COLABA OBSERVATORY, BOMBAY.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
			<u>SEPTEMBER 1946.</u>				
<u>1946</u>			h. m. s.	Sec.	μ	Km.	
<u>Sept.</u>							
22	N E N,E	e F	10 35 58 11 02 --				Slight. Record too faint.
23	N,E N,E	e F	22 06 59				Feeble. Mixed with the next shock.
23-24	E N N,E N,E E N E N	iP) eP) iS SS L L F F	23 41 37 51 12 56 10 00 05 52 06 05 01 49 -- 50 --			3245	Moderate. 3°S., 144°E. (U.S.C.G.S.) H = 23h. 29.7m. (Ottawa).
26	N,E N E E N	e e) i) F F	11 11 34 16 34 50 -- 59 --				Feeble.
27	N,E N,E	e F	19 52 11 20 40 --				Very feeble.
27	N,E N,E	e F	21 43 41 22 10 --				Very feeble.
28	N,E N,E E N	e e F F	19 39 05 46 24 20 04 -- 06 --				Very feeble.
29	N,E E N N,E N,E E N E N E N	iP iPP) ePP) iS iSS L L M M F F	03 14 31 17 37 24 31 30 05 33 37 34 09 44 05 44 43 07 17 -- 35 --		30 30	385 493	Great. 5°S., 154°E. (U.S.C.G.S.) H = 03h. 02.1m.
29	N,E N,E	e F	09 22 -- 10 00 --				Very feeble tremor.

COLABA OBSERVATORY, BOMBAY.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946.</u>			<u>SEPTEMBER 1946.</u>				
<u>Sept.</u>			h. m. s.	Sec.	μ	Km.	
29	N E E N N,E	eP) iP) iS eS F	20 27 33				Feeble.
			31 53				
			32 04				
			21 00 --				
30	N,E E N	e F F	01 19 20				Feeble.
			56 --				
			59 --				
30	E N N,E	e e F	02 15 --				Surface waves.
			18 --				
			47 --				
30	N,E N E N,E	e M M F	11 48 26				Feeble.
			12 26 24	18	4		
			26 40	15	4		
			13 11 --				
30	N N	e F	18 26 31				Very feeble.
			43 --				

COLABA OBSERVATORY,)
BOMBAY.)

S. K. CHAKRABARTY,
Director.

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ALIPORE OBSERVATORY, CALCUTTA.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>July.</u>							
<u>JULY 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
July 1	N	e	22 54 41				Slight. Distant.
		i	55 36				
		F	Lost in microseisms.				
2	N	eP	11 15 36			670	Slight.
		iP	16 04				
		iS	16 37				
		iS*	17 07				
		iS	17 22				
		F	Lost in microseisms.				
5	N	e	16 00 41				Tremor.
		i	05 25				
		F	Lost in microseisms.				
9	N	i	13 27 16				Slight. Deep focus.
		i	31 37				
		iS?	36 42				
		F	Lost in microseisms.				
10	N	e	14 35 43				Tremor.
		F	Lost in microseisms.				
19	N	e	17 24 45				Slight. Distant.
		i	31 57				
		Mn	47 33				
		F	Lost in microseisms.				
25	N	e	17 02 54				Slight. Distant.
		Mn	31 39				
		F	Lost in microseisms.				
27	N	e	16 38 02				Slight. Near.
		i	39 39				
		F	Lost in microseisms.				
<u>AUGUST 1946.</u>							
Aug. 2	N	P'1	19 39 20				Slight, distant.
		i1	41 23				Phases masked by
		iPP	43 43				strong micro-
		SKSP	53 23				seisms.
		SS	20 03 10				
		iSSP	03 48				
		L	29 06				
		M	38 42				
		F	Lost in microseisms.				
4	N	e	18 11 03				Great.
		?	11 45				
		iPKS	14 09				
		PPS	25 32				
		iSS	31 01				
		L	51 43				
		M	19 01 45				
		F	Lost in microseisms.				
7	N	i	22 56 13				Slight. Phases
		i	59 01				masked by strong
		F	Lost in microseisms.				

ALIPORE OBSERVATORY, CALCUTTA.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>Aug.</u>							
<u>AUGUST 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
8	N	ePP(?)	13 50 05			15280	Moderate. Phases masked by strong microseisms.
		PKS	51 06				
		SKS	54 51				
		PPS	58 50				
		(?)	14 04 39				
		iSSS	09 57				
		L	29 43				
		M	39 10				
		Mn	51 39				
		F	Lost in microseisms.				
8	N	i	20 20 02				Slight. Near.
		i	21 26				
		F	Lost in microseisms.				
15	N	iS?	15 48 29				Slight. Distant.
15	N	e(P)	19 30 11				Moderate. P confused in microseisms.
		iS	34 11				
		i	36 32				
		i	47 09				
<u>SEPTEMBER 1946.</u>							
Sept.4	N	e	01 40 42				Slight. Near.
		e	41 58				
		i	42 32				
		F	Lost in microseisms.				
9	N	e	10 43 05				Slight.
		iS	47 27				
		iSS?	50 08				
		F	Lost in microseisms.				
11	N	e	15 06 30				Tremor.
		e	09 40				
		F	Lost in microseisms.				
12	N	eP	15 19 19			810	Great. Felt at Narainganj and Mathbaria.
		iS	20 43				
15	N	i	07 24 50				Slight. Phases masked by strong microseisms.
		i	26 32				
		F	Lost in microseisms.				
15	N	i	15 58 09				Slight. Phases masked by strong microseisms.
		i	16 01 43				
		F	Lost in microseisms.				
21	N	e	16 36 00				Tremor
		i	38 00				
		i	41 00				
		F	Lost in microseisms.				
22	N	e	10 29 27				Slight. Near.
		i	31 20				
		F	Lost in congestion of lines.				

ALIPORE OBSERVATORY, CALCUTTA.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>Sept.</u>		<u>SEPTEMBER 1946.</u>					
			h. m. s.	Sec.	μ	Km.	
22	N	e F	23 44 05 59 --				Tremor.
23	N	e is? F	22 06 35 16 45 Lost in the following shock.				Slight. Distant.
23	N	iP i? is isS SR ₁ (Surf) F	23 40 23 46 54 48 51 49 40 54 17 Lost while changing chart.			7110	Moderate; first movement south. Deep focus; focal depth about 125 km.
26	N	e i i F	11 12 09 15 11 16 11 12 07 --				Slight. Distant.
27	N	e e i F	19 54 41 58 13 20 02 55 31 --				Slight. Distant.
27	N	e e F	21 41 28 42 48 22 04 --				Slight. Distant.
28	N	e i F	19 40 13 43 45 20 14 --				Tremor.
29	N	eP is isSS F	03 13 06 21 54 23 39 Lost.			7200	Great.
29	N	e e i F	20 35 40 40 25 41 35 Lost in microseisms.				Tremor.

METEOROLOGICAL OFFICE,)
ALIPORE, CALCUTTA.)

S. MULL,
Director.

COLOMBO OBSERVATORY, CEYLON.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>July.</u>							
<u>JULY 1946.</u>							
			h. m. s.	Sec.	mm.	Km.	
July 9	E	P	13 27 20				
		S	36 56		0.1		
		M	14 03 --				
<u>AUGUST 1946.</u>							
Aug. 2	E	P' 1	19 33 28		0.5		
		L 1	20 26 --				
		M	36 21		0.5		
		F	21 25 --				
4	E	P' 1	18 11 23				
		L 1	19 00 --				
		M	15 20		22.5		
		F	21 04 --				
7	E	P	22 56 59				
		M	23 04 34		0.5		
		F	17 --				
8	E	PP	13 50 29				
		SS	14 10 17				
		L	35 39				
		M	50 21		2.0		
		F	15 50 --				
11	E	e	02 05 04				
		e	16 03				
		L	30 34				
		M	40 04		0.6		
		F	03 10 --				
15	E	P	19 30 24				
		F	20 05 --				
<u>SEPTEMBER 1946.</u>							
Sept. 9	E	P	10 42 48				
		S(?)	51 18				
		M	11 06 00		0.3		
		F	20 --				
12	E	P	15 22 22				
		M			50		
		F	19 03 --				M uncertain. Amplitude big, trace faint.
15	E	P	15 53 --				
		L	56 20				
		M	57 50		0.4		
		F	16 30 --				
23	E	P	22 06 31				
		S	16 50				
		M	54 00		0.2		
		F	23 30 --				

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COLOMBO OBSERVATORY, CEYLON.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
			<u>SEPTEMBER 1946.</u>				
			h. m. s.	Sec.	mm.	Km.	
23-24	E	P	23 40 42				
		L	49 28				
		M	49 34		2.5		
		F	01 40 --				
26	E	P	11 10 19				Amplitude very
		S	15 44				small.
		F	30 --				
29	E	P	03 13 37				
		S	23 --				
		L	33 00				
		M ₁	39 37		20.2		
		M ₂	42 02		20.0		
		F ²	07 00 --				
30	E	P	11 53 53				
		L	12 17 51				
		M	22 41		0.4		
		F	58 --				

 COLOMBO OBSERVATORY,)
 CEYLON.)

 D. T. E. DASSANAYAKE,
 SUPERINTENDENT.

HAIG OBSERVATORY, SURVEY OF INDIA, DEHRA DUN.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>July.</u>							
<u>JULY 1946.</u>							
			h. m. s.	Sec.	On trace	Km.	
					in inches.		
July 2	N-S	e	11 16 25				
		e	18 13				
		M ₁	19 17	10	0.01		
		F	35 --				
<u>AUGUST 1946.</u>							
Aug. 4	N-S	e	13 11 22				
		e	20 32				
		e	23 05				
		e	41 16				
		e	47 48				
		e	54 26				
		M ₁	13 56 36	24	0.52		
		F	20 37 --				
7	N-S	eP	22 53 00			1330	
		eS	54 49				
		eL	56 42				
		M ₁	57 12	12	0.02		
		F	23 13 --				
8	N-S	eP	14 22 37				
		e	33 53				
		M ₁	33 42	20	0.06		
		F	15 21 --				
17-13	N-S	e	23 46 02				Very faint.
		F	00 06 --				
<u>SEPTEMBER 1946.</u>							
Sept. 4	N-S	eP	01 35 24				Felt locally.
		eS?	35 36				
		M ₁	35 40	3	0.01		
		F ₁	38 --				
12	N-S	eP	15 21 54			1932	Destructive
		iS	24 49				in north
		eL	27 05				Burma.
		M ₁	30 12	8	1.50*		*Hitting
		M ₂	41 54	9	1.50*		"Stops".
		F ₂	17 29 --				
29	N-S	e	03 10 01) All times are) doubtful.
		e	20 42				
		eL	37 21				
		M ₁	45 44	30	0.40		
		M ₂	50 49	30	0.25		
		F ₂	04 46 --				

DEHRA DUN.

 Col. J. B. P. ANGWIN,
 Director,
 War Research, Survey of India.

NIZAMIAH OBSERVATORY, HYDERABAD, DECCAN.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>July.</u>							
<u>JULY 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
July 2	N	S	11 22 20				
		M	23 47	10	5		
9	N	eP	13 32 20			3400	
		S	37 22				
		(SS)	38 07				
		M	44 25	8	2		
16	N	PP	05 35 30				
		S	42 29				
		L	56 26				
		M	06 04 19	14	2		
19	N	M	21 54 46	16	4		
25	N	M	17 33 57	15	4		
<u>AUGUST 1946.</u>							
Aug. 2	N	PKP	19 38 57				
		M	20 34 00	20	5		
4	N	eP'	18 10 51				P' masked by microseisms.
		PP	12 59				
		i	14 04				
		SS	30 38				
		M	59 06	20	50		
7-8	No record available since clock stopped.						
8	N	PP(?)	13 50 22				
		PKS(?)	51 14				
		SS	14 07 37				
		L	31 06				
		M	38 54	16	9		
11	N	M	02 48 41	15	2		
15	N	P	19 30 22			1550	
		S	32 56				
		M	34 01	5	9		
21	N	M	20 38 38	15	3		
26	N	M	10 31 43	11	3		
26	N	M	11 53 51	10	3		
29	N	S	06 27 40				
		M	33 50	12	2		

NIZAMIAH OBSERVATORY, HYDERABAD, DECCAN.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>		<u>SEPTEMBER 1946.</u>					
<u>Sept.</u>			h. m. s.	Sec.	μ	Km.	
Sept.9	N	P	10 44 20			4480	
		PP	45 54				
		S	50 27				
		SS	53 44				
		M	11 03 09	12	3		
11	N	M	10 28 49	15	2		
12	N	P	15 21 26			2090	Upper Burma.
		iP	21 31				
		?	24 24				
		S	24 54				
		M	27 34	7	219		
13	N	eP	19 10 21				
		e	20 15				
		M	43 52	15	3		
15	N	S	15 56 58				
		M	16 04 08	9	5		
17	N	eP	12 53 03				
		M	53 49	8	2		
22	N	M	10 41 39	8	2		
29	N	P	03 13 59			8600	
		iP	14 15				
		S	23 51				
		PS	24 30				
		SS	28 47				
		M	43 56	25	62		
30	N	M	12 25 03	16	4		

NIZAMIAH OBSERVATORY,)
HYDERABAD, DECCAN.)

AKBAR ALI,
Curator.

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KODAIKANAL OBSERVATORY, KODAIKANAL.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>July.</u>							
<u>JULY 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
July 1	E	eP	22 46 50			8765	Slight.
		eS	56 50				
		M	23 19 00	8.5	5		
8	E	e	17 25 32				Slight tremor.
		F	56 42	20	8		
9	E	e	13 25 45				Slight.
		PP	28 50				
		iS	35 15				
		SS	42 10				
		M		10	17		Not clear.
		F	49 --				
16	E	eP	05 37 38			5900	
		eS	45 08				
		L	54 58				
		M	06 03 33	15	5		Times uncertain as lines overlapped.
<u>AUGUST 1946.</u>							
Aug. 2	E	P'	19 38 11			11000	Slight, distant.
		PKS	42 07				
		SKKS	48 32				
		SKSP	52 06				
		SS	56 22				
		L	20 12 17				
		M	20 03	30	36		
		F	21 16 --				
4	E	P	18 10 07	24	36		Moderate. Distant. Phases not clear.
		PKS(?)	14 52				
		e	15 22				
		SKKS	20 32				
		PSKS	23 47				
		SS(?)	29 29				
		F	20 47 41				
8	E	PP	13 50 33	20	24	12610	Slight. Phases not clear.
		PKS	51 43				
		SKKS	57 30				
		PS	14 01 03				
		SS	07 27				
		F	16 28 53				
11	E	e	02 06 10				Tremor. Middle being lost while removing paper.
		F	03 41 41				
15	E	e	15 44 43				Tremor.
		F	17 08 56				
15	E	P	19 29 48			2390	Slight.
		S	33 38				
		L	35 53				
		M	37 00	8	6		
		F	20 08 --				

KODAIKANAL OBSERVATORY, KODAIKANAL.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>1946</u>							
<u>Aug.</u>							
<u>AUGUST 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
29	E	e F	06 29 45 50 25				
<u>SEPTEMBER 1946.</u>							
Sept. 9	E	e(P) F	10 44 30 11 25 13				Slight.
12	E	e F	08 37 24 Lost in the succeeding earth- quake.				Feeble shock.
12	E	iP F	15 22 21 20 10 21	15	30		Very great. Later phases not identifiable.
13	E	e F	16 11 27 17 27 22				
13	E	e(P) F	19 10 57 20 30 22				
15	E	e F	07 29 26 50 16				Feeble tremor.
15	E	eP eS L M	15 53 36 56 33 57 53 59 18	19	13	1800	Moderate.
15	E	e e L M F	16 02 02 04 59 06 19 07 44 53 36	10	13		Moderate.
15	E	e F	21 12 01 39 36				Tremor.
16	E	e F	01 34 51 02 36 39				Slight.
19	E	e F	00 22 34 54 04				Slight tremor.
23	E	e F	22 07 02 Lost in the succeeding earth- quake.				Slight shock.
23-24	E	iP PP iS PS SS L M F	23 41 20 43 50 50 25 50 48 54 43 00 03 33 09 06 Lost while removing the paper.	19	8	7665	Long distance earthquake of moderate intensity.

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KODAIKANAL OBSERVATORY, KODAIKANAL.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>1946</u>							
<u>Sept.</u>							
<u>SEPTEMBER 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
26	E	e	11 10 50				Feeble shock.
		F	12 03 12				
29	E	iP	03 13 58				Distant; Great.
		PP	16 44				
		iS	23 48				
		PS	24 19				
		SS	28 33				
		L	39 09				
		M	45 19	24	242	8555	
		F	07 03 10				
29	E	e	20 28 10) Probable after) shock of the
		F	21 03 58				
30	E	e	02 14 28) previous great) earthquake.
		F	40 56				
30	E	e	11 47 19				Slight shock.
		F	13 07 29				

 KODAIKANAL OBSERVATORY,)
 KODAIKANAL.)

 A. K. DAS,
 Director.

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The following table contains a list of earthquakes reported by voluntary observers from various stations.

Place at which felt.	Date.	G.M.T. of earthquake.			Duration.	Intensity - Rossi-Forel Scale.	Number of shocks.	Remarks.
		Hr.	Mn.	Secs.				
Sibi	5-8-1946	13	32	4(?)		5	3	
Yatung	25-8-1946	14	20	2		3	2	
Keyland (Kangra)	25-8-1946	15	30	$\frac{1}{2}$		4	1	
Dehra Dun	4-9-1946	01	35	5		2	1	Probably recorded by New Delhi.
Narayanganj	12-9-1946	15	22	-		-	-	Reported by telegram. Recorded by Bombay and Calcutta.
Noakhali	12-9-1946	15	42	10-15		3	-	
Silchar	12-9-1946	16	00	3		2	1	
Kabul	17-9-1946	23	30	2		4	1	

C. G. PENDSE,
Seismological Officer,
Poona.

S./1.12.49.

25-10-1953
Seismological Office

Station: ...
Date: ...
Time: ...

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GOVERNMENT OF INDIA

METEOROLOGICAL DEPARTMENT.

SEISMOLOGICAL BULLETIN

October - December 1946.

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PUBLISHED UNDER THE DIRECTION OF

S. K. BANERJI, O.B.E., M.Sc., D.Sc., F.N.I.,

Director General of Observatories.

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SEISMOLOGICAL BULLETIN.

October - December 1946.

INTRODUCTION.

Till the end of 1937, the seismic data from the observatories of the India Meteorological Department were being published annually as Part D of the Annual Summary of the India Weather Review. Since 1938, the data are being published in the present series of the Quarterly Seismological Bulletin. With the kind co-operation of the Surveyor-General of India, the Director of the Nizamiah Observatory, Hyderabad, and of the Superintendent, Colombo Observatory, it has been possible to incorporate in the bulletin, the data of their respective observatories, viz. Dehra Dun, Hyderabad and Colombo. The instrumental seismological data and the non-instrumental voluntary observations are collected and edited at the Meteorological Office, Poona.

TABLE - 1.

List of Seismograph Stations.

Station.	Latitude.	Longitude.	Height above M.S.L.	Lithologic foundation.	Officer-in-charge of Observatory.
New Delhi	28° 35' N.	77° 12' E.	207 meters	Massive Quartzites	Deputy Director General of Observatories.
Bombay	18° 54' N.	72° 49' E.	6 meters	Deccan Trap	Director.
Calcutta	22° 32' N.	88° 20' E. (1) (2)	7 meters 6 meters	Alluvium	Director.
Colombo	6° 54' N.	79° 52' E.	7 meters	Beach-Sand resting on gneiss pro- bably de- composed.	Superintendent.
Dehra Dun	30° 19' N.	78° 03' E.	682 meters	Gravel	Director, War Research, Survey of India.
Hyderabad	17° 26' N.	78° 27' E.	528 meters	Granite	Curator, Niza- miah Observatory.
Kodaikanal	10° 14' N.	77° 28' E.	2343 meters	Rock	Director.

(1) Milne-Shaw.

(2) Omori-Ewing.

TABLE - 2.

The instruments and their constants.

Station.	Compo- nent.	Type of Instru- ment.	Mass. Kg.	Period. Sec.	Static magni- fication.	Damping Ratio.	Remarks.
New Delhi	E	Omori-Ewing	45	-	30		
	N	Milne-Shaw	0.47	12	262	20 : 1	
Bombay	N	Milne-Shaw	0.45	12	250	16 : 1	
	E	Milne-Shaw	0.45	12	350	43 : 1	
Calcutta	N	Milne-Shaw	0.45	12	250	20 : 1	
	E	Omori-Ewing	50	-	30	-	
	N	Omori-Ewing	50	-	32	-	
Colombo	E	Milne-Shaw	0.45	12	250	20 : 1	
Dehra Dun	N	Omori	50	-	12	-	
Hyderabad	N	Milne-Shaw	0.45	12	250	20 : 1	
	E	Milne-Shaw	0.45	12	250	20 : 1	
Kodaikanal	E	Milne-Shaw	0.45	10	250	19 : 1	

THE OBSERVATORY, NEW DELHI.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.	
			h. m. s.	Sec.	μ	Km.		
<u>Oct.</u> <u>1946.</u>			<u>OCTOBER 1946.</u>					
Oct. 2	N	eP i eS i i L M F	04 56 31 05 01 03 04 51 05 21 10 21 20 08 24 26 06 49 00				Slight.	
2	N	iP e iS(?) L M F	06 53 41 58 15 07 02 31 17 14 21 14 08 22 00				Slight.	
3	N	iS M F	15 48 33 55 48 17 23 --				Slight.	
4	N	i iSKS iSKKS SS M F	15 06 11 11 16 12 50 22 26 51 46 17 12 11				Slight.	
7	N	i M F	07 04 27 22 11 08 06 --				Slight, distant.	
8	N	iS e M F	06 38 37 40 42 42 28 07 07 --				Slight.	
9	N	e F	02 59 07 03 30 --				Slight, distant.	
10	N	e i F	04 45 12 45 32 05 35 --				Slight, distant.	
14	N	e i e i eM F	05 08 56 10 15 11 29 14 17 55 11 07 14 --				Slight. Very distant.	
14	N	i i F	23 27 22 27 54 43 --				Slight, near.	
22	N	iSKS i PS SS M F	10 23 43 24 25 25 49 31 02 53 09 11 49 --				Slight.	


THE OBSERVATORY, NEW DELHI.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>Oct. 1946.</u>							
<u>OCTOBER 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
26	N	M F	01 20 10 02 29 --				Moderate. Earlier record lost as the instrument was out of order.
26	N	e F	06 56 43 07 10 --				Slight, near.
28	N	eP iS i SS L M F	16 09 12 14 35 15 43 16 35 19 06 21 03 17 19 --			3740	Slight.
30	N E N E N E N E N	iP eP i PP S e SS SSS M M F F	07 59 53 59 53 08 00 09 03 05 10 02 10 06 16 25 20 17 33 20 36 37 09 13 -- 10 41 --			9880	Moderate.
30	N	e F	14 51 07 15 15 --				Slight, distant.
<u>NOVEMBER 1946.</u>							
Nov. 1	N,E N N,E N E N E N	iP PP i iS PS SS SSS M M Mn F F	11 26 18 29 21 32 44 36 07 36 37 41 47 45 22 56 34 56 51 12 06 22 52 -- 15 00 --			8540	Moderate.
2	N	iP PP i iS i M F	14 13 03 15 03 15 19 20 19 24 32 33 03 15 29 --			5650	Slight.

THE OBSERVATORY, NEW DELHI.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>Nov. 1946.</u>							
<u>NOVEMBER 1946.</u>							
			h. m. s.	Sec.	μ	Kn.	
2	N	iP	18 31 44			1490	Great. Direction of first motion South.
	N	eP	31 45				
	N	PP	31 51				
	N	iS	34 11				
	N	iS	34 12				
	N	SS	34 26				
	N	SS	34 37				
	E	L	35 13				
		M	36 07				
		Mn	36 11)		2987		
		F	to 42 33)				
	N	F	20 34 --				
	N	F	22 33 --				
3	N	eP	01 10 06			1430	Slight.
		eS	12 29				
		M	15 10				
		F	26 --				
3	N	eP	01 52 48			1430	Slight.
		M	57 53				
		F	02 16 --				
3	N	eP	13 37 24			1460	Slight.
		i	37 38				
		iS	39 50				
		M	42 24				
		F	14 08 --				
3	N	eP	19 45 54			10200	Slight.
		iS	56 58				
		SS	20 03 04				
		M	23 23				
		F	21 54 --				
4	N	eP	10 26 10			1410	Slight.
		eS	28 30				
		L	30 25				
		M	31 25				
		F	40 --				
4	N,E	iP	21 52 37			2480	Moderate. Direction of first motion North. Direction of first motion West.
	E	i	52 43				
	N	i	52 46				
	N	PP	52 54				
	N	PP	52 55				
	N	PPP	53 04				
	N,E	iS	56 34				
	N	i	56 42				
	N	i	56 46				
	N	SS	57 09				
	N	SS	57 12				
	N	SSS	57 24				
		L	58 24				
		M	22 00 21				
	E	M	00 39				
		Mn	01 54				
		F	to 03 18		1437		Restricted maximum movement.
	N	Mn	02 25	18	410		
	N	F	23 03 --				
	N	F	01 37 --				

THE OBSERVATORY, NEW DELHI.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.		REMARKS.
<u>Nov.</u> <u>1946.</u>			<u>NOVEMBER 1946.</u>				
			h. m. s.	Sec.	u	Km.	
6	N	eP eS L M F	17 00 46 03 11 04 17 05 23 17 --			1450	Slight.
6	N E N E N E N E N	iP eP P* P iS iS S* S S Mn F F	19 58 01 58 01 58 15 58 26 59 13 59 14 59 36 59 55 59 56 20 00 24 34 -- 21 49 --			720	Moderate. Direc- tion of first motion south.
7	N	e F	11 14 18 18 --				Slight, near.
9	N	iP PP i iS SS i L M F	00 49 29 49 36 49 42 51 42 51 53 52 06 53 18 54 18 01 51 --		1330		Slight. Direc- tion of first motion south.
12	N	e PP iSKS iSKKS PS SS M F	17 48 26 50 27 56 57 57 36 59 36 18 05 39 31 34 19 25 --				Moderate.
13-14	N	i i M F	23 47 41 49 33 50 44 00 02 --				Slight.
17	N	iP PPP iS i i i F	02 59 13 03 02 30 07 22 08 15 08 53 12 20 03 46 --			6590	Slight.
17	N	e iS M F	13 52 20 54 21 55 54 14 30 --				Slight.

THE OBSERVATORY, NEW DELHI.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
			<u>NOVEMBER 1946.</u>				
			h. m. s.	Sec.	μ	Km.	
17-18	N	iP	22 29 45			2910	Slight. Direction of first motion south.
	E	eP	29 46				
	N	PP	30 18				
		PPP	30 30				
		iS	34 15				
	E	eS	34 18				
		i	35 06				
	N	SS	35 26				
	E	i	35 44				
	N	L	36 28				
		M	39 46				
	E	M	39 57				
		F	23 24 --				
	N	F	00 27 --				
18	N	eP	13 35 01			7390	Slight.
		PP	37 27				
		iS	43 52				
		SS	48 03				
		L	56 00				
		M	59 23				
		F	Mixed with the superimposed shock of probably the same origin.				
18	N	M	14 12 00				Slight.
		F	15 44 --				
18	N	e	23 03 08				Slight.
		i	04 55				
		M	09 17				
		F	29 --				
19	N	i	10 43 29				Slight. Near.
		F	53 --				
19	N	e	10 59 53				Slight. Near.
		F	11 11 --				
19	N	e	11 12 31				Slight.
		i	15 01				
		F	41 --				
20	N	eP	02 51 44			380	Slight.
		iS	52 24				
		F	03 02 --				
21	N	e	03 50 04				Slight. Very distant.
		e	04 06 28				
		F	05 23 --				
22	N	ePcP	16 19 25			4810	Slight.
		iS	23 57				
		PS	24 12				
		M	33 51				
		F	17 15 --				
25	N	i	04 20 45				Slight. Near.
		i	21 54				
		F	27 --				

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THE OBSERVATORY, NEW DELHI.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>Nov. 1946.</u>							
<u>NOVEMBER 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
25	N	e i F	06 12 22 13 12 17 --				Slight. Near.
28	N	eP iS i SS L M F	16 10 30 15 53 17 01 17 53 20 24 22 21 17 20 --				
<u>DECEMBER 1946.</u>							
Dec. 4	N	iS M F	21 44 53 47 22 22 12 --				Slight.
4-5	N	iS SS L M	23 00 07 02 57 06 36 10 26			4770	Slight.
	E	M F	10 42 38 00				
	N	F	00 46 --				
5	N	i i i F	07 05 15 05 51 06 28 53 00				Slight. Very distant.
5	N	e i F	08 46 09 50 30 09 18 --				Slight, distant.
8	N	i M F	22 05 06 06 23 28 --				Slight, near.
9	N	i i F	05 26 57 28 10 41 --				Slight. Near. M waves.
9	N	i i F	12 34 34 35 58 48 --				Slight. Near. M waves.
11	N	e F	16 49 54 17 02 --				Feeble.
15	N	M F	07 37 23 42 --				Slight.
16	N	e i F	16 54 58 59 55 17 29 --				Slight. Distant. Surface waves.
19	N	i i e M m	00 56 07 56 33 01 02 21 23 44 00 00				Slight.

THE OBSERVATORY, NEW DELHI.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.	
<u>Dec. 1946.</u>								
<u>DECEMBER 1946.</u>								
			h. m. s.	Sec.	μ	Km.		
19	N	e	03 04 59			5110	Slight. Deep focus.	
		iS	11 00					
		sS	11 31					
		SS	14 02					
		i	14 50					
		i	15 24					
		i	19 24					
		i	20 13					
		i	22 34					
		F	04 28 --					
20-21	N	iP	19 27 54			5850	Great. Direction of first motion north.	
	E	iP	27 54				Direction of first motion east.	
	N	PP	29 39					
	E	i	30 04					
	N	PPP	30 28					
	N, E	iS	35 21					
	N	ScS	37 46					
	E	i	38 07					
	N	SS	38 45					
	E	SS	38 46					
		i	41 53					
	N	L	43 02					
	E	L	43 25					
		Mn	43 48		1383		Restricted maximum movement except at a few places at intervals.	
		F	20 06 07				Maximum reached by S, SS and L waves also.	
	N	F	23 37 --					
	N	F	01 09 --					
21	N	eP	03 49 09			6520	Slight.	
		eS	57 14					
		iPS	57 24					
		M	04 13 35					
		F	05 02 --					
21	N	P	10 28 36			6280	Moderate. Time correct within ± 1 second.	
	E	eP	28 36					
		i	28 52					
	N	i	28 53					
		iS	36 28					
	E	eS	36 30					
	N	PPS	36 46					
	N, E	i	36 53					
	N	SS	40 26					
	N, E	i	41 20					
	N	L	45 56					
		M	50 11					
	E	M	50 39					
		F	Lost in succeeding shock.					

THE OBSERVATORY, NEW DELHI.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>Dec.</u> <u>1946.</u>							
			<u>DECEMBER 1946.</u>				
			h. m. s.	Sec.	μ	Km.	
21	N	P	19 58 35			6370	Slight. Time correction within <u>+ 1</u> sec.
	E	eP	58 37				
	N	i	58 47				
		iS	20 06 32				
	E	i	06 38				
	N	i	06 47				
		i	11 18				
		M	20 07				
	E	M	20 40				
		F	Lost in succeeding shock.				
21	N	i	20 38 19				Slight. Probably from the pre-ceeding origin.
		M	52 49				
		F	Lost in succeeding shock.				
21	N	eP	22 03 25				
		eS	06 14				
		i	06 43				
	E	i	06 45				
	N	L	07 32				
		M	09 09				
	E	i	10 36				
	N	F	23 35 --				
22	N	e	13 30 11				Slight. Distant.
		i	39 50				
		M	47 21				
		F	14 31 --				
24	N	iS	04 21 09			7890	Slight.
		PS	21 28				
		ScS	21 59				
		M	37 58				
		F	05 39 --				
24	N	e	09 51 24				Slight, distant.
		i	55 31				
		M	10 02 37				
		F	30 --				
24	N	eP	16 47 27			6370	Slight.
		iS	55 24				
		M	17 10 33				
		F	18 31 --				
26	N	i	08 33 00				Slight. Distant.
		F	58 --				Surface waves.
26	N	eP	17 00 17			6100	Slight.
		iS	07 48				
		SS	11 43				
		M	21 37				
		F	18 25 --				

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THE OBSERVATORY, NEW DELHI.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>Dec.</u> <u>1946.</u>			<u>DECEMBER 1946.</u>				
			h. m. s.	Sec.	μ	Km.	
28	N	iS M F	02 00 03 01 16 12 --			1160	Feeble.
28	N	e iS PS e F	10 19 17 27 12 27 27 40 39 11 41 --			6660	Slight.
29	N	e e F	04 31 45 45 35 05 20 --				Slight. Distant. Surface waves.
29	N	e i F	16 17 03 20 16 38 --				Slight.

 THE OBSERVATORY,
NEW DELHI.

)
) S. C. ROY,
) Deputy Director General of Observatories
) (Instruments & Supplies).

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COLABA OBSERVATORY, BOMBAY.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.	
<u>Oct. 1946.</u>			<u>OCTOBER 1946.</u>					
			h. m. s.	Sec.	μ	Km.		
Oct. 1	N,E N,E	e F	06 45 -- 57 --				Surface waves.	
1	N N	e F	12 59 53 13 47 --				Feeble.	
1	N N	e F	20 11 -- 23 --				Very feeble tremors.	
2	N,E E N N E N E N E	iP eS(?) S(?) L L M M F F	04 57 37 05 07 00 07 15 20 00 20 39 32 23 32 37 06 33 --	19 15	16 14		Moderate. 51°N., 157°E. (U.S.C.G.S.) O = 04h. 46m. 20s.	
			Not identifiable due to faintness of trace.					
2	N,E N E N N E N E	iP S L L M M F F	06 54 45 07 04 08 15 00 15 07 29 37 29 40 08 28 --	19 17	8 7	8000	Slight. 51°N., 157°E. (U.S.C.G.S.) O = 06h. 43m. 30s.	
			Not identifiable due to faintness of trace.					
3	N,E N E	e F F	07 02 15 14 -- 14 --				Very feeble tremor.	
3	N E E N	e e F F	15 44 07 50 12 17 21 -- 27 --				Slight.	
4	N E N E	e e F F	15 06 30 11 38 16 48 -- 57 --				Slight, distant.	
8	N,E N,E N,E	P S F	06 36 06 40 21 07 03 --			2710	Slight. After- shock of the very great shock of 12th Sept. 1946. O = 06h. 30.8m.	
10	E N N,E E N	e e e F F	04 35 30 35 33 45 42 05 46 -- 54 --				Slight.	
11	N N E	e F	13 56 32 14 01 --				Feeble. Movements indistinct.	

COLABA OBSERVATORY, BOMBAY.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.	
			h. m. s.	Sec.	μ	Km.		
Oct. 1946.			OCTOBER 1946.					
12	N,E E N	e F F	18 14 -- 34 -- 36 --				Feeble.	
12	N,E E N	e F F	22 20 -- 23 02 -- 03 --				Feeble.	
13	N,E E N E	e i F F	21 32 52 39 32 22 08 -- 14 --				Feeble.	
13-14	N,E N,E	e F	23 35 27 00 06 --				Feeble.	
14	N,E N,E	e F	05 10 19 06 46 --				Feeble, distant.	
15	E N N,E	e e F	06 56 20 07 03 20 22 --				Very feeble.	
22	N,E E E N E N,E N E	eP PP iSKS) eSKS) eSS L F F	10 13 42 16 48 24 02 35 42 42 41 11 33 -- 47 --				Slight. 16°S., 163°5E., west of New Hebrides, Pacific. O = 10h. 00m. 20s.	
25	N,E N,E N E	e e F F	22 01 51 10 53 23 02 -- 11 --				Feeble.	
26	N,E N,E N E	eP S? F F	00 39 58 49 28 02 53 -- 55 --			8145?	Slight.	
30	N,E N,E E N N E E N	eP eSKS L L M M F F	08 00 45 11 35 24 00 25 19 47 01 47 15 10 35 -- 40 --	19 20	20 23		Moderate. 54°N., 164°W. (U.S.C.G.S.). O = 08h. 47.8m.	
30	N,E E N	e F F	14 51 22 15 19 -- 22 --				Surface waves.	

COLABA OBSERVATORY, BOMBAY.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>Nov. 1946.</u>			<u>NOVEMBER 1946.</u>				
			h. m. s.	Sec.	μ	Km.	
Nov. 1	N	eP)	11 27 17			9780	Moderate. 52°N.,
	E	iP)					174°W. (U.S.C.G.S.)
	N,E	ePP	30 43				O = 11h. 14.5m.
	N	eS)					
	E	iS)	38 04				
	N,E	L	50 39				
	N	M	12 09 36	19	45		
	E	M	11 47	17	30		
	E	F	15 10 --				
	N	F	Mixed up with microseisms.				
2	N,E	eP	14 13 20				Slight. 5.5°N.,
	N	eS	21 06				125.5°E. in the
	E	iS	21 08				Pacific near Min-
	N,E	F	15 26 --				danao Islands.
							O = 14h. 4.2m.
2	N,E	iP	18 33 35			2635	Very great. 42°3N.,
	N,E	iS	37 44				75°5E., Turkesh-
	N	L	39 56				tan.
	E	L	40 00?				O = 18h. 28.6m.
	N	M	41 37	14	568		Felt at Peshawar
	E	M	44 ?	15	224		and Srinagar.
	E	F	23 27 --				
	N	F	Mixed up with microseisms.				
3	N,E	e	01 02 37				Very feeble.
	E	F	28 --				
	N	F	33 --				
3	N,E	e	01 53 30				Feeble.
	N	F	02 15 --				
	E	F	16 --				
3	N,E	e(P)	13 39 18				Feeble. 41°5N.,
	N	F	14 13 --				74°E.,
	E	F	Record too faint.				
							O = 13h. 34.3m.
							Felt at Tashkent
							with considerable
							intensity.
3	N	e	19 45 35				Feeble. 0°, 16°W.
	N	e	56 32				(U.S.C.G.S.)
	N	F	21 45 --				H = 19h. 32.6m.
	E		Record too faint.				
							(Ottawa).
4	N	e	10 25 34				Feeble. Probable
	E	e	30 57				region of origin
	N	e	32 08				38°5N., 66°5E.
	N,E	F	11 05 --				O = 10h. 23.2m.
4-5	N,E	iP	21 53 22			2935	Great. 40°8N.,
	N,E	iS	57 53				55°7E., east of
	E	L	59 56				Caspian Sea.
	N	L	59 58				O = 21h. 47m. 57s.
	N	M	22 05 40	19	287		U.S.C.G.S. gives
	E	M	06 12	20	213		4°N., 53°E. Serious
	N	F	02 24 --				damage and casual-
	E	F	25 --				ties are reported
							from several dis-
							tricts in Central
							Soviet Asia. Uzbek-
							and Kirghiz were
							the most seriously
							affected areas.

COLABA OBSERVATORY, BOMBAY.

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<u>Nov. 1946.</u>							
<u>NOVEMBER 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
6	E N N,E N,E E N E N	iP) eP) iS L M M F F	20 00 19 03 19 04 30 05 36 06 45 21 52 --			1835	Moderate. 34°N., 80°E. in Tibet. O = 19h. 56m. 26s.
			Mixed up with microseisms.				
7	N E N,E E N N,E	eP eP? eS L L F	15 59 10 59 15 16 03 23 06 12 06 16 17 01 --			2680	Slight. Probable origin 44°N., 71°E., Turkestan. O = 15h. 54.0m.
8	N N E	e F	13 10 -- 44 --				Surface waves.
			Loss of record.				
9	E N E N	e e F F	22 04 06 08 -- 33 -- 41 --				
10	N,E N E N E E N E N	eP eS) iS) L L M M F F	00 51 42 55 48 00 59 06 59 14 01 00 52 02 40 02 22 -- 30 --			2590	Slight. Probable origin, 42°N., 80°E. O = 00h. 46.8m.
				11 7	7 8		
10	N,E N E	e F F	08 56 55 09 23 -- 26 --				Very feeble.
10	N E E N E E N E N E	eP' iP' PKS eSS iSS L? L M M F F	18 02 47 06 20 25 08 25 35 48 57 49 34 19 09 20 15 23 21 00 -- 16 --			16545	Moderate. 9°S., 77°W. (U.S.C.G.S.) H = 17h. 43.0m. (Ottawa).
				23 19	26 14		
12	E N E N	e e F F	06 09 31 09 39 07 37 -- 48 --				Feeble.
12	E N N,E N E N E	eP'? eP'? e M M F F	17 47 26 47 32 58 39 18 36 13 37 10 21 07 -- 11 --				Slight. 21°S., 173°W. (U.S.C.G.S.) H = 17h. 28.7m. (Ottawa).
				23 20	12 7		

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<u>Nov. 1946.</u>			<u>NOVEMBER 1946.</u>				
			h. m. s.	Sec.	μ	Km.	
13-14	N E E N	e e F F	23 48 37 51 14 00 11 -- 12 --				Feeble.
17	N,E N E	e F F	02 59 15 Lost due to congestion of lines. 03 44 --				Feeble.
17	N,E N N E	eP eS? F F	13 52 18 55 18 14 28 -- 31 --				
17-18	N,E N,E N E E N N E	iP iS L L M M F F	22 28 12 31 32 32 15 32 20 33 33 37 46 00 20 -- 38 --	20 13	107 21	2065	Moderate. 12°4N., 55°3E. East of Tama- rinda Islands in the West Arabian Sea. O = 22h. 24.0m.
18	N,E E N	iS(?) F F	13 42 15 15 26 -- Mixed up with microseisms.				Slight. Probable origin 33°S., 105°E., in the southeast Indian Ocean. O = 13h. 24.2m.
18	N,E E N	e F F	23 02 24 33 -- Lost in microseisms.				Feeble.
19	N N E	e F	11 03 52 42 -- Record very faint.				
20	N E E N	e) i) F F	02 08 39 52 -- 54 --				Feeble.
20	N,E N E E N	e e i F F	02 55 09 58 04 58 09 03 09 -- 12 --				Very feeble.
21	N E N N E	e e M F F	03 34 30 47 -- 04 09 45 05 14 -- 18 --	19	7		Slight.
22	N,E N E	e F F	16 08 50 17 03 -- 07 --				Very feeble.
25	N,E E N	e F F	14 05 56 26 -- 31 --				Very feeble tremor.

COLABA OBSERVATORY, BOMBAY.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.	
<u>Nov. 1946.</u>								
<u>NOVEMBER 1946.</u>								
			h. m. s.	Sec.	μ	Km.		
28	N,E	P	16 10 42				Slight. Near 17°N., 111°E., in the China Sea. O = 16h. 3.9m.	
	E	iS?	16 16					
	E	F	17 26 --					
	N	F	30 --					
<u>DECEMBER 1946.</u>								
Dec. 2-3	N,E	e	23 28 30				Very feeble.	
	E	F	00 22 --					
	N	F	26 --					
4	N	e	21 44 30				Feeble.	
	E	e	48 02					
	E	F	22 31 --					
	N	F	36 --					
4-5	N,E	eP	22 55 00			5590	Moderate. Epc. Yellow Sea. O = 22h. 46.1m.	
	E	iS	23 02 13					
	N	S	Not clear.					
	E	L	10 36					
	N	L	10 45					
	E	M	13 38	12	9.3			
	E	M	16 29	12	21			
	E	F	01 08 --					
	N	F	Not identifiable due to thickness of trace.					
5	N,E	e	06 56 18				Feeble.	
	N,E	e	07 05 52					
	E	F	08 01 --					
	N	F	10 --					
5	N,E	eP	08 46 00			2400	Slight.	
	N,E	eS	49 51					
	N	F	09 25 --					
	E	F	27 --					
8	E	e	22 07 49				Slight.	
	N	e	10 04					
	E	F	37 --					
	N	F	Mixed up with microseisms.					
9	N,E	e	05 28 40				Very feeble.	
	E	F	52 --					
	N	F	Mixed up with microseisms.					
9	E	e	12 31 46				Very feeble.	
	E	F	13 18 --					
	N		Microseisms throughout record.					
13	N	e	20 25 17				Feeble.	
	E	e	26 39					
	E	F	45 --					
	N	F	48 --					
13	P		07 24 05					

COLABA OBSERVATORY, BOMBAY.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>Dec. 1946.</u>							
<u>DECEMBER 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
19	N, E E E N N E N E	eP) iP) iS) eS) L L F F	00 54 05 01 02 15 10 36 10 59 02 10 -- 12 --			6610	Slight.
19	N, E N E N, E N E E N N, E	iP ePP) iPP) iS SS SS L? L F	03 05 42 07 35 12 26 15 24 16 05 21 24 23 25 04 22 --			5090	Slight. 24°N., 122°E., near Formosa Islands. O = 2h. 57.4m.
20-21	N, E N, E E N N N E	iP iS Phases L and M not identifiable due to quick movements. L Not identifiable due to quick movements. M F F	19 28 58 37 18 49 29 01 19 -- 24 --	16	642	6800	Very great. 31°N., 138°E. in the Pacific about 200 miles to the south of Osaka in Japan. O = 19h. 19m. 00s. Considerable damage particularly to the south of Japan mainly due to tidal waves. U.S.C.G.S. gives 33°3N., 134° E.
21	N, E N, E	e F	03 59 18 05 23 --				Feeble.
21	E N N E N, E N E E N E N	iP eP eS iS SS L L M M F F	10 29 39 29 42 38 50 38 54 43 11 52 23 52 17 59 00 11 10 48 14 38 -- 56 --	15 15	21 19	7855	Moderate. 42°N., 153°E. in the Pacific, south of the Kurile Islands. O = 10h. 18m. 40s.
21	E N E E E N N, E	iP eP eS SS M M F	19 59 38 59 40 20 08 46 12 56 29 00 29 16 Mixed up with the next shock.	11 15	5 6	7720	Moderate.
21	N, E N, E N, E N E N, E	eP eS L M M F	22 04 22 08 27 10 21 14 02 15 22 23 29 --	11 9	29 9	2580	Moderate. 26°N., 97°E., in north- east Burma. O = 21h. 59.3m.

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COLABA OBSERVATORY, BOMBAY.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
			<u>DECEMBER 1946.</u>				
			h. m. s.	Sec.	μ	Km.	
22	E	e	13 24 09				Feeble.
	N	e	27 07				
	E	e	29 29				
	E	F	14 27 --				
	N	F	30 --				
24	N,E	e	04 11 56				Slight.
	E	F	06 18 --				
	N	F	29 --				
24	N	e	09 52 40				
	E	e	52 53				
	E	F	10 47 --				
	N	F	56 --				
24	N,E	e	16 48 17				
	E	F	18 16 --				
	N	F	19 --				
25	N	e	11 25 45				Feeble.
	E	i)	36 16				
	N	e)					
	E	F	13 13 --				
	N	F	21 --				
26	N,E	e	08 21 52				Feeble.
	E	F	09 25 --				
	N	F	31 --				
26	N,E	eP	16 59 58		5820		Slight. 7°S.,
	N,E	iS	17 07 24				120°E. in the
	E	L	12 43				Pacific, south of
	N,E	F	18 34 --				Celebes Islands.
							0 = 16h. 50.8m.
28	N,E	e	10 20 19				Slight.
	E	F	12 06 --				
	N	F	Mixed up with microseisms.				
29	N	e	16 19 14				Feeble.
	N,E	e	22 48				
	N	F	48 --				
	E	F	50 --				

 COLABA OBSERVATORY,)
 BOMBAY.)

 S. K. CHAKRABARTY,
 Director.

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ALIPORE OBSERVATORY, CALCUTTA.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>Oct. 1946.</u>							
<u>OCTOBER 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
Oct.1	N	e i F	20 02 29 03 29 19 --				Tremor.
2	N	e e F	04 56 17 05 04 24 Lost in congestion of lines.				Slight, distant.
3	N	e iS? F	15 49 50 16 00 15 Lost in microseisms.				Slight, deep focus.
7	N	e e Mn F	06 55 27 07 02 16 25 41 Lost in microseisms.				Slight, distant.
8	N	eP iS PcP F	06 34 49 36 33 41 14 Lost.			1035	Slight.
12	N	e i F	22 12 26 15 46 23 13 --				Tremor.
22	N	eP eS iSS iSS F	10 13 30 23 33 28 51 42 04 Lost.			8800	Slight.
22	N	i F	17 51 15 18 11 --				Tremor.
25	N	e e F	21 59 21 22 08 29 Lost in microseisms.				Slight, distant.
30	N	eP iSKS iS M F	07 59 52 08 10 02 10 22 34 32 Lost in microseisms.			9445	Slight.
<u>NOVEMBER 1946.</u>							
Nov.1	N	eP iPPP iS PS SS SSS L M Mn F	11 26 57 31 47 36 52 37 37 42 07 45 12 52 07 58 21 12 08 47 14 51 --			8635	Moderate.
3	N	e e F	01 54 48 02 01 54 Lost in microseisms.				Tremor.

ALIPORE OBSERVATORY, CALCUTTA.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.	
<u>Nov.</u> <u>1946.</u>								
			<u>NOVEMBER 1946.</u>					
			h. m. s.	Sec.	μ	Km.		
3	N	eP	13 39 29			2410	Slight.	
		eS	43 28					
		iSS	44 17					
		L	45 25					
		M	47 28					
		F	Lost in microseisms.					
3	N	e	19 53 12				Slight, distant.	
		Mn	20 33 16					
		F	22 50 --					
4	N	e(S)	10 32 27				Slight.	
		e	35 16					
		F	11 02 --					
4	N	iP	21 54 53			3565	Great. First	
		iPPP	56 10				movement south.	
		iS	22 00 13					
		iSS	01 56					
		M	07 20					
		F	Lost while changing chart.					
5	N	e	10 32 27				Tremor.	
		e	35 16					
		F	11 02 --					
6	N	iP	19 59 38			1400	Moderate. First	
		iPPP	59 48				movement south.	
		iS	20 02 08					
		iSS	02 30					
		L	02 53					
		M	03 53					
		F	Lost.					
7	N	eP	15 59 26			2620	Slight.	
		eS	16 03 42					
		iSS	04 39					
		L	05 57					
		M	08 03					
		F	Lost.					
9	N	e	05 14 41				Tremor.	
		F	30 --					
9	N	e	22 08 37				Slight, near.	
		e	09 37					
		i	10 17					
		i	11 17					
		F	30 --					
10	N	iP	00 51 28			2155	Slight. First	
		iS	55 06				movement south.	
		M	58 46					
		F	Lost in microseisms.					

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DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>Nov.</u> <u>1946.</u>							
			<u>NOVEMBER 1946.</u>				
			h. m. s.	Sec.	μ	Km.	
10	N	eP'1	18 02 49			16665	Moderate.
		?	03 59				
		iPP	06 11				
		iPPP	09 51				
		iSKKS	13 01				
		PSKS	16 27				
		PPS	19 21				
		?	20 56				
		SS	25 41				
		SSS	31 21				
		M	19 05 31				
		Mn	19 51	20	63		
		F	Lost in microseisms.				
12	N	e	17 53 18				Slight.
		i	54 32				
		i	18 03 54				
		L	15 36				
		M	24 01				
		Mn	31 26	20	35		
		F	20 26 --				
17	N	e	02 57 49				Slight, distant.
		i	04 23				
		F	03 44 --				
17	N	e	11 58 38				Slight.
		i	12 00 38				
		PcP	04 43				
		F	Lost in microseisms.				
17	N	eP	22 30 59			3555	Moderate.
		PcP	33 47				
		iS	36 18				
		iSS	38 02				
		F	Lost in microseisms.				
18	N	e(S)	13 41 53				Phases could not be identified as two motions due to two shocks were simultaneous.
		i	14 05 41				
		F	Lost in microseisms.				
18	N	eP	22 57 16			2155	Slight.
		iPP	57 34				
		iS	23 00 46				
		iSS	01 06				
		PcP	01 40				
		F	Lost in microseisms.				
19	N	eP	11 17 30			389	Slight.
		iS	18 12				
		F	42 --				
21	N	e	03 40 01				Slight, distant.
		Mn	04 13 06				
		F	54 --				
22	N	e	16 20 11				Slight, distant.
		F	59 --				

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ALIPORE OBSERVATORY, CALCUTTA.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>Nov. 1946.</u>							
<u>NOVEMBER 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
24	N	e	17 56 48				Slight, near.
		i	59 03				
		i	18 00 45				
		F	20 --				
28	N	e	16 09 49				Slight, distant.
		F	17 10 --				
30	N	e	11 52 18				Tremor.
		F	12 30 --				
<u>DECEMBER 1946.</u>							
Dec. 2	N	e	23 26 42				Slight, near.
		e	27 52				
		F	23 50 --				
4	N	eP	21 49 13			1910	Slight.
		iS	52 10				
		PcP	53 55				
		F	Lost in microseisms.				
4	N	eP	22 53 53			3010	Moderate.
		iS	58 30				
		M	23 03 34				
		F	Lost in microseisms.				
5	N	i	07 03 12				Slight, distant.
		i	04 42				
		F	Lost in microseisms.				
5	N	e	08 44 09				Slight, near.
		e	45 52				
		i	46 49				
		F	Lost in microseisms.				
8	N	e	05 11 16				Tremor.
		F	31 --				
8	N	e	22 05 23				Slight, near.
		i	06 53				
		F	29 --				
13	N	e	20 20 33				Slight, near.
		e	21 34				
		i	23 41				
		F	43 --				
16	N	e	16 51 45				Slight, distant.
		e	55 35				
		F	17 34 --				
19	N	eP	00 52 45			5420	Slight.
		iS	59 53				
		F	Lost while changing chart.				

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ALIPORE OBSERVATORY, CALCUTTA.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>Dec.</u> <u>1946.</u>							
			<u>DECEMBER 1946.</u>				
			h. m. s.	Sec.	μ	Km.	
19	N	eP	03 03 47			3210	Slight.
		iS	08 45				
		iSS	11 10				
		L	11 55				
		M	14 25				
		ScS	14 30				
		F	04 19 --				
20	N	iP	19 27 07			4890	Very great. First movement south.
		iPP	28 35				Epicentre in Japan.
		iPPP	29 25				
		iS	33 45				
		F	Lost.				
21	N	e	02 51 29				Slight, distant.
		e	58 33				
		F	Lost in microseisms.				
21	N	eP	10 28 17			6110	Moderate.
		iPP	30 23				
		iPPP	31 20				
		iS	36 04				
		iSS	39 57				
		iSSS	41 37				
		M	49 17				
		F	Lost in microseisms.				
21	N	eP	19 58 15			5865	Moderate.
		ePPP	20 01 09				
		iS	05 48				
		iPS	06 23				
		M	19 06				
		F	Lost in microseisms.				
21	N	eP(?)	22 01 22				Moderate.
		iS	02 36				
		iS*	02 59				
		iS	03 16				
		F	Lost in microseisms.				
22	N	e	13 27 43				Slight, distant.
		e	35 07				
		i	36 39				
		Mn	43 49				
		F	Lost in microseisms.				
24	N	e	04 09 22				Tremor.
		i	18 57				
		F	Lost in microseisms.				
24	N	e	09 48 32				Slight, distant.
		e	10 00 18				
		F	Lost in microseisms.				
24	N	e	16 54 35				Slight, distant.
		Mn	17 17 25				
		F	Lost in microseisms.				

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ALIPORE OBSERVATORY, CALCUTTA.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
<u>Dec. 1946.</u>							
<u>DECEMBER 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
26	N	e	08 17 25				Tremor.
		Mn	36 28				
		F	Lost in microseisms.				
26	N	e(P)	17 00 23				Slight, distant.
		iS?	05 35				Probable time
		Mn	23 33				correction - 3
		F	Lost in microseisms.				minutes.
28	N	e	10 19 05				Slight, distant.
		e	26 29				
		Mn	46 29				
		F	11 42 --				
29	N	e	04 30 51				Slight, distant.
		Mn	48 09				
		F	05 07 --				
29	N	e	14 47 28				Tremor.
		Mn	51 30				
		F	15 01 --				
29	N	e	16 22 50				Tremor.
		F	42 --				

METEOROLOGICAL OFFICE,)
 ALIPORE, CALCUTTA.)

S. MULL,
 Director.

COLOMBO OBSERVATORY, CEYLON.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>Oct. 1946.</u>							
<u>OCTOBER 1946.</u>							
			h. m. s.	Sec.	mm.	Km.	
Oct. 2	E	e L M F	05 04 50 25 20 32 05 06 20 --		0.5		
2	E	P L M F	06 55 15 07 19 50 23 40 59 --		0.2		
14	E	L M F	05 42 30 51 20 06 16 --		0.3		
22	E	P SKS(?) M F	10 12 54 23 05 24 58 11 10 --		0.7		
30	E	SKS L M F	08 12 11 43 50 53 00 09 35 --		0.3		
<u>NOVEMBER 1946.</u>							
Nov. 1	E	eP S(?) L M F	11 35 30 50 14 12 10 21 13 21 55 --		1.0		Time approximate.
2	E	P S M F	14 12 25 19 21 34 36 50 --		0.3		
2	E	P S L M F	18 36 29 42 07 44 -- 51 -- 21 03 --		40.0		Trace faint at M. Probable time correction - 1 minute.
4	E	P(?) F	21 55 30 23 45 --				Time approximate.
10	E	L M F	01 04 38 05 08 25 --		0.5		
10	E	P' ₁ L M F	18 02 57 43 53 19 09 50 20 00 --		0.6		
12	E	P' ₁ S L M F	17 46 45 18 02 30 22 19 31 34 20 10 --		0.4		

COLOMBO OBSERVATORY, CEYLON.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.	
<u>Nov. 1946.</u>								
<u>NOVEMBER 1946.</u>								
			h. m. s.	Sec.	mm.	Km.		
17	E	P	02 58 02					
		S(?)	03 06 06					
		F	20 --					
17	E	P	22 29 15					
		S	33 36					
		L	37 20					
		M	39 22		3.6			
		F	24 00 --					
18	E	eP	13 32 28					
		S(?)	39 12					
		L	42 50					
		M	46 50		0.5			
		F	15 05 --					
21	E	eP	03 26 --					
		L	56 16					
		M	04 02 11		0.5			
		F	59 --					
22	E	P	18 15 23					
		S	19 58					
		L	21 47					
		M	23 29		0.5			
		F	19 30 --					
28	E	S(?)	16 15 32					
		M	20 38		0.5			
		F	56 --					
<u>DECEMBER 1946.</u>								
Dec.4	E	P	22 54 39					
		S	23 04 33					
		L	13 13					
		M	14 36		2.2			
		F	24 35 --					
5	E	P	06 55 23					
		S	07 04 09					
		L	17 36					
		M	21 04		0.2			
		F	58 --					
5	E	P	08 44 29					
		S	46 43					
		L	49 52					
		M	50 09		0.5			
		F	09 20 --					
19	E	P	Lost while changing chart.					
		L	01 12 20					
		M	15 54		0.5			
		F	02 03 --					

COLOMBO OBSERVATORY, CEYLON.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
			<u>DECEMBER 1946.</u>				
			h. m. s.	Sec.	mm.	Km.	
19	E	P	03 05 25				
		S	11 57				
		L	25 09				
		M	26 49		0.5		
		F	04 20 --				
20	E	P	19 29 01				
		S	37 30				Time approximate.
		L	49 --				
		M	56 --		108.0		
		F	Lost.				
21	E	P	10 29 50				
		S	39 03				
		L	11 04 39				
		M	14 03		1.7		Several maxima occur.
		F	13 57 --				
21	E	P	19 59 36				
		S	20 08 55				
		L	21 04 52				
		M	07 10		0.5		
		F	45 --				
21	E	P	22 04 01				
		L	09 09				
		M	09 23		1.2		
		F	23 15 --				

COLOMBO OBSERVATORY,)
CEYLON.)

D. T. E. DASSANAYAKE,
Superintendent.

HAIG OBSERVATORY, SURVEY OF INDIA, DEHRA DUN.

DATE. COMPT. PHASE. G. M. T. PER. AMP. Δ REMARKS.

Oct.
1946.

OCTOBER 1946.

h. m. s. Sec. On trace Km.
in inches

No shocks were recorded during the month.

NOVEMBER 1946.

Nov.1	N	e	11 27 04				
		e	40 12				
		e	54 34				
		M ₁	55 34	24	0.04		
		M ₂	59 40	18	0.05		
		F	12 41 --				
6	N	eP	19 56 32			322	
		eS	57 05				
		eL	57 38				
		M ₁	58 28	14	0.15		
		F	20 24 --				
20	N	e	02 56 44				
		F	57 --				

DECEMBER 1946.

Dec.20	N	eP	19 29 28			5474	Destructive in Japan.
		eS	36 42				
		eL'	43 54				
		M ₁	52 04	6	1.50*		*Hitting stops.
		F	22 26 --				
21	N	e	10 33 46				
		e	42 53				
		e	51 54				
		M ₁	53 26	17	0.05		
		M ₂	05 24	20	0.04		
		F	11 56 --				
21	N	e	20 05 57				
		e	15 09				
		e	26 52				
		M ₁	27 54	17	0.02		
		F	Mixed with the following shock.				
21	N	Beginning mixed with the preceeding shock.					
		M ₁	20 55 49	25	0.01		
		M ₂	59 44	18	0.01		
		F	21 12 --				
21	N	e	22 05 54				
		e	08 55				
		M ₁	12 04	15	0.01		
		M ₂	13 24	18	0.01		
		F	26 --				

DEHRA DUN.

COL. J. B. P. ANGWIN,
Director,
War Research, Survey of India.

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NIZAMIAH OBSERVATORY, HYDERABAD, DECCAN.

 DATE. COMPT. PHASE. G. M. T. PER. AMP. Δ REMARKS.

Oct.
1946.
OCTOBER 1946.

			h. m. s.	Sec.	μ	Km.
Oct. 2	N	e	04 56 19			7600
		p	57 22			
		S	05 06 24			
		M	27 20	16	6	
2	N	P	06 54 34			
		S(?)	07 04 29			
		PS	04 47			
		L	19 17			
		M	26 57	18	5	
7	N	M	07 19 16	20	5	
8	N	P	06 35 13			
		S	38 52			
		M	44 42	8	2	
10	N	M	04 45 02	8	2	
14	N	N	05 50 42	15	2	
22	N	SKS	10 23 29			
		M	34 57	12	2	
26	N	SKS	00 50 42			
		M	01 16 57	20	5	
30	N	P	08 00 37			9890
		PP	04 12			
		SKS	11 06			
		S	11 28			
		SS	17 42			
		L	32 13			
		M	37 15	16	11	
30	N	M	14 59 31	15	4	

NOVEMBER 1946.

Nov. 1	N	P	11 27 09			9560
		PP	30 28			
		SKS	37 31			
		S	37 46			
		SS	43 44			
		L	54 34			
		M	12 00 27	19	28	
		F	14 24 --			
2	N	eP	14 12 43			5260
		PP	14 37			
		S	19 36			
		PS	19 44			
		SS	22 28			
		L	26 28			
		M	31 37	15	4	

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NIZAMIAH OBSERVATORY, HYDERABAD,
DECCAN.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
			<u>NOVEMBER 1946.</u>				
<u>Nov.</u> <u>1946.</u>			h. m. s.	Sec.	μ	Km.	
2	N	P	18 33 55			2670	
		PP	34 26				
		PcP	37 34				
		S	38 07				
		M	43 33	5	304		
3	N	S	01 59 10				
		M	02 04 41	9	2		
3	N	M	07 18 04	10	2		
3	N	P	13 39 34			2790	
		eS	43 55				
		M	49 34	3	5		
3	N	PP	19 50 32				
		SKS	57 14				
		S	58 35				
		M	20 25 08	15	3		
4	N	P	10 28 18			2850	
		S	32 43				
		L	35 44				
		M	38 00	8	4		
4	N	P	21 53 57			3340	
		PP	55 11				
		PcP	57 35				
		S	58 54				
		SS	22 00 34				
		ScS	04 25				
		M	05 29	8	41		
5	N	M	00 49 39	17	4		
6	N	eP	17 02 45				
		M	12 58	8	2		
6	N	P	20 00 15			2130	
		PP	00 24				
		S	03 42				
		SS	04 02				
		L	05 36				
		M	06 49	9	74		
7	N	P	15 59 26			2960	
		S	16 03 59				
		M	09 12	12	11		
10	N	P	00 51 44			2690	
		S	55 58				
		M	01 01 21	9	8		
10	N	eP	08 57 30			2910	
		eS	09 02 00				
		M	07 14	10	3		

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NIZAMIAH OBSERVATORY, HYDERABAD, DECCAN.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.	
<u>Nov.</u> <u>1946.</u>			<u>NOVEMBER 1946.</u>					
			h. m. s.	Sec.	μ	Km.		
10	N	P'	18 02 52			17220		
		P' ₂	03 21					
		PKS	06 13					
		PP	06 52					
		SKSP	16 59					
		SS	26 44					
		M	56 29	20	16			
12	N	eP	06 09 26			10330		
		SKS	20 02					
		S	20 36					
		M	49 20	18	5			
12	N	eP	17 44 39			12110		
		P'	48 09					
		SKS	55 03					
		SKKS	55 50					
		PS	57 48					
		SS	18 03 30					
		L	21 43					
		M	30 00	23	13			
17	N	P	02 58 33					
		(ScS)	03 08 13					
		M	12 47	12	2			
17	N	eS	13 55 54					
		M	14 00 49	9	3			
17	N	P	22 29 03			2530		
		PP	29 20					
		S	33 04					
		SS	33 54					
		L	35 16					
		M	23 37 04	11	21			
18	N	P	13 33 47			6140		
		S	41 31					
		M	53 37	18	10			
18	N	P	13 42 06			3010		
		S	46 43	15				
18	N	M	14 05 28	15	9			
18	N	P	14 04 13			3010		
		S	08 50					
		M	15 52	15	5			
18	N	M	23 08 11	8	4			
19	N	eP	11 15 30			2150		
		eS	19 00					
		M	21 59	7	6			
20	N	M	02 18 54	9	2			
21	N	M	04 03 18	20	9			

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NIZAMIAH OBSERVATORY, HYDERABAD, DECCAN.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>Nov. 1946.</u>							
<u>NOVEMBER 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
22	N	P	16 21 44			2880	
		eS	26 11				
		SS	26 59				
		M	31 35	12	2		
23	N	M	20 42 01	15	3		
28	N	eP	16 10 14			3300	
		eS	15 09				
		M	20 50	10	2		
30	N	(PP)	11 54 24				
		S	58 22				
		M	12 06 02	10	2		
<u>DECEMBER 1946.</u>							
Dec.4	N	eP	21 44 10			3360	
		PP	45 09				
		S	49 09				
		L	53 01				
		M	55 17	8	3		
4	N	eP	22 54 27			4390	
		S	23 00 29				
		SS	03 39				
		M	11 06	11	13		
5	N	P	08 44 48			1540	
		S	47 21				
		M	49 16	8	3		
6	N	P	07 07 55			100	
		S	08 06				
8	N	M	22 13 02	9	2		
9	N	P	05 24 47			2960	
		S	29 20				
		M	34 33	11	3		
9	N	S	12 40 39				
		M	42 35	12	4		
13	N	eP	20 21 03			2310	
		S	24 47				
		M	29 01	7	2		
15	N	M	07 44 06	11	3		
16	N	eP	16 52 23				
		M	17 03 06	11	3		
19	N	P	00 53 25			6140	
		PP	55 28				
		S	01 01 09				
		M	16 56	18	5		

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NIZAMIAH OBSERVATORY, HYDERABAD, DECCAN.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.	
<u>Dec.</u> <u>1946.</u>			<u>DECEMBER 1946.</u>					
			h. m. s.	Sec.	μ	Km.		
19	N	P	03 05 03			4570		
		S(?)	11 16					
		?	14 42					
		M	24 29	10	4			
20	N	M	00 37 34	8	2			
20	N	P	19 28 30			6030		
		S	36 08					
		ScS	37 55					
		SS	40 07					
		L	46 00					
		M	48 34	11	459			
21	N	F	00 42 --					
21	N	eP	03 49 52			7090		
		eS	58 27					
		PS	58 36					
		M	04 15 37	12	3			
21	N	P	10 29 19					
		PcP	29 35					
		PP	31 37					
		S	38 04					
		ScS	39 02					
		SS	42 18					
		M	54 35	12	12			
21	N	P	12 49 59			7090		
		S	58 34					
		M	13 15 58	14	4			
21	N	P	19 59 18			7020		
		S	20 07 50					
		M	24 44	15	7			
21	N	M	20 56 04	12	5			
21	N	P	22 03 32			2090		
		S	06 55					
		M	09 27	12	25			
22	N	eP	13 29 48			4760		
		S	36 12					
		M	46 34	11	4			
24	N	S	04 20 24					
		M	38 39	14	3			
24	N	M	10 04 41	15	5			
24	N	(S)	16 56 39					
		M	17 17 48	15	4			
25	N	P	11 25 34			9530		
		SKS	35 54					
		S	36 10					
		M	12 05 37	15	3			

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NIZAMIAH OBSERVATORY, HYDERABAD, DECCAN.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>Dec. 1946.</u>							
<u>DECEMBER 1946.</u>							
			h. m. s.	Sec.	μ		Km.
26	N	eP	08 11 38				7970
		eS	20 59				
		M	39 51	11	2		
26	N	P	16 59 14				5340
		S	17 06 12				
		ScS	08 58				
		M	17 51	20	7		
28	N	eP	10 19 38				7460
		PP	22 18				
		S	28 33				
		M	46 44	14	4		
29	N	P	16 19 26				2350
		S	23 14				
		L	25 20				
		M	27 16	8	3		

 NIZAMIAH OBSERVATORY,
 HYDERABAD, DECCAN.

)
)
)
 AKBAR ALI,
 Curator.

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KODAIKANAL OBSERVATORY, KODAIKANAL.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>Oct. 1946.</u>			<u>OCTOBER 1946.</u>				
			h. m. s.	Sec.	μ	Km.	
Oct.2	E	e	04 56 50				Moderate, distant.
		e	05 07 05				
		L	23 43				
		M	30 08	21	18		
		F	06 20 --				
2	E	eP	06 55 07				
		e	07 05 22				
		L	22 00				
		M	28 25	17	8		
		F	08 15 --				
3	E	e	16 00 15				
		F	17 03 --				
4	E	e	14 58 12				
		F	16 44 --				
7	E	e	07 02 33				
		F	46 --				
14	E	e	05 03 28				
		F	06 27 --				
22	E	iP	10 13 09			9860	Moderate, distant.
		PP	16 39				
		iS	23 59				
		PS	24 59				
		SS	29 49				
		L	43 44				
		M	50 56	20	8		
		F	57 --				
30	E	SKS	08 11 58			8555	Moderate, distant.
		PS?	14 48				
		e	21 48				
		L	37 33				
		M	43 55	18	18		
		F	10 27 --				
			<u>NOVEMBER 1946.</u>				
Nov.1	E	eP	11 27 37			10090	Moderate.
		PP	31 27				
		SKKS	38 15				
		eS	38 37				
		PS	40 00				
		SS	45 15				
		L	12 00 15				
		M	07 25	20	50		
		F	Ending lost.	Light failed.			
3	E	e	13 46 42				Slight.
		F	14 01 52				
3	E	e	19 45 20				
		F	21 20 --				
4	E	e(SS)	10 35 14				
		F	49 --				

KODAIKANAL OBSERVATORY, KODAIKANAL.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	Δ	REMARKS.
<u>Nov. 1946.</u>							
<u>NOVEMBER 1946.</u>							
			h. m. s.	Sec.	μ	Km.	
4	E	iP	21 54 46			3920	Moderate.
		PP	56 06				
		iS	22 00 17				
		SS	02 44				
		L	05 31				
		M	08 41	12	80		
		F	24 21 --				
6	E	iP	20 01 55			2645	Moderate.
		iS	06 05				
		L	08 35				
		M	11 00	12	44		
		F	21 16 --				
7	E	e	16 03 20				Tremor.
		F	28 --				
10	E	e	00 57 50				Tremor.
		F	01 33 --				
10	E	P'	18 02 32				Very distant.
		PP?	06 27				
		?	17 28				
		L	47 27				
		M	54 22				
		F	20 24 --				
12	E	e	06 49 27				Slight.
		F	07 18 --				
12	E	e	17 45 58				Tremor; ending lost. Clock stopped.
17	E	e	02 58 23				Slight.
		e	03 01 43				
		F	29 --				
17	E	e	14 57 23				Tremor.
		F	15 23 --				
17	E	P	22 28 48			2445	Moderate.
		S	32 42				
		L	34 54				
		M	36 50	10	42		
		F	00 08 --				
18	E	e	14 40 05				Feeble. Phases not clear.
		F	17 20 --				
19	E	e	10 06 24				Tremor.
		F	36 --				
20	E	e	01 13 04				Tremor.
		F	02 10 --				
21	E	e	04 39 17				Tremor.
		F	05 04 --				
22	E	e	16 15 56				
		F	17 06 --				
28	E	e	16 08 35				
		F	17 08 --				

KODAIKANAL OBSERVATORY, KODAIKANAL.

DATE.	COMPT.	PHASE.	G. M. T.	PER.	AMP.	△	REMARKS.
			DECEMBER 1946.				
			h. m. s.	Sec.	μ	Km.	
Dec. 4	E	e	21 51 01				
		F	22 10 --				
4	E	iP	22 54 56			5545	Moderate.
		PP	56 36				
		eS	23 02 06				
		L	11 06				
		M	15 26	15	49		
		F	24 54 --				
19	E	iP	03 05 33			5210	Slight.
		PP	07 13				
		iS	12 03				
		SS	15 53				
		M	25 03	20	18		
		F	04 18 --				
21	E	eP	10 29 40			8020	Moderate. Phases not clear.
		eS	39 05				
		M	11 02 20	18	45		
		F	-- --				
21	E	iP	19 59 40			8020	Slight.
		eS	20 09 05				
		M	56 30	20	40		
		F	21 58 --				
21	E	iP	22 04 33				
		eP	08 39	10	11		
		SS	09 19				
		M	10 13				
		F	23 09 --				
22	E	e	12 28 20				Lines wandering.
		F	13 18 --				Times not certain.
24	E	e	04 12 12				Slight.
		F	05 35 --				
24	E	e	09 46 24				Slight.
		F	10 35 --				
26	E	iP	16 58 21			4945	Slight.
		PP	17 00 01				
		eS	04 56				
		SS	08 21				
		M	14 36	20	15		
		F	18 19 --				

KODAIKANAL OBSERVATORY,)
KODAIKANAL.)

A. K. DAS,
Director.

The following table contains a list of earthquakes reported by voluntary observers from various stations.

Place at which felt.	Date.	G.M.T. of earthquake.			Intensity Rossi-Forel Scale.	Number of shocks.	Remarks.
		Hr.	Min.	Secs.			
Peshawar	2-11-46	18	40	5	4	1	
Srinagar	2-11-46	20	15	3	6	3	
Port Blair	5-11-46	08	45	3	5	2	
Yatung (Tibet)	22-11-46	00	30	3	4	1	Followed by several tremors.
Gauhati	22-11-46	01	30	5	4	1	
Gauhati	25-11-46	19	40	7	4	2	
Yatung (Tibet)	30-11-46	03	02	3	4	1	Followed by several tremors.
Daltonganj	6-12-46	05	10	2-3	3	1	
Pasni	10-12-46	07	15	1½	5	2	
Yatung (Tibet)	12-12-46	05	21	2	4	2	
Rangpur	21-12-46	21	21	3	3	2	
Yatung (Tibet)	24-12-46	23	35	3	4	2	Followed by several tremors.
Peshawar	26-12-46	07	15	1	4	1	
Peshawar	26-12-46	07	50	3	4	3	

C. G. PENDSE,
Seismological Officer, Poona.

