

GOVERNMENT OF INDIA

METEOROLOGICAL DEPARTMENT

SEISMOLOGICAL BULLETIN

December, 1950.

Published under the direction of
V. V. Sohoni, B.A.(Hons.), M.Sc.,
Director General of Observatories.

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 were being published in the form of the Quarterly Seismological Bulletin. From the month of January 1948, the data are being published in the present form of a Monthly Seismological Bulletin. With the kind co-operation of the Surveyor-General of India, the Director of the Nizamiah Observatory, Hyderabad and of the Director, Colombo Observatory, it has been possible to incorporate in the Bulletin the seismic data of their respective observatories viz. Dehra Dun, Hyderabad, and Colombo. The instrumental and non-instrumental voluntary observations are collected and edited at the Meteorological Office, Poona.

TABLE I.

List of Seismograph Stations.

| Station | Latitude | Longitude | Height above M.S.L 'meters' | Lithologic Foundation | Officer-incharge Observatory. |
|------------|----------|-----------|--------------------------------------|--------------------------|---|
| Bombay | 18°54'N | 72°49'E | 6 | Deccan Trap | Director. |
| Calcutta | 22°32'N | 88°22'E | (i)7 (ii)6 | Alluvium | Director. |
| Colombo | 06°54'N | 79°52'N | 7 | Beach sand | Director. |
| Dehra Dun | 30°19'N | 78°03'E | 682 | Gravel | President. |
| Hyderabad | 17°26'N | 78°27'E | 528 | Granite | Director. |
| Kodaikanal | 10°14'N | 77°28'E | 2343 | Rock | Director. |
| New Delhi | 28°35'N | 77°12'E | 207 | Massive Quartzite | Dy. Director General of Observatories (I & S) |
| Poona | 18°32'N | 73°51'E | 560 | Deccan Trap | Dy. Director General of Observatories (C & G). |

(i) Milne-Shaw

(ii) Omori-Ewing.

TABLE II.
Instruments and their constants.

| Station | Instrument | Compt. | Period in secs. | Static Magnification | Damping Ratio | Paper Speed mm/min. |
|------------|---------------|--------|--------------------------|----------------------|---|------------------------|
| Bombay | Milne-Shaw | N | 12 | 250 | 24:1 from 8.0 1st 22nd 15:1 from 23rd to 31st. | |
| Calcutta | Milne-Shaw | E | 12 | 350 | 33:1 | 8.0 |
| | Milne-Shaw | E | 12 | 250 | 350 20:1 | 8.0 |
| | Omori-Ewing | N | 22 | 32 | - | 25.4 |
| | Omori-Ewing | E | 24 | 30 | - | 25.4 |
| Colombo | Wood-Anderson | N | 2 | 870 | critical | 30.0 |
| | Milne-Shaw | E | 12 | 250 | 20:1 | 8.0 |
| | Omori | N | 30 | 12 | - | - |
| Dehra Dun | Omori | N | 30 | 12 | - | - |
| | Milne-Shaw | E | 12 | 242 | 20:1 | |
| Hyderabad | Milne-Shaw | N | 12 | 268 | 20:1 | 8.0 |
| | Milne-Shaw | E | 12 | 250 | 20:1 | 8.0 |
| Kodaikanal | Milne-Shaw | E | 10 | 250 | 20:1 | 8.0 |
| | Milne-Shaw | N | 12 | 299 | 20:1 | 8.0 |
| New Delhi | Wood-Anderson | N | 4 | 1000 | 20:1 | 16.0 |
| | Wood-Anderson | E | 2 | 1700 | 30:1 | 60.0 |
| | Omori-Ewing | E | 30 | 32 | 1 | 12.0 |
| | Benioff | Z | To=1 secs. Tg=0.28 secs. | | critical | 60.0 |
| Poona | Milne-Shaw | N | 12 | 250 | 20:1 | 8.0 |
| | Milne-Shaw | E | 12 | 1000 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|------------|---|--------|-------------------|---|----------|--------------------------------|
| | | | | h. m. s. | Km. | |
| Dec. 1950. | | | | | | |
| 1 | Epicentre:- 14°0N, 46°0W (Mid Atlantic Ocean about 800 miles of North-East coast of Brazil) | | | | | |
| | | | | 0 = 14h. 51m. 00s. (U.S.C.G.S.) h = about 100 kms. | | |
| | Poona | E | ePKP ₁ | 15 09 25 | 12450 | Moderate. |
| | | | PP | 15 10 08 | | |
| | | | PPP | 15 12 26 | | |
| | | | PKS ₁ | 15 13 05 | | |
| | | | SKS | 15 16 05 | | |
| | | | SKS ₁ | 15 16 43 | | |
| | | | SKKKS | 15 17 05 | | |
| | | | PS | 15 19 26 | | |
| | | | PPS | 15 20 46 | | |
| | | | SS | 15 25 39 | | |
| | | | SSS | 15 29 18 | | |
| | | | L _Q | 15 34 27 | | |
| | | N | M | 15 53 50 | | Per. = 19 secs. $\mu = 7.$ |
| | Calcutta | E | ePKP ₁ | 15 09 39 | 14000 | Moderate |
| | | | PP | 15 11 32 | | |
| | | | PKS ₁ | 15 13 21 | | |
| | | | PPP | 15 14 19 | | |
| | | | SKS ₁ | 15 16 42 | | |
| | | | SKS ₂ | 15 16 55 | | |
| | | | SKKS ₁ | 15 18 31 | | |
| | | | SKKKS | 15 18 44 | | |
| | | | PKKP ₂ | 15 19 31 | | |
| | | | PS | 15 21 35 | | |
| | | | PKKS ₁ | 15 23 35 | | |
| | | | SKKS ₁ | 15 26 49 | | |
| | | | SKKS ₂ | 15 27 08 | | |
| | | | SS | 15 28 29 | | |
| | | | SSP | 15 28 43 | | |
| | | | SKKKS SKKKS | 15 29 46 | | |
| | | | SSS | 15 32 55 | | |
| | | | L _R | 15 49 27 | | |
| | | | M | 15 58 27 | | |
| | | Mn | Mn | 16 05 48 | | Per. = 18 secs. $\mu = 40$ |
| | New Delhi | N | ePP | 15 10 12 | 12340 | Moderate. |
| | | | iSKS ₁ | 15 16 13 | | |
| | | | SKS ₂ | 15 16 32 | | |
| | | | SKKS ₁ | 15 17 12 | | |
| | | | i | 15 17 55 | | |
| | | | iPS | 15 19 43 | | |
| | | | PPS | 15 20 51 | | |
| | | | PKKS ₁ | 15 24 07 | | |
| | | | SS | 15 25 43 | | |
| | | | SSP | 15 26 01 | | |
| | | | SSS | 15 30 05 | | |
| | | | M | 15 51 10 | | |
| | | | Mn | 16 02 00 | | Per. = 19 secs. $\mu = 22.$ |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. | |
|------------|---|--------|-------------------|----------|----------|-----------------------------------|--|
| | | | | h. m. s. | Km | | |
| Dec. 1950. | | | | | | | |
| 1 (cont.) | | | | | | | |
| | Bombay | N,E | ePP | 15 10 22 | 12335 | Moderate Δ from Ps - PP | |
| | | | ePPP | 15 12 50 | | | |
| | | | SKS ₁ | 15 16 18 | | | |
| | | N | SKKS ₁ | 15 17 17 | | | |
| | | E | SKKS ₁ | 15 17 25 | | | |
| | n | N,E | PS | 15 17 55 | | | |
| | | | SS | 15 25 35 | | | |
| | | N | SSS | 15 29 47 | | | |
| | | E | LQ | 15 36 42 | | | |
| | | N | LQ | 15 36 53 | | | |
| | | E | M | 15 58 06 | | Per. = 17 secs. μ = 14 | |
| | | N | M | 16 07 38 | | Per. = 17 secs. μ = 07 | |
| | Hyderabad | N | e | 15 10 51 | | Per. = 14 secs. μ = 11 | |
| | | | e | 15 18 48 | | | |
| | | | M | 15 49 00 | | | |
| | Colombo | E | eP | 15 15 21 | | Amp. = .8 mm | |
| | | | S | 15 28 43 | | | |
| | | | L | 15 50 - | | | |
| | | | M | 16 03 01 | | | |
| | Kodaikanal: Earthquake of moderate intensity and at probably great distance recorded. Times of phases not known as clock stopped and no time marks recorded | | | | | | |
| 21 | Poona | Z | iP | 17 27 59 | | Slight, very near. | |
| | | E | i | 17 29 57 | | | |
| | | | e | 17 34 48 | | | |
| | Kodaikanal: Earthquake of slight intensity and at probably short distance recorded. Times of phases not known as clock stopped and no time marks recorded. | | | | | | |
| 2 | New Delhi | N | eP | 04 37 53 | 100 | Slight. | |
| | | E | e | 04 37 57 | | | |
| | | N,E | iS | 04 38 07 | | | |
| 2 | Epc: -8°0S, 71½° W (Western Brazil) h = 650 km. 0 = 15h. 19m. 20s. (U.S.C.G.S.) | | | | | | |
| | Poona | Z | PKP ₁ | 15 37 47 | 16100 | Moderate deep. | |
| | | E | e | 15 40 15 | | | |
| | | | e | 15 40 32 | | | |
| | | | i | 15 41 15 | | | |
| | | | i | 15 46 53 | | | |
| | | | e | 15 47 27 | | | |
| | | | P(?) | 15 37 49 | | | |
| | | | i | 15 37 58 | | | |
| N | New Delhi | N,E | | | | | Slight. Probably distant P time may be earlier up to 4 secs. |
| | Calcutta | E | ePKP ₁ | 15 40 21 | 17400 | | |
| | | | PKP ₂ | 15 40 55 | | Moderate. | |
| | | | PKS ₁ | 15 43 47 | | | |
| | | | PP | 15 44 28 | | | |
| | | | SKS ₂ | 15 47 15 | | | |
| | | | PPP | 15 48 04 | | | |
| | | | SKKS ₁ | 15 51 04 | | | |
| | | | PPS | 15 57 28 | | | |
| | | | SS | 16 04 14 | | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|---------------|---|--------|--------------------|----------------------------------|----------|--|
| | | | | h. m. s. | Km. | |
| Dec. 1950. | | | | | | |
| 2 (cont.) | Hyderabad | E | P | 15 40 25 | 5350 | |
| | | | S | 15 47 24 | | |
| | | | M | 15 59 49 | | Per. = 10 secs. $\mu = 02.$ |
| | Kodaikanal | E | eP | 15 40 28 | Slight. | Fairly distant, phases not clear. |
| 2 | Epicentre:- 18°0S, 167°E New Hebrides Islands Region. | | | | | |
| | | | | 0 = 19h. 51m. 43s. (U.S.C.G.S.). | | |
| | | | | 0 = 19h. 51m. 43s. (Poona). | | 15 |
| | Calcutta | E | iP | 20 04 32 | 9780 | Moderate. |
| | | | iPP | 20 08 01 | | |
| | | | PPP | 20 09 45 | | |
| | | | SKS ₁ | 20 14 49 | | |
| | | | SKS ₂ | 20 14 57 | | |
| | | | S | 20 15 16 | | |
| | | | PS | 20 16 08 | | |
| | | | PPS | 20 16 34 | | |
| | | | SS | 20 21 10 | | |
| | | | SSS | 20 24 09 | | |
| | | | SPKKS ₁ | 20 25 41 | | |
| | | | SKKS ₂ | 20 25 25 | | |
| | | | Mn | 20 47 32 | | Per. = 16 secs. $\mu = 81.$ |
| | Colombo | E | P | 20 04 49 | | |
| | | | S | 20 15 19 | | |
| | | | L | 20 42 09 | | |
| | | | M | 20 46 54 | | |
| | Kodaikanal | E | iP | 20 04 55 | 10590 | Amp. = 6.1 mm. Moderate. |
| | | | PP | 20 08 27 | | Initial movement of P towards west |
| | | | PPP | 20 10 21 | | |
| | | | iS | 20 16 09 | | |
| | | | PS | 20 17 32 | | |
| | | | PPS | 20 17 59 | | |
| | | | SSP | 20 22 41 | | |
| | | | SSS | 20 26 09 | | |
| | | | L _Q | 20 30 39 | | |
| | | | L _R | 20 35 09 | | |
| | | | M | 20 42 44 | | Per. = 25 secs, $\mu = 119$ |
| | Hyderabad | E | iP | 20 05 07 | 10380 | |
| | | | PP | 20 09 36 | | |
| | | | SKS | 20 15 31 | | |
| | | | iS | 20 16 14 | | |
| | | | PS | 20 18 28 | | |
| | | N | SS | 20 22 08 | | |
| | | E | L | 20 36 43 | | |
| | | | M | 20 44 46 | | Per. = 18 secs. $\mu = 29$ |
| | | N | M | 20 45 56 | | Per. = 18 secs. $\mu = 43.$ |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|------------|-------------------------|---|---|--|----------|---|
| | | | | h. m. s. | Km. | |
| Dec. 1950. | | | | | | |
| 2 (cont.) | Poona | Z N,E | iP PP PPP SKS ₁ SKS ₂ iS PS PPS PKKP ₂ SS PKKS ₁ SSS | 20 05 27 20 09 16 20 11 18 20 16 08 20 16 24 20 16 55 20 18 29 20 19 07 20 21 59 20 23 13 20 25 08 20 27 32 | 11000 | Great. |
| | | N | LQ LR M Mn | 20 32 26 20 36 52 20 46 07 21 02 -- | | Per. = 16 secs. $\mu = 33$ mm |
| | New Delhi | N | eP i PP PPP iSKS iS iPS iPS i i SS i i | 20 05 29 20 06 02 20 09 10 20 11 05 20 16 08 20 16 32 20 17 39 20 17 39 20 19 13 20 19 57 20 23 03 20 24 09 20 33 33 | 10290 | Moderate. |
| | Bombay | N,E E N N,E E N E N N,E | eP iPP ePP iSKS ₁ iS eS iPS iPS SS LQ LR M M | 20 05 32 20 09 10 20 16 23 20 16 45 20 19 12 20 19 15 20 24 35 20 32 46 20 37 58 20 57 13 21 08 37 | 10410 | Moderate. Per. = 17 secs. $\mu = 47$. Per. = 17 secs. $\mu = 27$. |
| 3 | Epicentre:- Calcutta | 28°5N, 94°5E. E | eP iS Mn | 06 29 06 06 30 44 06 33 21 | 1067 | Moderate |
| | New Delhi | N,E | iP PP PPP LQ iS SS SSS LR M | 06 30 40 06 30 53 06 30 59 06 33 25 06 33 29 06 33 46 06 33 57 06 34 18 06 35 37 | 1680 | Slight.Direction of first motion west |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|---------------|------------|---------------------------------------|--|--|----------|--|
| | | | | h. m. s. | Km. | |
| Dec. 1950. | | | | | | |
| 3 (cont.). | | | | | | |
| | Hyderabad | E,N | iP iS L M | 06 31 25 06 34 59 06 37 02 06 39 22 | 2160 | |
| | Poona | Z z E | iP PP PPP iS LQ SS SSS LR | 06 31 55 06 32 18 06 32 28 06 35 50 06 36 02 06 36 29 06 36 45 06 37 07 | 2390 | Per. 9 secs. $\mu = 7$. Moderate. |
| | | E | M Mn | 06 38 32 06 38 57 | | Per. 6 secs. $\mu = 23$ |
| | Bombay | N,E | ScP ScS iP iS | 06 39 22 06 43 02 06 32 06 06 36 14 | 2620 | Moderate. |
| | | N | M | 06 39 30 | | Per. = 9 secs. $\mu = 21$. |
| | | E | M | 06 39 51 | | Per. = 7 secs. $\mu = 8$. |
| | Kodaikanal | E | iP iS LQ LR M | 06 32 24 06 36 44 06 37 37 06 38 52 06 41 00 | 2780 | Slight, near. |
| | | | | | | Per. = sec 14 sec $\mu = 4$. |
| 3 | Bombay | N,E | e e | 08 05 -- 08 12 06 | | Feeble. |
| | Kodaikanal | E | e | 08 14 30 08 11 27 | | Slight, distant. Phases not clear. |
| 3 | New Delhi | O = 18h. 26m. 12s. (Poona.) N,E eP | | 18 28 19 | 930 | Slight. |
| | | | P* | 18 28 38 | | |
| | | | iS | 18 29 55 | | |
| | Bombay | N,E | SS eP | 18 30 06 18 30 09 | 2045 | Slight. |
| | | | iS | 18 33 28 | | |
| | | N) | iSSS) | 18 34 04 | | |
| | | E) | eSSS) | | | |
| | Poona | Z | iP | 18 30 14 | 1910 | Slight. |
| | | E | PPP | 18 30 35 | | |
| | | Z,E | iS | 18 33 25 | | |
| | | E | SS | 18 33 37 | | |
| | | | SSS | 18 33 52 | | |
| | | | LR | 18 34 14 | | |
| | | | M | 18 35 22 | | |
| | | | Mn | 18 35 45 | | Per. = 4 secs. $\mu = 11$. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|----------------------|---|---------------|--|--|----------|--|
| <u>Dec.</u> 1950. | | | | h. m. s. | Kn. | |
| 3 (cont.) | Calcutta | E | eP PP PPP iS SS SSS LR PcP PcS ScS | 18 30 54 18 31 12 18 31 24 18 34 25 18 34 39 18 35 01 18 35 17 18 35 38 18 39 08 18 42 50 | 1980 | Slight. |
| | Hyderabad | N N,E E | P S M | 18 31 06 18 34 22 18 36 30 | 1960 | |
| | Kodaikanal | E | e? | 18 36 24 | | Per. = 6 secs. $\mu = 2$ Slight, near. Phases not clear. |
| 4 | Kodaikanal | E | eP? iS LR LR M | 07 52 01 08 01 59 08 12 47 08 16 27 08 22 51 | 8755 | Slight. Per. 15 secs. $\mu = 4$. Feeble. |
| | Bombay | E N,E | eP? iS | 07 54 -- 08 02 40 | | |
| | Hyderabad | N | M | 08 37 48 | | Per. = 15 secs. $\mu = 4$. |
| 4 | Calcutta | E | e e | 15 21 08 15 23 04 | | Slight, near. |
| 4 | Epicentre:- 5°08', 153°5E, (New Britain Region) | | | | | |
| | 0 = 16h. 28m. 01s. (U.S.C.G.S.) | | | | | |
| | 0 = 16h. 28m. 11s. (Poona) | | | | | |
| | Calcutta | E | iP iPP PP PPP PcS iS PS PPS isS SS SSS LQ PKKP1 P S L M | 16 39 06 16 39 34 16 41 35 16 43 17 16 43 29 16 48 13 16 48 33 16 48 41 16 49 03 16 52 50 16 55 41 16 56 57 16 58 35 16 39 36 16 49 04 17 05 04 17 08 24 | 7960 | Great. |
| | Celombo | E | | | | |
| | Kodaikanal | E | iP PcP PP PPP iS PS PPS | 16 39 53 16 40 15 16 42 43 16 43 31 16 49 34 16 50 10 16 50 24 | 8665 | Amp. = 1.9 mm. Moderate. Initial movement of 'P' towards east. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|------------|--------------------|--------|----------------|----------------------------|----------|---------------------------------|
| | | | | h. m. s. | Km. | |
| Dec. 1950. | | | | | | |
| 4 (cont.) | | | | | | |
| | Kodaikanal (cont). | E | SS | 16 54 24 | | |
| | | | L _Q | 16 50 44 | | |
| | | | L _R | 17 03 17 | | |
| | | | M | 17 09 39 | | Per. = 26 secs. $\mu = 51$. |
| | New Delhi | N,E | iP | 16 40 10 | 9000 | Moderate. |
| | | | PcP | 16 40 21 | | |
| | | | PPP | 16 44 37 | | |
| | | | iS | 16 50 06 | | |
| | | N | iSKS | 16 50 18 | | |
| | | | PS | 16 50 48 | | |
| | | | PPS | 16 51 05 | | |
| | | | SS | 16 55 13 | | |
| | | | SSS | 16 58 33 | | |
| | Hyderabad | N | iP | 16 40 14 | 8330 | |
| | | | iS | 16 49 39 | | |
| | | | L | 17 04 23 | | |
| | | | M | 17 10 05 | | Per. = 20 secs. $\mu = 18$. |
| | Poona | Z,E | iP | 16 40 17 | 9110 | Moderate. |
| | | E | pP | 16 40 39 | | |
| | | | sP | 16 40 51 | | |
| | | | PP | 16 43 28 | | |
| | | | PPP | 16 45 14 | | |
| | | N,E | N,E iS | 16 50 18 | | |
| | | E | sS | 16 51 01 | | |
| | | | PS | 16 51 26 | | |
| | | | PPS | 16 51 47 | | |
| | | | SS | 16 55 32 | | |
| | | | SSS | 16 59 08 | | |
| | | | L _Q | 17 02 27 | | |
| | | | L _R | 17 06 04 | | |
| | Bombay | E | iP | 16 40 25 | 8955 | Moderate. |
| | | N | eP | | | |
| | | N,E | PP | 16 43 37 | | |
| | | N | PPP | 16 45 25 | | |
| | | E | PPP | 16 45 31 | | |
| | | N,E | iS | 16 50 34 | | |
| | | | SS | 16 55 24 | | |
| | | N | LR | 17 05 25 | | |
| | | E | L _R | 17 05 35 | | |
| | | | M | 17 09 25 | | Per. = 34 secs. $\mu = 84$. |
| 4 | New Delhi | E | eP | 22 54 02 | 1650 | Slight. |
| | | | iS(?) | 22 56 49 | | |
| | Poona | Z | eP | 22 55 10 | | Feeble. |
| | | E | e | 23 01 51 | | |
| | Calcutta | E | e | 22 55 11 | | Slight.Near. |
| | Bombay | N | iS | 23 02 29 | | Feeble. |
| | | E | eS | | | |
| 5 | | | | 0 = 00h. 03m. 24s. (Poona) | | |
| | Kodaikanal | E | iP? | 00 12 48 | | Slight,distant. |
| | | | iS? | 00 20 04 | | Phases not very clear. |
| | Poona | Z | iP | 00 13 14 | 6525 | Slight. |
| | | Z | i | 00 18 20 | | |
| | | E | iS(?) | 00 21 18 | | |

| Date | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|-----------|---|-----------------------|--|--|----------|---|
| | | | | h. m. s. | Km. | |
| Dec. 1950 | | | | | | |
| 5 (cont.) | | | | | | |
| | New Delhi | N,E N | eP iS i ScS | 00 13 36 00 21 24 00 21 53 00 23 49 | 6220 | Moderate. |
| | Bombay | E N N E E | SS eP P iS eS | 00 25 12 00 13 38 00 13 -- 00 21 32 | 6310 | Feeble. |
| | Calcutta | E | i | 00 18 52 | | Slight.Distant. |
| | Hyderabad | N | i | 00 19 24 | | |
| 5 | New Delhi | N,E N | e eP SS SSS | 00 20 18 22 02 06 22 02 17 22 13 25 | 5220 | Slight. |
| | Kodaikanal | 2 E | M e? | 22 19 05 22 10 45 | F | Feeble tremor. Phases not clear. |
| | Bombay Hyderabad | N,E N | e M | 22 22 -- 22 24 37 | | Per. = 15 secs. $\mu=4$. |
| 6 | Calcutta | E | Mn | 21 11 44 | | Slight,distant. Per.= 16 secs. $\mu = 19$. |
| 7 | Kodaikanal | E | e | 19 13 01 | | Feeble tremor. Phases not clear. |
| 9 | Epc:- 24°0S, 67°5W (Northern Argentina - Chile Border region) | | | | | |
| | Poona | Z,E N | iPKP ₁ pPKP ₁ sPKP ₁ PP PKS ₁ pPP PKS ₂ PPP SKS ₂ pPPP PKKP ₁ i SKKKS PKKS ₁ SKSP ₁ PS PPP(2) SKKS ₁ PPS SKKS ₁ (2) SS SSP sss SSS SSP(2) LQ | h = 200 Km. \pm 0 = 21h. 38m. 56s. (U.S.C.G.S.) 16110 | | Moderate. |
| | | N,E N | | 21 58 11 21 59 28 21 59 39 22 01 21 22 02 38 22 01 49 22 02 11 22 04 49 22 05 23 22 05 45 22 07 17 22 08 09 22 09 18 22 11 01 22 11 46 22 12 24 22 13 02 22 13 47 22 14 13 22 14 45 22 20 11 22 20 41 22 21 34 22 25 04 22 32 34 22 38 38 | | |

Dec.
1950.

9 (cont.)

h. m. s.



From the ISC collection scanned by SISMOS

Poona (cont.) N
 SSS(2) 22 40 11
 LR 22 44 58
 M 22 56 11
 Mn 22 58 --

Per. = 19 secs.

$\mu = 42.$

15755 Moderate.

Bombay N,E
 iPKP₁ 21 58 14
 PP 22 01 25
 PPP 22 04 20
 PS 22 11 46
 iSS 22 19 54
 SSP 22 20 30
 SSS 22 25 30
 N LQ 22 38 52
 E LQ 22 39 06
 N LR 22 45 26
 E LR 22 45 46
 M 23 00 00

Per. = 22 secs.

$\mu = 257$

Per. = 22 secs.

$\mu = 256.$

Colombo N
 E M 23 03 30
 P 21 58 15
 L 22 46 --
 M 22 58 20

Kodaikanal E
 iPKP₁ 21 58 15
 PKS₁ 22 01 15
 SKKS₁ 22 08 15
 SKKS₃ 22 08 50
 SKKS₂ 22 13 14
 SS 22 20 06
 SSP 22 20 37
 SSS 22 24 37
 SSP(2) 22 30 52
 SSS(2) 22 37 06
 LQ 22 40 07
 LR 22 46 11
 M 22 54 00

Amp. = 17.5 mm
 16300 Great. Initial
 movement of PKP₁
 towards West.

Hyderabad N
 1P 21 58 21
 PP 22 03 20
 PKS 22 04 29
 SKS 22 08 27
 SKSP 22 13 23
 SS 22 20 32
 L 22 40 32
 M 22 50 51

Per. = 19 secs.
 $\mu = 114.$
 14400 from
 SKSP - SKS

New Delhi N,E
 PKP₁ 21 58 25
 PKP₂ 21 58 41
 i 22 01 29
 PKS₁ 22 01 55
 PP 22 02 21
 SKS₂ 22 05 36
 PP(2) 22 06 46
 PKKP₁ 22 07 13
 SKKS₁ 22 08 54
 SKKKS 22 09 28
 PKKS₁ 22 10 47
 PPP(2) 22 12 18
 SKKS₁(2) 22 13 23
 SKKS₂) 22 13 57
 PPS 22 14 51

Per. = 21 secs. $\mu = 152.$
 16700

Dec.
1950.
9(cont.)

h.m. s.



From the ISC collection scanned by SISMOS

| Station | Direction | Code | h.m. | s. |
|-------------------|-----------|--------------------|------|-------|
| New Delhi (cont.) | N,E | SKKKS ₂ | 22 | 15 47 |
| | | SS | 22 | 20 27 |
| | | SSP | 22 | 20 47 |
| | | SSS | 22 | 26 51 |
| | | SS(2) | 22 | 31 37 |
| | | SSP(2) | 22 | 33 26 |
| | | SSS(2) | 22 | 39 10 |
| | | L _Q | 22 | 41 40 |
| | | L _R | 22 | 49 04 |
| | | M | 23 | 02 -- |
| | N | Mn | 23 | 04 30 |

Per. = 20 secx
 $\mu = 128$

| | | | | | |
|-----------|---|----|----|-------|------|
| Dohra Dun | N | eP | 21 | 58 30 | 9919 |
| | | eS | 22 | 09 15 | |
| | | eL | 22 | 22 54 | |
| | | M | 22 | 53 18 | |

Per. = 23 sec.
 $\mu = 0.8''$

| | | | | | |
|----------|---|----|----|-------|------|
| Calcutta | E | iP | 21 | 58 38 | 9735 |
| | | iS | 22 | 09 21 | |

Great. Time
approximate as the
the time marking
clock stopped.

10 Epc:- 14^o.5 S, 76^o.5 W (Near Southern coast of Peru, several killed, severe property damage reported)

h = about 60 Kms.

O = 02h. 50m. 40s. (U.S.C.G.S.)

O = 02h. 50m. 35s. (Poona)

| | | | | | | |
|-------|----------|-------------------|----|-------|-------|-----------|
| Poona | Z,E E | PKP ₁ | 03 | 10 27 | 17000 | Moderate. |
| | | PKP ₂ | 03 | 10 54 | | |
| | | PKS ₁ | 03 | 14 06 | | |
| | | PP | 03 | 14 23 | | |
| | | SKS | 03 | 17 27 | | |
| | | PPP | 03 | 17 52 | | |
| | | PP(2) | 03 | 18 35 | | |
| | | SKKS ₁ | 03 | 20 55 | | |
| | | SKKKS | 03 | 21 21 | | |
| | | SKSP | 03 | 24 40 | | |

| | | | | |
|-----------|---|---|----|-------|
| Hyderabad | N | e | 03 | 10 29 |
| | | M | 04 | 14 56 |

Per. = 20 sec.
 $\mu = 9.$

| | | | | | | |
|-----------|----------|------------------|----|-------|-------|-----------|
| New Delhi | N,E N | ePKP | 03 | 10 31 | 15700 | Moderate. |
| | | PP | 03 | 13 34 | | |
| | | PKS ₁ | 03 | 14 11 | | |
| | | PPP | 03 | 16 45 | | |
| | | SKKKS | 03 | 20 53 | | |
| | | PS | 03 | 24 26 | | |
| | | SS | 03 | 32 11 | | |
| | | i | 03 | 33 23 | | |
| SSS | 03 | 37 22 | | | | |

| | | | | |
|--------|----------|-------------------|----|-------|
| Bombay | N,E N | ePKP ₁ | 03 | 10 33 |
| | | M | 04 | 19 25 |

Slight.Distant.
Per. = 17 sec.

| | | | | |
|--------|---|---|----|-------|
| Bombay | E | M | 04 | 21 46 |
|--------|---|---|----|-------|

$\mu = 3$
Per. = 19 sec.

| | | | | |
|---------|---|---|----|-------|
| Colombo | E | P | 03 | 10 50 |
| | | L | 03 | 06 30 |
| | | M | 04 | 19 45 |



$\mu = 11.$

Amp. = 0.3 mm

12.

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. | | |
|-----------------|--|--------|--------------------|---------------------------------|---|---|-------|------------------------------------|
| 1950. | | | | h. m. s. | Km. | | | |
| Dec. 10 (cont.) | | | | | | | | |
| | Madras | E | eP | 03 11 06 | 8910 | Slight. Probably an after shock of previous earthquake. | | |
| | | | PP | 03 14 11 | | | | |
| | | | IS | 03 21 11 | | | | |
| | | | PS | 03 21 56 | | | | |
| | | | SS | 03 26 21 | | | | |
| | | | SSS | 03 29 41 | | | | |
| | | | L _Q | 03 32 36 | | | | |
| | | | L _R | 03 36 26 | | | | |
| | | | M | 03 43 06 | | | | |
| | | | | | Per. = 25 sec $\mu = 13$ | | | |
| 10 | Epc:- 28°5S, 179°W (Kernadec Islands Region) | | | | | | | |
| | | | | h = 300 Kms. + | | | | |
| | | | | 0 = 13h, 23m, 10s. (U.S.C.G.S.) | | | | |
| | Calcutta | E | eP | 13 36 41 | 11510 | Moderate. Probably deep M not prominent | | |
| | | | PP | 13 41 00 | | | | |
| | | | PPP | 13 42 55 | | | | |
| | | | SKS ₁ | 13 46 57 | | | | |
| | | | SKKS ₁ | 13 47 34 | | | | |
| | | | SKS ₂ | 13 47 40 | | | | |
| | | | iS | 13 48 14 | | | | |
| | | | PS | 13 49 56 | | | | |
| | | | PPS | 13 50 42 | | | | |
| | | | PKKP ₂ | 13 51 55 | | | | |
| | | | SS | 13 54 53 | | | | |
| | | | PcPKP ₂ | 13 56 10 | | | | |
| | | | SSS | 13 58 48 | | | | |
| | | | SKKS ₂ | 13 59 12 | | | | |
| | Colombo | E | SKKKS | 14 02 45 | | | | |
| | | | P | 13 36 42 | | | | |
| | | | S | 13 46 50 | | | | |
| | | | L | 14 03 -- | | | | |
| | Poona | Z,E | M | 14 11 50 | 12500 | Amp. = 0.9mm Moderate from S - P assuming h = 300km. + | | |
| | | E | eP | 13 37 31 | | | | |
| | | | PKP ₁ | 13 40 55 | | | | |
| | | | PP | 13 41 54 | | | | |
| | | | i | 13 42 05 | | | | |
| | | | PPP | 13 44 22 | | | | |
| | | | PKS ₁ | 13 44 38 | | | | |
| | | | iSKS ₁ | 13 47 31 | | | | |
| | | | SKKS | 13 48 43 | | | | |
| | | | iS | 13 49 22 | | | | |
| | | | PS | 13 51 14 | | | | |
| | | | sS | 13 51 29 | | | | |
| | | | PPS | 13 52 26 | | | | |
| | | | SS | 13 57 04 | | | | |
| | | | SSP | 13 57 20 | | | | |
| | | | SSS | 14 01 12 | | | | |
| | Bombay | N,E | ePKP ₁ | 13 37 31 | | | 12335 | Moderate from SS- PKP ₁ |
| | | | SKS ₁ | 13 43 58 | | | | |
| | | | PS | 13 47 43 | | | | |
| | | | PPS | 13 48 54 | | | | |
| | | | iSS | 13 53 45 | | | | |
| | | | SSS | 13 56 39 | | | | |
| | | N | L | 14 04 45 | | | | |
| | | E | L _Q | 14 05 00 | | | | |
| | | N | L _Q | 14 09 43 | | | | |
| | | E | L _R | 14 10 24 | | | | |
| | | N | M | 14 26 19 | | | | |
| | | E | M | 14 26 22 | | | | |
| | | | | | Per. = 19 secs. $\mu = 11$ Per. = 17 secs. $\mu = 14.$ | | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | | Δ | REMARKS. | |
|--------------|------------|---------------|---|----------|----|----|----------|--|--|
| | | | | h. | m. | s. | Km. | | |
| Dec. 1950 | | | | | | | | | |
| 10 (cont.) | Hyderabad | N | e | 13 | 38 | 10 | | | |
| | | | PP | 13 | 41 | 36 | | | |
| | | | SKS | 13 | 48 | 11 | | | |
| | | | S | 13 | 48 | 46 | | | |
| | | | SS | 13 | 55 | 17 | | | |
| | | | L | 14 | 08 | 51 | | | |
| | | | M | 14 | 18 | 30 | | | |
| | | | | | | | | Per. = 21 secs. $\mu = 24$ | |
| | New Delhi | N | PP | 13 | 42 | 04 | 12110 | Moderate | |
| | | | i | 13 | 47 | 06 | | | |
| | | | iSKS | 13 | 47 | 36 | | | |
| | | | SKKS | 13 | 48 | 46 | | | |
| | | | i | 13 | 49 | 33 | | | |
| | | | iPS | 13 | 51 | 11 | | | |
| | | | PPS | 13 | 52 | 09 | | | |
| | | | i | 13 | 53 | 12 | | | |
| | | | i | 13 | 54 | 25 | | | |
| | | | iSS | 13 | 57 | 10 | | | |
| | | | SSS | 14 | 01 | 29 | | | |
| | | | LQ | 14 | 08 | 56 | | | |
| | Dehra Dun | N | Lp | 14 | 14 | 59 | | | |
| | | | eP | 13 | 49 | 54 | 7440 | | |
| | | | eS | 13 | 58 | 36 | | | |
| | | | eL | 14 | 17 | 24 | | | |
| | | | M | 14 | 22 | 18 | | | |
| | | | | | | | | Per. = 18 secs. $\mu = 0.05''$ | |
| | Kodaikanal | E | An earthquake of probably moderate intensity recorded, but due to zero wandering and faint light phases not identifiable. | | | | | | |
| 10 | New Delhi | N,E | eP | 21 | 38 | 00 | 330 | Slight. | |
| | | | P* | 21 | 38 | 03 | | | |
| | | | P | 21 | 38 | 11 | | | |
| | | | PPP | 21 | 38 | 14 | | | |
| | | | iS | 21 | 38 | 37 | | | |
| 11 | New Delhi | E N,E | eP | 05 | 40 | 30 | 480 | Slight. | |
| | | | i | 05 | 40 | 41 | | | |
| | | | PPP | 05 | 40 | 44 | | | |
| | | | LQ | 05 | 41 | 11 | | | |
| | | | iS | 05 | 41 | 21 | | | |
| | | | SS | 05 | 41 | 29 | | | |
| 12 | Kodaikanal | E | e? | 01 | 27 | 04 | | Per. = 14 secs. $\mu = 03$. Slight, distant. Phases not clear. | |
| | Colombo | E | eP | 01 | 29 | 30 | | | |
| | | | S | 01 | 40 | 20 | | | |
| | | | L | 01 | 53 | 50 | | | |
| | | | M | 01 | 58 | 15 | | | |
| | Bombay | N | eP | 01 | 32 | 09 | 8890 | Amp. = 0.5 mm. Slight Δ from SS - P | |
| | | | SS? | 01 | 47 | 14 | | | |
| | | | SSS | 01 | 49 | 45 | | | |
| | | | M | 02 | 02 | 27 | | | |
| | | | | | | | | Per. = 19 secs. $\mu = 5$. | |
| | Poona | E N N,E | Record artificially disturbed at the time. | | | | | | |
| | | | e | 01 | 32 | 18 | | | |
| | | | i | 01 | 49 | 37 | | Slight, distant. | |
| | | | M | 01 | 47 | 10 | | | |
| | | | Mn | 02 | 00 | 22 | | | |
| | Hyderabad | N | M | 01 | 41 | 59 | | Per. = 20 secs. $\mu = 22$ | |

| DATE | STATION | COMPT. | PHASE | G. M. T. |  | REMARKS. |
|------------|--|--------|-------------------|---|---|---|
| Dec. 1950. | | | | h. m. s. | Km | |
| 12 | Kodaikanal | E | e? | 08 51 41 | | Per. = 15 secs. $\mu = 4$. Feeble tremor. |
| | Hyderabad | N | M | 08 59 58 | | Per. = 15 secs. $\mu = 3$. |
| 13 | Calcutta | E | e | 01 14 30 | | Slight, near |
| | | | e | 01 15 21 | | |
| 14 | Epc:- 19.5° S, 176.6° W . (Tonga Islands region). | | | 0 = 01h. 52m. 47s. (U.S.C.G.S.) h = about 200 Kms. | | |
| | Calcutta | E | iP | 02 06 31 | 11300 | Great slightly deep. |
| | | | PP | 02 10 44 | | |
| | | | PPP | 02 12 51 | | |
| | | | SKS ₁ | 02 16 50 | | |
| | | | S | 02 17 51 | | |
| | | | PS | 02 19 38 | | |
| | | | PPS | 02 20 28 | | |
| | | | PKKP | 02 22 25 | | |
| | | | SS | 02 25 26 | | |
| | | Pc | PKKP ₂ | 02 27 05 | | |
| | | | SSS | 02 29 08 | | |
| | | | L _Q | 02 35 01 | | |
| | | | L _R | 02 40 13 | | |
| | | | M ^R | 02 47 46 | | |
| | | | Mn | 02 57 16 | | Per. = 21 secs. $\mu = 106$. |
| | Colombo | E | P | 02 06 41 | | |
| | | | S | 02 11 06 | | |
| | | | L | 02 15 21 | | |
| | | | M ₁ | 02 17 06 | | Amp. = 20.5 mm |
| | | | M ₂ | 02 22 06 | | Amp. = 20.0 |
| | Kodaikanal | E | iP | 02 06 56 | 9065 | Great. Initial movement of P towards East. |
| | | | PP | 02 13 08 | | |
| | | | PPP | 02 15 00 | | |
| | | | iS | 02 17 08 | | |
| | | | PS | 02 17 53 | | |
| | | | PPS | 02 18 23 | | |
| | | | SS | 02 22 38 | | |
| | | | SSS | 02 26 08 | | |
| | | | L _Q | 02 29 26 | | |
| | | | L _R | 02 33 16 | | |
| | | | M | 02 40 11 | | |
| | Hyderabad | E | iP | 02 06 59 | 12430 | Per. = 19 secs. $\mu = 65$  from SKKS- SK |
| | | | e | 02 10 33 | | |
| | | | PKP ₁ | 02 11 14 | | |
| | | | PP | 02 11 34 | | |
| | | | SKS | 02 17 15 | | |
| | | | SKKS | 02 18 11 | | |
| | | | PS | 02 21 01 | | |
| | | | L | 02 41 01 | | |
| | | | M | 02 49 03 | | |
| | New Delhi | N | e | 02 07 18 | 14110 | Per. = 20 secs. $\mu = 38$. Moderate. |
| | | | PKS | 02 11 52 | | |
| | | | iSKS | 02 15 25 | | |
| | | | iSKKKS | 02 17 25 | | |
| | | | PKKP ₁ | 02 18 36 | | |
| | | | iPS | 02 20 22 | | |
| | | | i | 02 21 35 | | |
| | | | iPPS | 02 21 59 | | |
| | | | iSS | 02 27 28 | | |
| | | | L _Q | 02 40 21 | | |
| | | | L _R | 02 45 51 | | |
| | | | M ^R | 02 56 34 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. | |
|------------|--|--------|---|---------------------|----------|-----------------------------------|--|
| | | | | h. m. s. | Km. | | |
| Dec. 1950. | | | | | | | |
| 14 (cont.) | | | | | | | |
| | Poona | Z,E,N. | eP | 02 07 21 | 12390 | Deep focus. | |
| | | Z | PKP ₁ | 02 11 08 | | Moderate. | |
| | | N,E | PP | 02 11 59 | | | |
| | | N | i | 02 12 17 | | | |
| | | N,E | PPP | 02 14 31 | | | |
| | | | SKS ₁ | 02 17 38 | | | |
| | | | SKS ₂ | 02 18 01 | | | |
| | | N | sSKS | 02 18 29 | | | |
| | | | SKKS ₁ | 02 18 48 | | | |
| | | | iS | 02 19 22 | | | |
| | | | sS | 02 19 55 | | | |
| | | | pS | 02 20 28 | | | |
| | | | PS | 02 21 14 | | | |
| | | N | PKKP ₂ | 02 21 44 | | | |
| | | | PKKP ₁ | 02 22 10 | | | |
| | | | PPS | 02 22 30 | | | |
| | | | sPS | 02 22 55 | | | |
| | | | i | 02 24 21 | | | |
| | | | PKKS ₁ | 02 25 44 | | | |
| | | | i | 02 26 43 | | | |
| | | | SS | 02 27 59 | | | |
| | | | SSP | 02 28 16 | | | |
| | | | SKKS ₂ | 02 29 48 | | | |
| | | | PcSPK ₂ | 02 30 34 | | | |
| | | | SSS | 02 32 17 | | | |
| | | | SKKKS | 02 32 52 | | | |
| | | | LQ | 02 40 14 | | | |
| | | | LR | 02 45 14 | | | |
| | | | M | 02 50 29 | | | |
| | | | Mn | 02 56 14 | | Per. = 16 secs. $\mu = 18$ | |
| | Bombay | N | eP | 02 07 29 | 13110 | Moderate | |
| | | | PP | 02 11 57 | | Δ from | |
| | | | SKS | 02 17 45 | | SKS - PP | |
| | | | SKKS | 02 19 01 | | | |
| | | | M | 03 09 44 | | Per. = 17 secs. $\mu = 17$ | |
| | Dehra Dun | E | Record artificially disturbed at the time | | | | |
| | | N | eP | 02 12 48 | 11047 | | |
| | | | eS | 02 24 18 | | | |
| | | | eL | 02 41 06 | | | |
| | | | M | 02 43 42 | | Per. = 24 $\mu = 0.45''$ | |
| 14 | Epc:- 17°0N, 98°0 W. (Southern Mexico. Felt) | | | | | | |
| | O = 14h. 15m. 50s. (U.S.C.G.S.). | | | | | | |
| | Kodaikanal | E | eP | 14 34 41 | | Moderate, | |
| | | | Mn | 15 53 00 | | distant. | |
| | | | | | | Except P no other phase is clear. | |
| | | | | | | Per. = 19 secs. | |
| | Calcutta | E | eP | 14 35 12 | 15665 | $\mu = 41.$ | |
| | | | PP | 14 38 17 | | Moderate. | |
| | | | SKS ₁ | 14 38 47 | | | |
| | | | PKS ₂ | 14 39 10 | | | |
| | | | PPP | 14 41 10 | | | |
| | | | PKKP ₁ | 14 44 33 | | | |
| | | | SKKS ₁ | 14 45 11 | | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | | Δ | REMARKS. |
|---------------|---------------------|----------|-------------------|----------|----|----|----------|--|
| | | | | h. | m. | s. | Km. | |
| Dec. 1950. | | | | | | | | |
| 14(cont.) | | | | | | | | |
| | Calcutta (cont.) | E | PKKS ₁ | 14 | 48 | 17 | | |
| | | | SKSP ₁ | 14 | 48 | 36 | | |
| | | | PPS | 14 | 50 | 52 | | |
| | | | SKKS ₁ | 14 | 51 | 21 | | |
| | | | SKKS ₂ | 14 | 52 | 02 | | |
| | | | SKKKS | 14 | 53 | 54 | | |
| | | | SS | 14 | 56 | 51 | | |
| | | | SSP | 14 | 57 | 28 | | |
| | | | SSS | 15 | 02 | 00 | | |
| | | | LQ | 15 | 14 | 58 | | |
| | | | L _R | 15 | 21 | 22 | | |
| | | | | 15 | 47 | 24 | | |
| | New Delhi | N N | M ePKP(?) | 14 | 35 | 15 | | Per.=15 secs. μ = 20. 15000 Moderate. |
| | | | iPP | 14 | 37 | 53 | | |
| | | | iPKS | 14 | 38 | 47 | | |
| | | | i | 14 | 42 | 57 | | |
| | | | SKKKS | 14 | 44 | 55 | | |
| | | | PS | 14 | 48 | 08 | | |
| | | | PPS | 14 | 50 | 04 | | |
| | | | SKKS ₁ | 14 | 51 | 33 | | |
| | | | i | 14 | 56 | 34 | | |
| | | | i | 15 | 01 | 38 | | |
| | | | LQ | 15 | 13 | 34 | | |
| | | | M L | 15 | 31 | 57 | | |
| | Poona | Z,N N | PKP ₁ | 14 | 35 | 21 | | 16200 |
| | | | PKP ₂ | 14 | 35 | 38 | | |
| | | | PKS ₁ | 14 | 38 | 46 | | |
| | | | PKS ₂ | 14 | 39 | 13 | | |
| | | | PPP ₂ | 14 | 41 | 58 | | |
| | | | SKS | 14 | 42 | 28 | | |
| | | | PKKP ₁ | 14 | 43 | 36 | | |
| | | | SKKS ₁ | 14 | 45 | 27 | | |
| | | | SKKKS | 14 | 45 | 51 | | |
| | | | PKKS ₁ | 14 | 47 | 39 | | |
| | | | PPP(2) | 14 | 49 | 18 | | |
| | | | PPS | 14 | 51 | 47 | | |
| | | | i | 14 | 52 | 42 | | |
| | | | SS | 14 | 57 | 45 | | |
| | | | SSP | 14 | 58 | 32 | | |
| | | | SSS | 15 | 03 | 13 | | |
| | | | SSP(2) | 15 | 09 | 33 | | |
| | | | SSS(2) | 15 | 16 | 37 | | |
| | | | LQ | 15 | 17 | 47 | | |
| | | | L _R | 15 | 24 | 23 | | |
| | | | M | 15 | 38 | 22 | | |
| | | | Mn | 15 | 45 | 10 | | |
| | | | | | | | | Per.= 20 secs. μ = 18. |
| | Bombay | N,E N | ePKP ₁ | 14 | 35 | 23 | | 16100 Moderate. Δ from SS - PKP ₁ |
| | | | PP | 14 | 38 | 36 | | |
| | | | PPP | 14 | 41 | 59 | | |
| | | | PS | 14 | 48 | 41 | | |
| | | E | PS | 14 | 49 | 20 | | |
| | | N,E | iSS | 14 | 57 | 40 | | |
| | | E | M | 16 | 12 | 06 | | |
| | | | | | | | | Per.= 17 secs. μ = 13. |
| | | N | M | 16 | 16 | 44 | | Per.= 17 secs. μ = 15. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|---------------------------|---|--------|------------------|------------------------|----------|---|
| | | | | h. m. s. | Km. | |
| Dec. 1950 14(cont.) | Hyderabad | N | PKP ₁ | 14 35 30 | 16560 | from Δ SKSP - PKP ₁ . |
| | | | PKS | 14 38 55 | | |
| | | | SKS | 14 46 03 | | |
| | | E | SKSP | 14 49 22 | | |
| | | | M | 15 36 07 | | Per. = 15 secs. |
| | Colonbo | N | M | 15 40 59 | | $\mu = 16$ |
| | | E | P | 14 35 48 | | Per. = 16 secs. |
| | | | L | 15 39 20 | | $\mu = 28$ |
| | | | M ₁ | 15 58 18 | | |
| | Dehra Dun | N | M ₂ | 16 10 -- | | Amp. = 1.0 mm. |
| | | | eP? | 14 37 54 ? | | Amp. = 1.0mm. |
| | | | eS | 14 52 54 ? | | |
| | | | M | 15 45 18 | | Per. = 21 secs. |
| | | | | | | Amp = 0.08" |
| 15 | Bombay | N,E | e | 01 57 -- | | Very feeble. |
| 17 | Epc:- 28 ^o .5 N, 96 ^o .0 E . 0 = 18h. 52m 25s. (Poona). | | | | | |
| | Calcutta | E | P | Lost in the time mark. | | |
| | | | PPP | 18 56 12 | 960 | Slight. There is possibility of the absolute times being fast by one minute |
| | | | LQ | 18 56 53 | | |
| | | | iS | 18 57 12 | | |
| | | | SS | 18 57 23 | | |
| | | | SSS | 18 57 29 | | |
| | | | S* | 18 57 42 | | |
| | | | L _R | 18 57 48 | | |
| | | | M | 18 58 18 | | |
| | | | Mn | 19 00 48 | | |
| | | | | | | |
| | | | PcP | 19 01 55 | | $\mu = 19$ |
| | | | PcS | 19 05 26 | | |
| | | | ScS | 19 09 07 | | |
| | New Delhi | N | eP | 18 56 22 | 1850 | Slight. |
| | | N,E | eS | 18 59 27 | | |
| | | | SS | 18 59 41 | | |
| | Poona | Z,E | eP | 18 57 29 | 2520 | Feeble. |
| | | E | PcP | 19 00 53 | | |
| | | | eS | 19 01 34 | | |
| | | | LQ | 19 02 13 | | |
| | | | SS | 19 02 33 | | |
| | | | SSS | 19 02 51 | | |
| | | | L _R | 19 03 23 | | |
| | | | i | 19 04 13 | | |
| | | | ScP | 19 04 41 | | |
| | | | M | 19 05 05 | | |
| | Bombay | N,E | eS? | 19 01 -- | | Feeble, near. |
| 17 | New Delhi | N,E | eP | 20 47 58 | 950 | Slight. |
| | | | iS | 20 49 37 | | |
| | | | SS | 20 49 49 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|--------------|--|--------|----------------|----------|----------|---|
| | | | | h. n. s. | Km. | |
| Dec. 1950 | Epc:- 10°55', 122°0' E. (In Savu Sea) 0 = 15h. 44m. 56s. (Poona) | | | | | |
| | Calcutta | E | iP | 15 53 24 | 5110 | Slight. |
| | | | PcP | 15 55 00 | | Direction of first |
| | | | PP | 15 55 10 | | motion of P towards |
| | | | PPP | 15 55 53 | | East. |
| | | | PcS | 15 58 53 | | |
| | | | iS | 16 00 09 | | |
| | | | PS | 16 00 21 | | |
| | | | PPS | 16 00 28 | | |
| | | | ScS | 16 03 23 | | |
| | | | LQ | 16 04 13 | | |
| | | | SSS | 16 04 32 | | |
| | | | L _R | 16 06 35 | | |
| | Colombo | E | M (?) | 16 10 25 | | |
| | | | P | 15 53 37 | | |
| | | | PP | 15 55 37 | | |
| | | | S | 16 02 19 | | |
| | | | L | 16 08 -- | | |
| | Kodaikanal | E | M | 16 08 19 | | |
| | | | iP | 15 54 01 | 5780 | Amp. = 0.4 mm. Slight. |
| | | | PPP | 15 57 02 | | |
| | | | eS | 16 01 24 | | |
| | | | LQ | 16 06 24 | | |
| | | | SSS | | | |
| | | | L _R | 16 08 48 | | |
| | | | M | 16 12 56 | | Per. = 15 secs. $\mu = 5$. |
| | Hyderabad | N | P | 15 54 04 | 5800 | |
| | | E | S | 16 01 29 | | |
| | | N | S | 16 01 38 | | |
| | | | SS | 16 06 16 | | |
| | | | L | 16 11 53 | | |
| | | | M | 16 15 13 | | Per. = 18 secs. $\mu = 6$ Slight. |
| | Poona Z,E | iP | iP | 15 54 36 | 6180 | |
| | | E | PcP | 15 55 28 | | |
| | | | PP | 15 56 51 | | |
| | | | PPP | 15 58 03 | | |
| | | | ScP | 15 59 19 | | |
| | | | eS | 16 02 21 | | |
| | | | PS | 16 02 31 | | |
| | | | PPS | 16 02 38 | | |
| | | | ScS | 16 04 03 | | |
| | | | SS | 16 05 59 | | |
| | | | SSS | 16 08 27 | | |
| | | | LQ | 16 08 41 | | |
| | New Delhi | N,E | eP | 15 54 43 | 6420 | Slight. |
| | | N | PcP | 15 55 34 | | |
| | | | PP | 15 56 58 | | |
| | | | PPP | 15 58 25 | | |
| | | | eS | 16 02 42 | | |
| | | | i | 16 03 17 | | |
| | | | LQ | 16 09 33 | | |
| | Bombay | N,E | eP | 15 54 45 | 6335 | Moderate. |
| | | N | iS | 16 00 40 | | |
| | | E | eS | | | |
| | | E | M | 16 17 30 | | Per. = 19 secs. $\mu = 8$ |
| | | N | M | 16 21 55 | | Per. = 17 secs. $\mu = 4$ |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|------------|---|-------------------|--|--|----------|---|
| | | | | h. m. s. | Km. | |
| Dec. 1950. | | | | | | |
| 19 | New Delhi | E | e i | 08 21 05 08 21 21 | | Slight. Near. |
| 21 | Bombay | N E | e | 04 45 -- | | Very feeble. Record disturbed at the time. |
| 21 | Bombay | N,E | e | 11 56 -- | | Very feeble. |
| 22 | Epc:- 7 ^o .7N, 91 ^o .6 E, (In the Bay of Bengal to the West of Nicobar Islands) | | | | | |
| | Colombo | E | O = 09h. 10m. 36s. (Poona). P S L M | 09 13 29 09 17 29 09 21 19 09 22 44 | | |
| | Kodaikanal | E | eS LR M | 09 14 00 09 16 32 09 17 02 09 18 02 | 1580 | Amp. = 2.1 mm Moderate. Initial movement of P to wards west. Per. = 13 secs. $\mu = 19$ |
| | Calcutta | N | iP i LQ iS SS PcP PcS ScS | 09 14 05 09 15 20 09 16 41 09 16 47 09 16 58 09 19 23 09 22 57 09 26 35 | 1610 | Moderate. Initial movement of P towards S. |
| | Hyderabad | E | P S M | 09 14 20 09 17 15 09 19 03 | 1745 | Per. = 18 secs. $\mu = 35$. |
| | Poona | Z Z,N,E N,E | eP iP PP PPP iS LQ PcP SS SSS LR M Mn | 09 15 16 09 15 18 09 15 40 09 15 49 09 18 59 09 19 02 09 19 15 09 19 30 09 19 41 09 20 06 09 21 38 09 22 40 | 2250 | Moderate. |
| | Bombay | N,E | eP iS LQ LR M | 09 15 29 09 19 24 09 20 02 09 20 58 09 23 39 | 2455 | Per. = 19 secs. $\mu = 29$. Moderate. |
| | New Delhi | N,E | iP PP iS SS SSS LR M Mn | 09 16 01 09 16 37 09 20 23 09 21 23 09 21 41 09 22 11 09 24 12 09 25 14 | 2780 | Per. = 17 secs. $\mu = 30$. Slight. Direction of first motion North and East. |
| | | N | | | | Per. = 22 secs. $\mu = 30$ |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|--------------------|--|--------|-----------------------------|----------|----------|--|
| | | | | h. m. s. | Kn. | |
| Dec. 1950 24 | | | 0 = 04h. 35m. 24s. (Poona). | | | |
| | New Delhi | N,E | iP | 04 37 47 | 950 | Slight. |
| | | | PP | 04 37 55 | | Direction of |
| | | | PPP | 04 38 02 | | first motion |
| | | | P* | 04 38 09 | | N and W |
| | | | LQ | 04 39 13 | | |
| | | | iS | 04 39 25 | | |
| | | E | SS | 04 39 37 | | |
| | Bombay | N,E | S* | 04 39 57 | | |
| | | | e | 04 39 -- | | Feeble. |
| | Poona | Z | eS | 04 42 41 | | |
| | | E | iP | 04 39 32 | 1960 | Slight. |
| | | E | eP | | | |
| | | | PP | 04 39 49 | | |
| | | | PPP | 04 39 58 | | |
| | | | iS | 04 42 47 | | |
| | | | L | 04 42 52 | | |
| | | | SS | 04 43 09 | | |
| | | | SSS | 04 43 29 | | |
| | | | LR | 04 43 46 | | |
| | | | PcP | 04 44 02 | | |
| | | | M | 04 45 09 | | |
| | Calcutta | E | ScP | 04 47 28 | | |
| | | | e | 04 41 48 | | Slight. |
| 28 | Bombay | N,E | e | 04 44 18 | | |
| | | | e | 09 21 -- | | Very feeble, near |
| 29 | Epc; $33^{\circ}2' N, 87^{\circ}6' E$ Dehra Dun Calcutta | N E | 0 = 11h. 55m. 53s. (Poona) | | | |
| | | | eP | 11 58 18 | | |
| | | | eP | 11 58 33 | 1165 | Moderate. |
| | | | LQ | 12 00 29 | | |
| | | | eS | 12 00 32 | | |
| | | | SS | 12 00 42 | | |
| | | | M | 12 01 33 | | |
| | New Delhi | N,E | Mn | 12 02 00 | | |
| | | | iP | 11 58 33 | 1060 | Slight. Direction |
| | | | PP | 11 58 41 | | of first motion |
| | | | PPP | 11 58 48 | | N and E |
| | | | iS | 12 00 22 | | |
| | | | SS | 12 00 35 | | |
| | | | SSS | 12 00 45 | | |
| | | N | M | 12 01 15 | | |
| | | | Mn | 12 01 47 | | Per. = 16 secs. |
| | Poona | Z,E | iP | 12 00 25 | 2170 | $\mu = 131$ Moderate |
| | | E | PP | 12 00 42 | | |
| | | | PPP | 12 00 50 | | |
| | | | iS | 12 04 00 | | |
| | | | LQ | 12 04 08 | | |
| | | | PcP | 12 04 27 | | |
| | | | SS | 12 04 31 | | |
| | | | LR | 12 05 05 | | |
| | | E | M | 12 06 24 | | |
| | | N | Mn | 12 08 29 | | Per. = 9 secs. |
| | | E | Mn | 12 08 47 | | $\mu = 25$ Per. = 7 secs. $\mu = 17$ |

| DATE | STATION | COMPT. | PHASE | G. M. T. | △ | REMARKS. |
|------------|--|--------|----------------|-----------------------------|---------|--------------------|
| Dec. | | | | h. m. s. | Km. | |
| 1950. | | | | | | |
| 29 (cont.) | | | | | | |
| | Bombay | N,E | eP | 12 00 33 | 2320 | Moderate. |
| | | | iS | 12 04 17 | | |
| | | E | M | 12 08 19 | | Per.= 10 secs. |
| | | | | | | $\mu = 25$ |
| | Colombo | N | M | 12 08 25 | Per.= 9 | secs. $\mu = 25$. |
| | | E | P | 12 02 43 | | |
| | | | PP | 12 06 40 | | |
| | | | S | 12 09 03 | | |
| | | | L | 12 11 38 | | |
| | | | M | 12 14 40 | | Amp. = 0.6 mm. |
| 29 | Epc:- 24.8° N, 91.0° E (In Assam. Felt at Silchar Karingang and Aijal, Assam). | | | | | |
| | | | | 0 = 22h. 35m. 20s. (Poona). | | |
| | Calcutta | E | iP | 22 36 21 | 360 | Lines faint and |
| | | | Pg | 22 36 33 | | hence period |
| | | | PPP | 22 36 45 | | cannot be |
| | | | | 22 37 00 | | determined. |
| | | | S* | 22 37 06 | | |
| | | | Sg | 22 37 19 | | |
| | | | Mn | 22 38 52 | | |
| | New Delhi | N,E | eP | 22 38 33 | 1490 | Slight. |
| | | | PP | 22 38 49 | | |
| | | | PPP | 22 38 56 | | |
| | | | iS | 22 41 09 | | |
| | | | SSS | 22 41 34 | | |
| | | N | M | 22 42 47 | | |
| | | | Mn | 22 44 51 | | Per. = 14 secs. |
| | | | | | | $\mu = 43$. |
| | Poona | Z | eP | 22 39 25 | 1935 | Moderate. |
| | | E | iP | | | |
| | | | PP | 22 39 42 | | |
| | | | PPP | 22 39 54 | | |
| | | | eS | 22 42 38 | | |
| | | | SS | 22 43 04 | | |
| | | | iSSS | 22 43 16 | | |
| | | | L _R | 22 43 32 | | |
| | | | PcP | 22 43 48 | | |
| | | | M | 22 44 48 | | |
| | | | ScP | 22 47 10 | | |
| | Bombay | N,E | eP | 22 39 41 | 2000 | Moderate |
| | | | e | 22 43 17 | | |
| | | E | L _R | 22 46 20 | | |
| | | N | L _R | 22 46 25 | | |
| | | E | M _R | 22 48 22 | | Per.= 11 secs. |
| | | | | | | $\mu = 19$ |
| | | N | M | 22 50 20 | | Per.= 9 secs. |
| | | | | | | $\mu = 19$ |
| | Kodaikanal | E | iP | 22 39 53 | 2220 | Slight. Initial |
| | | | eS | 22 43 33 | | movement of P |
| | | | L _R | 22 44 33 | | to wards East. |
| | | | M _R | 22 46 08 | | |
| | Colombo | E | P | 22 40 00 | | |
| | | | S | 22 44 00 | | |
| | | | L | 22 46 33 | | |
| | | | M | 22 47 03 | | Amp.= 0.5 mm. |
| 30 | New Delhi | N,E | eP | 06 42 49 | 1010 | Slight. |
| | | | eS | 06 44 33 | | |
| 30 | Kodaikanal | E | e | 07 42 10 | | Feeble tremor. |

The following table contains a list of earthquakes reported by voluntary observers from various stations; during October-December 1950.

| Place at which felt | Date | G. M. T. of Earthquake | Duration in secs. | Intensity R.F. Scale. | No. of shocks. | Remarks |
|------------------------|----------|--|----------------------------|-----------------------|----------------|---|
| Dibrugar | 4-10-50 | 17 27 | 10 | VI | 1 | Rumbling sound before and during the shock. |
| Dalhousie | 6-10-50 | 21 30 | 3 | IV | 1 | |
| Gauhati | 8-10-50 | 04 48 | 10 | V | 1 | |
| Gauhati (Air Field) | 8-10-50 | 04 50 | 1-2 | III | 1 | |
| Dibrugarh | 8-10-50 | 04 51 | 60 | VI | 1 | |
| Tezpur | 8-10-50 | 04 54 | 60 | V | 1 | |
| Gauhati | 9-10-50 | 18 23 | 15 | V | 1 | |
| Dibrugarh | 16-10-50 | 15 44 15 49 16 19 | 5) 60) 10) | V | 3 | Rumbling sound before the shock. |
| Mohanbari A.F. | 29-10-50 | 06 02 06 15 | 90 60 | VIII VIII | 1 1 | |
| Dibrugarh | 29-10-50 | 06 04 06 14 | 40 25 | VI | 2 | -Do- |
| Tezpur | 29-10-50 | 06 05 | 4 | V | 2 | - |
| Shillong | 10-11-50 | 09 10 | 10 | VI | 1 | |
| Tezpur | 12-11-50 | 21 31 | V 2 | V | 1 | |
| Mohanbari (Air Fields) | 12-11-50 | 21 30) 21 40) 21 45) 21 55) | 10) 5 to) 7)) | VII | 4 | Whistling sound just before the tremor |
| Dibrugarh | 12-11-50 | 21 32 | 60 | VI | 5 | Rumbling sound. |
| Gauhati | 12-11-50 | 21 33 | 15 | IV | 1 | |
| Mohanbari (A.F.) | 18-11-50 | 00 45 01 15 | 30-40 10-15 | V VII | 1 1 | |
| Mohanbari | 3-12-50 | 06 30 | 30-40 | V | 1 | |
| Tezpur | 6-12-50 | 17 40 | 30 | V | 1 | |
| Gauhati | 24-12-50 | 12 49 | 3 - 4 | V | 1 | |
| Aijal | 29-12-50 | 22 30 | 2 | IV | 2 | |



GOVERNMENT OF INDIA

METEOROLOGICAL DEPARTMENT.

SEISMOLOGICAL BULLETIN

November, 1950.

Published under the direction of
V.V. Sohoni, B.A.(Hons.), M.Sc.,
Director General of Observatories.

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 were being published in the form of the Quarterly Seismological Bulletin. From the month of January 1948, the data are being published in the present form of a Monthly Seismological Bulletin. With the kind co-operation of the Surveyor-General of India, the Director of the Nizamiah Observatory, Hyderabad and of the Director, Colombo Observatory, it has been possible to incorporate in the Bulletin the seismic data of their respective observatories viz. Dehra Dun, Hyderabad, and Colombo. The instrumental and non-instrumental voluntary observations are collected and edited at the Meteorological Office, Poona.

TABLE I.
List of Seismograph Stations.

| Station | Latitude | Longitude | Height above M.S.L. 'meters' | Lithologic Foundation | Officer-in-Charge of Observatory |
|------------|-----------|-----------|------------------------------|-----------------------|---|
| Bombay | 18°54'N | 72° 49'E | 6 | Deccan Trap | Director. |
| Calcutta 2 | 22° .32'N | 88° 22'E | (i)7 (ii)6 | Alluvium | Director. |
| Colombo | 06°54'N | 79°52'E | 7 | Beach sand | Director. |
| Dehra Dun | 30°19'N | 78°03'E | 682 | Gravel | President. |
| Hyderabad | 17°26'N | 78°27'E | 528 | Granite D | Director, Nizamiah Observatory. |
| Kodaikanal | 10°14'N | 77°28'E | 2343 | Rock | Director. |
| New Delhi | 28°35'N | 77°12'E | 207 | Massive Quartzite | Dy. Director General of Observatories (I & S) |
| Poona | 18°32'N | 73°51'E | 560 | Deccan Trap | Dy. Director General of Observa- tories (C & G). |

(i) Milne-Shaw

(ii) Omori-Ewing.

TABLE II.

Instruments and their constants.

| Sation | Instrument | Component | Period in secs. | Static Magnification | Damping Ratio | Paper Speed mm/min. |
|------------|---------------|-----------|---------------------------------|----------------------|---------------|---------------------|
| Bombay | Milne-Shaw | N | 12 | 250 | 230:1 | 8.0 |
| | Milne-Shaw | E | 12 | 350 | 21:1 | 8.0 |
| Calcutta | Milne-Shaw | E | 12 | 250 | 20:1 | 8.0 |
| | Omori-Ewing | N | 22 | 32 | -- | -- 25.4 |
| | Omori-Ewing | E | 24 | 30 | | 25.4 |
| | Wood-Anderson | N | 2 | 870 | critical | 30:0 |
| Colombo | Milne-Shaw | E | 12 | 250 | 25:1 | 8.0 |
| Dehra Dun | Omori | N | 30 | 12 | - | - |
| Hyderabad | Milne-Shaw | E | 12 | 242 | 20:1 | 8.0 |
| | Milne-Shaw | N | 12 | 268 | 20:1 | 8.0 |
| Kodaikanal | Milne-Shaw | E | 10 | 250 | 20:1 | 8.0 |
| New Delhi | Milne-Shaw | N | 12 | 299 | 20:1 | 8.0 |
| | Wood-Anderson | N | 4 | 1000 | 20:1 | 16.0 |
| | Wood-Anderson | E | 2 | 1700 | 30:1 | 60.0 |
| | Omori Ewing | E | 30 | 30 | 1 | 12.0 |
| Poona | Benioff | Z | To = 2 secs. Tg = 0.28 secs. | - | critical | 60.0 |
| | Milne-Shaw | N | 12 | 250 | 20:1 | 8.0 |
| | Wood-Anderson | E | 4 | 1000 | 20:1 | 160. |
| | Sprengnether | E | To = Tg = 7.2 secs. | - | - | 30.0 |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. | |
|------------|--|------------|----------------------------|-------------------------------------|----------------------|--|---------------------------|
| Nov. 1950. | | | | h. m. s. | Km. | | |
| 1 | E New Delhi | E | 0 = 04h. 57m. 21s. (Poona) | | | | |
| | | | eP | 05 01 30 | 1870 | Slight. | |
| | | | | iS | 05 04 37 | | |
| | | | | SS | 05 04 53 | | |
| | Poona | M | M | 05 06 57 | | | |
| | | Z | iP | 05 02 28 | 2555 | Other phases lost in artificial disturbances. Feeble | |
| | | E | iS | 05 06 35 | | | |
| | Bombay | N,E | e | 05 06 50 | | | |
| | | | | e | 05 10 17 | | |
| | 1 | Kodaikanal | E | e? | 10 35 48 | | Tremor. Phases not clear. |
| 2 | Epicentre :- 26°6N, 122°0E (North of Formosa) | | | 0 = 07h. 07m. 29s. (Poona) | | | |
| | New Delhi | N | eP | 07 15 08 | 4480 | Moderate. | |
| | | | iS | 07 21 16 | | | |
| | | | SS | 07 24 12 | | | |
| | Hyderabad | E | M | 07 30 14 | | | |
| | | | eP | 07 15 15 | 4555 | | |
| | | | S | 07 21 28 | | | |
| | | | e | 07 21 34 | | | |
| | | | SS | 07 24 48 | | | |
| | | | M | 07 32 23 | | Per. = 14 secs. | |
| | | E | M | 07 32 30 | | $\mu = 6$ Per. 12 secs. | |
| | Poona | Z,E | eP | 07 15 48 | 5000 | $\mu = 4$ Moderate. | |
| | | | eS | 07 22 27 | | | |
| | | | SS | 07 25 55 | | | |
| | | | Mn | 07 35 50 | | | |
| | | | | | | Per. = 14 secs. | |
| | Kodaikanal | E | e | 07 16 01 | 4980 | $\mu = 01$ Slight. <i>flak</i> | |
| | | | eS | 07 22 31 | | | |
| | | | LR | 07 28 11 | | | |
| | | | M | 07 31 51 | | | |
| | | | | | Per. = 9 secs. | | |
| Bombay | E | eP | 07 15 55 | 5100 | $\mu = 1$ Slight. | | |
| | | N | P | Lost due to the thickness of trace. | | | |
| | E | N,E | ePP | 07 17 44 | | | |
| | | | iS | 07 22 40 | | | |
| | | | eSS | 07 26 10 | | | |
| | | N | M | 07 35 30 | | Per = 10 sec. | |
| | | E | M | 07 38 10 | | $\mu = 4$ Per. = 10 secs. $\mu = 2$. | |
| 2 | Epicentre; - 6°0S, 129°5E. (Banda Sea Region. Felt in Darwin, Australia) | | | 0 = 15h. 27m. 49s. (U.S.C.G.S.) | | | |
| | Colombo | E | P | 15 36 55 | | | |
| | | | S | 15 41 30 | | | |
| | | | M ₁ | 15 50 30 | | | |
| | | | M ₂ | 15 55 -- | | | |
| | | | | | | Trace faint. | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|----------------------------|-----------------|------------|---|--|----------|--|
| | | | | h. m. s. | Km. | |
| Nov. 1950. 2 (cont.) | | | | | | |
| | Kodaikanal | E | iP iS? LR? M ? | 15 37 21 15 42 03 15 45 24 15 47 40 | 3080 | Great. Phases not clear due due to faint record. Per. = 13. secs $\mu = 08$ |
| | Hy Hyderabad | E,N E | iP PcP PP i iS SS L M | 15 37 29 15 38 37 15 39 28 15 40 43 15 45 00 15 49 46 15 55 22 15 59 51 | 5920 | |
| | | N | M | 16 00 10 | | Per. = 18 secs. $\mu = 105$. |
| | Poona | Z,E,N N | iP PcP PP PPP PcS iS PS PPS ScS SS SSS LQ LR Mn | 15 38 00 15 38 48 15 40 16 15 41 37 15 42 52 15 46 00 15 46 15 15 46 30 15 48 03 15 50 15 15 52 22 15 52 45 15 55 45 15 58 15 | 6445 | Per. = 18 secs. $\mu = 160$. Great. |
| | | | | | | Per. = 31 secs. $\mu = 530$ |
| | New Delhi | N,E | iP PcP PP i N i N,E iS PS i N ScS i SS i LQ M Mn | 15 38 06 15 38 57 15 40 14 15 41 25 15 41 39 15 43 04 15 46 10 15 46 23 15 47 34 15 47 54 15 48 35 15 50 01 15 51 47 15 52 42 15 59 34 16 00 10 | 6520 | Great. Direction of first motion S & E. |
| | | | | | | Per. = 28 secs. Great |
| | Bombay | N,E | iP iPP iS iSS N E iSSS LQ N E LQ M N E M | 15 38 06 15 40 02 15 46 12 15 50 19 15 52 16 15 52 32 15 52 42 15 52 52 16 06 31 16 07 27 | 6535 | Per. = 18 secs. $\mu = 93$ Per. = 23 secs $\mu = 105$ |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | | |
|----------------------------|------------------------------------|--------|----------------|---------------------------------|----|----|---|
| | | | | h. | m. | s. | Km. |
| Nov. 1950. 2 (cont.) | Dehra Dun | N | eP | 15 | 38 | 24 | 6215 |
| | | | eS | 15 | 46 | 24 | |
| | | | eL | 15 | 55 | 09 | |
| | | | M ₁ | 15 | 56 | 15 | |
| | | | M ₂ | 16 | 03 | 51 | |
| | | | M ₃ | 16 | 06 | 24 | |
| | | | | | | | Per. = 24 secs. Amp. = 1.1" |
| | | | | | | | Per. = 27 secs. Amp. = 1.2" |
| | | | | | | | Per. = 27 secs. Amp. = 1.2" |
| 2 | After shock of the previous shock. | | | 0 = 18h. 14m. 03s. (U.S.C.G.S.) | | | |
| | Colombo | E | P | 18 | 23 | 06 | |
| | | | S | 18 | 30 | 06 | |
| | | | | | | | Small shock super impēsed on the end waves of the preceding shock. |
| | Poona | Z | iP | 18 | 24 | 09 | |
| | | | i | 18 | 35 | 47 | |
| | New Delhi | N,E | iP | 18 | 24 | 18 | 6500 |
| | | | iS | 18 | 32 | 21 | |
| | | N | i | 18 | 33 | 19 | |
| | | | | | | | Slight. |
| 2 | Epicentre 30° 5N, 97° | | 97° 8E | 0 = 20h. 17m. 22s. (Poona) | | | |
| | | N,E | eP | 20 | 21 | 34 | 2100 |
| | | | PPP | 20 | 21 | 54 | |
| | | N | iS | 20 | 24 | 54 | |
| | | N,E | i | 20 | 24 | 58 | |
| | | N | M | 20 | 26 | 54 | |
| | Hyderabad | E | P | 20 | 22 | 21 | 2445 |
| | | | S? | 20 | 26 | 26 | |
| | | | M | 20 | 29 | 50 | |
| | | | | | | | Per. = 11 secs. μ = 3. |
| | Poona | Z | iP | 20 | 22 | 49 | 2790 |
| | | E | iS | 20 | 27 | 12 | |
| | Bombay | N,E | eP | 20 | 22 | 54 | 2850 |
| | | | eS | 20 | 27 | 20 | |
| | | E | LQ | 20 | 27 | 50 | |
| | | N | LQ | 20 | 27 | 54 | |
| | | E | LR | 20 | 29 | 21 | |
| | | N | LR | 20 | 29 | 26 | |
| | | E | M | 20 | 32 | 44 | |
| | | | | | | | Per. = 9 secs. μ = 03 |
| | | N | M | 20 | 33 | 31 | |
| | | | | | | | Per. = 7 secs. μ = 03 |
| | Kodaikanal | E | eP | 20 | 23 | 17 | 3080 |
| | | | eS | 20 | 27 | 59 | |
| | | | L _R | 20 | 30 | 20 | |
| | | | M | 20 | 32 | 36 | |
| | | | | | | | Per. = 12 secs. μ = 03 |
| | Colombo | E | P | 20 | 24 | 23 | |
| 3 | Kodaikanal | E | e | 04 | 36 | 01 | |
| | | | | | | | Slight tremor Phases not clear. |

| DATE | STATION | +COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|--------------|---|-------------|----------------|---------------------------------|----------|------------------------------|
| | | | | h. m. s. | Km. | |
| Nov. 1950 | | | | | | |
| 5 | Epicentre 33°0N, 134°5E (Off the coast of Shikoku, Japan felt.) | | | | | |
| | | | | 0 = 17h. 37m. 25s. (U.S.C.G.S.) | | |
| | | | | 0 = 17h. 37m. 20s. (Poona). | | |
| | Calcutta | E | iP | 17 45 22 | 4690 | Moderate. |
| | | | ePP | 17 47 08 | | |
| | | | ePPP | 17 47 44 | | |
| | | | iS | 17 51 43 | | |
| | | | iSS | 17 55 02 | | |
| | | | Mn | 18 06 22 | | Per. = 14 secs. |
| | New Delhi | N,E N | eP | 17 46 16 | 5410 | $\mu = 77$ Slight. |
| | | | PP | 17 48 08 | | |
| | | | iS | 17 53 17 | | |
| | | | SS | 17 56 44 | | |
| | | | i | 17 56 58 | | |
| | | | i | 17 57 12 | | |
| | | | M | 18 03 53 | | |
| | Hyderabad | E | Mn | 18 10 06 | | |
| | | | P | 17 46 43 | 5780 | |
| | | | PP | 17 48 47 | | |
| | | | S? | 17 54 26 | | |
| | | | SS | 17 58 09 | | |
| | | N | L | 18 03 08 | | |
| | | | M | 18 06 28 | | Per. = 15 secs. |
| | | E | M | 18 06 49 | | $\mu = 41$ Per. = 15 secs |
| | Poona | Z E N | iP) | 17 47 09 | 6310 | $\mu = 30$ Moderate. |
| | | | eP) | | | |
| | | | PcS | 17 52 05 | | |
| | | | eS | 17 55 02 | | |
| | | | PS | 17 55 12 | | |
| | | | ScS | 17 56 52 | | |
| | | | SS | 17 58 41 | | |
| | | | SSS | 18 00 14 | | |
| | | | LQ | 18 01 11 | | |
| | | | L _R | 18 03 56 | | |
| | | | M | 18 07 07 | | Per. = 22 secs |
| | Bombay | N,E | eP | 17 47 12 | 6360 | $\mu = 30$ Moderate. |
| | | | PP | 17 49 35 | | |
| | | | eS | 17 55 07 | | |
| | | N | iPPS | 17 55 21 | | |
| | | E | iPPS | 17 55 25 | | |
| | | N | SS | 17 58 55 | | |
| | | E | SS | 17 58 58 | | |
| | | | L _R | 18 03 39 | | |
| | | N | L _R | 18 03 55 | | |
| | | E | M | 18 13 38 | | Per. = 17 secs. |
| | | | | | | $\mu = 33.$ |
| | | N | M | 18 14 07 | | Per. = 11 secs. |
| | | | | | | $\mu = 18$ |
| | Colombo | E | P | 17 47 18 | | |
| | | | S | 17 55 16 | | |
| | | | L | 18 06 21 | | |
| | | | M | 18 18 26 | | Amp. = 1.0 mm |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|----------------------------|--|--|---|--|----------|---|
| | | | | h, m. s. | Km. | |
| Nov. 1950. 5 (cont.) | | | | | | |
| | Kodaikanal | E | iP PPP iS ScS L _R M | 17 47 22 17 50 52 17 55 26 17 57 21 18 04 28 18 09 13 | 6520 | Moderate. Per. = 15 secs. $\mu = 10$. Times doubtful. |
| | Dehra Dun | N | eP? eS eL M | 17 54 33 ? 17 58 24 18 04 24 18 09 09 | | Per. = 18 secs. $\mu = 0.25''$ |
| 6 | New Delhi | N,E | eP iS | 00 38 33 00 39 01 | 250 | Slight. |
| 6 | New Delhi | N,E | eP PS | 16 26 52 16 28 36 | 1010 | Slight. |
| 6 | Epicentre 7°5 S, 155°5E (Saloman Islands Region) | | | | | |
| | | | | O = 22h. 22m. 05s. (U.S.C.G.S.) | | |
| | | | | O = 22h. 22m. 09s. (Poona) | | |
| | Calcutta | E | e e e | 22 33 39 22 42 59 22 43 42 | | Slight, distant, tremor. |
| | Colombo | E | P S M | 22 34 02 22 43 50 23 02 -- | | |
| | New Delhi | N,E | e iS | 22 34 42 22 44 54 | | Amp. 0.1 mm Slight, distant. Beginning was disturbed by vibration due to a passing a lorry |
| | Poona | Z E E E,N E E,N E N | iP) eP) PPP SKS eS ScS PS PPS SS SSS L _R Mn | 22 34 43 22 39 57 22 44 49 22 45 07 22 45 11 22 45 53 22 46 20 22 50 38 22 54 11 22 57 30 23 09 30 | 9335 | Slight. Per. = 20 secs. $\mu = 31$ |
| | Bombay | N,E N E | eP) iS) eS) | 22 34 50 22 45 20 | 9400 | Slight. |
| | Kodaikanal | E | Earthquake of probably long distance and of slight intensity recorded; but the phases and times for this shock are not dec decipherable due to superposition of times. | | | |
| 7 | Kodaikanal | E | e | 19 37 31 | | Probably distant Slight. Phases not clear. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | △ | |
|---------------|---|---|--|--|--------|--|
| | | | | h. m. s. | Km. | |
| Nov. 1950. | | | | | | |
| 8 | Epicentre; 9°5 S, 159°5 . (Soloman Islands Region) | | | 0 = 02h. 18m. 09s. (U.S.C.G.S.) 0 = 02h. 18m. 05s. (Poona). | | |
| | Calcutta | E | eP ePPP iS iSS ? | 02 30 10 02 34 46 02 40 03 02 45 00 02 45 34 | 8665 | Moderate. |
| | Colombo | E | P S L M | 02 30 37 02 40 53 03 04 21 03 10 15 | | |
| | Kodaikanal | E E | iP PP PPP iS SS LQ LR M | 02 30 46 02 34 03 02 36 03 02 41 18 02 46 56 02 54 08 02 58 18 03 05 33 | 9510 | Amp. = 0.7 mm. Moderate. |
| | Hyderabad | N | eP S SS M | 02 30 53 02 41 13 02 47 52 03 06 55 | 9240 | Per. = 15 secs. $\mu = 09$ |
| | New Delhi | N | eP SKS iS PP PPS i i | 02 31 04 02 41 29 02 41 49 02 42 37 02 42 59 02 43 44 02 45 13 | 9825 | Per. = 15 secs. $\mu = 11$ Moderate. |
| | Poona | Z,E E | iP PP PPP SKS iS PS PPS SS SSP SSS LQ LR M | 02 31 08 02 34 46 02 36 27 02 41 32 02 42 00 02 43 05 02 43 38 02 48 00 02 48 19 02 51 59 02 53 40 03 01 07 03 08 09 | 10,000 | Moderate. |
| | Bombay | N,E E N E N N,E E N E E N | eP ePP ePP PPP PPP isKS ₁ iS SS SS L LR M M | 02 31 17 02 34 55 02 35 20 02 36 50 02 37 20 02 41 40 02 42 22 02 48 13 02 48 55 03 00 37 03 03 13 03 18 07 03 26 33 | 10220 | Per. = 26 secs. $\mu = 12$. Moderate. Per. = 17 secs. $\mu = 07$ Per. = 17 secs. $\mu = 08$ |

DATE STATION COMPT. PHASE G. M. T.



From the ISC collection scanned by SISMOS

Nov. 1950.

| DATE | STATION | COMPT. | PHASE | G. M. T. | Km. | | |
|-----------|--|--------|----------|--|--------------------------------|---|----------|
| | | | | h. m. s. | | | |
| 9 | N Bombay | N,E | e | 03 55 22 | | Feeble, surface waves. Per. = 8 secs $\mu = 02$ Per. = 8 secs. $\mu = 02$. Slight, distant. Tremor Per. = 10 secs. $\mu = 02$ Per. = 12 secs. $\mu = 03$. | |
| | | | M | 04 11 25 | | | |
| | | | E | M | 04 11 37 | | |
| | Calcutta | E | e | 03 58 35 | | | |
| | Hyderabad | E | e | 04 02 59 | | | |
| | | | M | 04 10 11 | | | |
| | | N | M | 04 10 22 | | | |
| | Kodaikanal | E | e? | Lost in unrecorded gap between 04h.07m. 06s. and 04h. 09m. 06s. Slight tremor. | | | |
| 10 | Kodaikanal | E | e | 19 39 -- | | Feeble tremor | |
| 12 | Epicentre:- 28°0N, 94°7E (North-East Border of Assam) 0 = 21h. 30m. 25s. (Poona). | | | | | | |
| | Calcutta | E | eP | 21 32 21 | 835 | Slight. | |
| | | | ePg | 21 33 03 | | | |
| | | | LQ | 21 33 38 | | | |
| | | | eS | 21 33 47 | | | |
| | | | S* | 21 34 06 | | | |
| | | | SS | 21 34 09 | | | |
| | | | Sg | 21 34 31 | | | |
| | New Delhi | E | M | 21 34 39 | 1730 | Slight. | |
| | | | eP | 21 34 09 | | | |
| | | | PPP | 21 35 30 | | | |
| | | | P* | 21 35 53 | | | |
| | | | N,E | LQ | | | 21 36 58 |
| | | | | iS | | | 21 37 03 |
| | | | | SS | | | 21 37 17 |
| | | SSS | 21 37 30 | | | | |
| | | LR | 21 37 40 | | | | |
| | | S* | 21 38 05 | | | | |
| | | M | 21 38 55 | | | | |
| | | Mn | 21 39 38 | | Per. = 7 secs. $\mu = 04$. | | |
| Hyderabad | E | eP | 21 34 36 | 1990 | | | |
| | | e | 21 40 00 | | | | |
| | | M | 21 47 15 | | | | |
| Poona | Z,E | iP | 21 35 16 | 2380 | Slight. $\mu = 3$. | | |
| | | PP | 21 35 40 | | | | |
| | | PPP | 21 35 53 | | | | |
| | | iS | 21 39 10 | | | | |
| | | LQ | 21 39 30 | | | | |
| | | | SS | 21 39 50 | | | |
| | | | SSS | 21 40 01 | | | |
| | | | LR | 21 40 28 | | | |
| | | E | M | 21 42 16 | | Per. = 4. secs. $\mu = 04$. | |
| | | N | Mn | 21 42 00 | | Per. = 4 secs. $\mu = 10$ | |
| | | ScP | 21 42 40 | | | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | |
|--------------|---|--------|-------------------|----------|------|---------------------------------------|
| | | | | h. m. s. | Km. | |
| Nov. 1950 | | | | | | |
| 12 | ⊙ (cont.) | | | | | |
| | Bombay | N,E | eP | 21 35 24 | 2480 | Slight. |
| | | N | eS | 21 39 25 | | |
| | | E | iS | | | |
| | Kpdaikanal | N,E | L _R | 21 40 30 | | |
| | | E | e? | 22 33 -- | | Slight, near, phases not clear. |
| 14 | Epicentre 11°05, 161°0E (Soloman Islands) | | | | | |
| | O = 04h. 23m. 46s. (U.S.C.G.S.) | | | | | |
| | Bombay | N | e | 04 46 -- | | Very feeble |
| | | E | Record too faint. | | | |
| | Kodaikanal | E | eS | 04 47 21 | 9550 | Slight, distant |
| | | | e | 04 55 39 | | |
| | | | L _R | 05 05 39 | | |
| | | | M | 05 10 49 | | Per. = 15 secs. μ = 02. |
| 14 | Epicentre:- 26°0N, 63°0E (Baluchistan) | | | | | |
| | O = 22h. 04m. 29s. (Poona). | | | | | |
| | Bombay | N | eP | 22 07 16 | 1250 | Slight. |
| | | | eS | 22 09 24 | | |
| | | | M | 22 15 32 | | Per. = 13 secs. μ = 05. |
| | Poona | E | Record too faint | | | |
| | | Z | iP | 22 07 31 | 1390 | Slight. |
| | | E | eP | | | |
| | | | PPP | 22 07 42 | | |
| | | | L _Q | 22 09 43 | | |
| | | | iS | 22 09 52 | | |
| | | | SS | 22 10 09 | | |
| | | | SSS | 22 10 22 | | |
| | | | L _R | 22 10 32 | | |
| | | | M | 22 11 17 | | Per. = 4 secs. μ = 01. |
| | New Delhi | N,E | iP | 22 07 39 | 1445 | Slight. |
| | | | PP | 22 07 56 | | |
| | | | L _Q | 22 10 00 | | |
| | | | iS | 22 10 06 | | |
| | | | SS | 22 10 22 | | |
| | Dehra Dun | N | eP | 22 08 15 | 2705 | |
| | | | eS | 22 12 24 | | |
| | | | M | 22 16 36 | | Per. = 13 secs. μ = 0.05" |
| | Hyderabad | N | P | 22 08 29 | 1900 | |
| | | | S | 22 11 39 | | |
| | | | L | 22 13 16 | | |
| | | | M | 22 16 33 | | Per. = 10 secs. μ = 05. |
| | Kodaikanal | E | iP | 22 09 15 | 2400 | Slight, near. |
| | | | iS | 22 13 10 | | |
| | | | L _R | 22 14 30 | | |
| | | | M | 22 16 20 | | Per. = 15 secs. μ = 5. |
| | | | PcS | 22 17 20 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|-----------------|--|--------------------------------|--|--|----------|---|
| | | | | h. m. s. | Km. | |
| Nov. 14 (cont.) | | | | | | |
| 1950. | | | | | | |
| 14 (cont.) | Calcutta | E | eP eS | 22 10 11 22 14 22 | 2610 | Slight. |
| 15 | Bombay | N E | e Loss of record. | 08 14 32 | | Very feeble. |
| 16 | Bombay | N,E | e e e | 08 57 26 09 03 35 09 05 48 | | Feeble tremor. |
| 16 | Epicentre:- Off the North-East Border of Assam. O = 09h. 09m. 25s. (Poona) | | | | | |
| | Calcutta | E | eS i e e | 09 13 05 09 14 45 09 15 21 09 15 46 | 955 | Slight. |
| | New Delhi | N,E N | eP eS SS M | 09 13 06 09 16 04 09 16 24 09 17 53 | 1780 | Slight. |
| | Bombay | N,E | e eS? M | 09 14 - 09 18 24 09 25 23 | | Slight. Per. = 7 secs. $\mu = 2.$ Per. = 7 secs. u = 3. |
| | | N | M | 09 27 55 | | |
| | Poona | Z E | iP PP PPP iS LQ SS SSS LR M ScP Mn | 09 14 01 09 14 22 09 14 35 09 17 40 09 18 09 09 18 15 09 18 26 09 18 48 09 20 30 09 21 52 09 22 12 | 2210 | Slight. Per. = 9 secs. $\mu = 5.$ |
| | Kodaikanal | E E | ScS e | 09 25 42 09 18 24 | | Slight, tremor. |
| 17 | Bombay | N,E | e | 20 50-- | | Feeble surface waves. |
| 17 | Epicentre:- 2 39 ^o .5N, 72 ^o .5E . O = 22h. 00m. 55s. (Poona). | | | | | |
| | New Delhi | N,E | eP eS SS | 22 03 43 22 06 01 22 06 15 | 1300 | Slight. |
| | Bombay | N,E N E N,E N E | M iP) eP) eS M M | 22 07 26 22 05 38 22 09 24 22 13 56 22 14 04 | 2335 | Slight. Per. = 7 secs. $\mu = 4.$ Per. = 8 secs. $\mu = 2.$ |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|------------|------------|--------|-------|-----------------------------|----------|-------------------------|
| | | | | h. m. s. | Km. | |
| Nov. 1950. | | | | | | |
| 17 (cont.) | Poona | N | iP | 22 05 45 | 2380 | Slight. |
| | | | PP | 22 05 59 | | |
| | | | iS | 22 09 32 | | |
| | | | LQ | 22 10 04 | | |
| | | | SS | 22 10 22 | | |
| | | | SSS | 22 10 44 | | |
| | | | M | 22 13 20 | | Per. = 9 secs. |
| | Dehra Dun | N | eP | 22 08 13 | | $\mu=7$. |
| 18 | | | | O = 00h. 44m. 30s. (POONA). | | |
| | New Delhi | N,E | eP | 00 47 57 | 1610 | Slight. |
| | | | LQ | 00 50 33 | | |
| | | | eS | 00 50 40 | | |
| | | | M | 00 52 25 | | |
| | Poona | Z | iP | 00 49 02 | 2165 | Slight. |
| | | | PP | 00 49 18 | | |
| | | | PPP | 00 49 27 | | |
| | | | eS | 00 52 37 | | |
| | | | LQ | 00 52 44 | | |
| | | | SS | 00 53 04 | | |
| | | | PcP | 00 53 15 | | |
| | | | SSS | 00 53 22 | | |
| | | | Lr | 00 53 39 | | |
| | | | M | 00 55 20 | | |
| | | E | Mn | 00 55 28 | | Per. = 3 secs. |
| | Bombay | N,E | eS | 00 53 28 | | $\mu = 2$. |
| | | | e | 00 55 33 | | Slight. |
| 18 | New Delhi | N,E | iP | 16 43 19 | 970 | Slight. |
| | | | PP | 16 43 27 | | |
| | | | iS | 16 44 59 | | |
| | | | SS | 16 45 11 | | |
| 19 | | | | O = 20h. 34m. 25s. (Poona). | | |
| | Bombay | N,E | iP | 20 38 36 | 2000 | Slight. |
| | | | eS | 20 41 56 | | |
| | | | SS | 20 42 03 | | |
| | Poona | Z,E | iP | 20 38 45 | 2020 | Slight. |
| | | E | PP | 20 39 02 | | |
| | | | PPP | 20 39 10 | | |
| | | | eS | 20 42 06 | | |
| | Kodaikanal | E | iP | 20 39 12 | 2445 | Slight. |
| | | | iS | 20 43 11 | | Initial movement of |
| | | | Lr | 20 44 45 | | P towards East. |
| | | | M | 20 46 47 | | Per. = 10 secs. |
| | | | | | | $\mu = 2$ |
| | Hyderabad | E | P | 20 39 28 | 2580 | |
| | | | S | 20 43 37 | | |
| | | | L | 20 45 06 | | |
| | | | M | 20 46 49 | | Per. = 15 secs. |
| | | | | | | $\mu = 4$. |
| | Calcutta | E | e P | 20 46 20 | | Slight, distant tremor. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|---------------------|----------------------------|---------------|---|--|----------|--|
| | | | | h. m. s. | Km. | |
| Nov. 1950. 19 | | | | 0 = 21h. 34m. 27s. | | |
| | New Delhi | N,E LQ | eP LqQ iS SS SSS M | 21 37 32 21 39 23 21 39 31 21 39 41 21 39 53 21 41-- | 1160 | Slight. |
| | Bombay | N,E E N | eP eS M M | 21 39 29 21 43 11 21 45 36 21 47 19 | 2290 | Slight. Per. = 5 secs. $\mu = 9.2$ Per. = 9 $\mu = 2$. |
| | Poona | Z,E E | iP) eP) PP PPP iS LQ SS PcP SSS LR M | 21 39 33 21 39 56 21 39 53 21 43 12 21 43 17 21 43 33 21 43 48 21 43 57 21 44 17 21 45 30 | 21 20 | Slight. |
| | Hyderabad | E N E | e e M | 21 44 19 21 46 27 21 48 11 21 48 13 | 1250 | Per. = 4 secs. $\mu = 0.2$ Per. = 11 secs. $\mu = 6$ Per. = 9 secs. $\mu = 2$. |
| | Calcutta | E | e | 21 43 27 21 43 12 | | Slight, distant. |
| | Kodaikanal | E | e 21 | 21 44 39 | | Near Tremor. Phases not clear. |
| 20 | Bombay, | N,E | e | 11 49 | | Very feeble. |
| 21 | Epicentre: = 28°5', 96°5'E | | | 0 = 07h. 09m. 58s. (Poona) | | |
| | New Delhi | N,E | eP LQ iS SS LR e eS | 07 13 54 07 16 56 07 17 00 07 17 17 07 17 41 07 14 35 07 18 18 | 1860 | Slight. |
| | Hyderabad | E E | LR e | 07 17 41 07 14 35 | | |
| | Poona | Z,E E | iP PP PPP PcS S LQ SS SSS LR ScP M ScS | 07 15 03 07 15 38 07 15 50 07 18 46 07 19 14 07 19 44 07 20 06 07 20 20 07 20 54 07 22 17 07 22 53 07 26 06 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|--------------|--|-----------------------------------|------------------------|---------------------------------|----------|--------------------------|
| | | | | h. m. s. | Km. | |
| Nov. 1950 | | | | | | |
| 21 (cont.) | | | | | | |
| | Bombay | N,F | eP eS | 07 15 13 07 19 27 | 2700 | Slight. |
| | | E | M | 07 22 34 | | Per. = 7 secs. u = 3 |
| | | N | M | 07 22 37 | | Per. = 7 secs. u = 7 |
| | Kodaikanal | E | eP eS | 07 15 30 07 19 59 | 2890 | Slight. |
| 21 | Bombay | N,E | eP? eS | 11 13-- 11 18 02 | | Feeble. |
| 21 | New Delhi | O = 20h. 53m. 56s. (Poona) N,E | eP LQ | 20 56 43 20 58 46 | 1280 | Slight. |
| | Poona | Z | iS iP | 20 58 53 | 2220 | Slight. |
| | | E | eS LQ | 21 02 13 21 02 26 | | |
| | | | SSS | 21 03 00 | | |
| | Bombay | N | L _R iP) | 21 03 21 20 58 35 | 2435 | Feeble. |
| | | E | eP) | | | |
| | | N,E | eS | 21 02 20 | | |
| | Hyderabad | N | e M | 21 03 00 21 07 39 | | Per. = 9 secs. u = 3 |
| | Kodaikanal | E | e? | 21 05 22 | | Feeble. |
| 22 | New Delhi | E | eP LQ | 01 30 33 01 32 01 | 960 | Slight. |
| | | | iS | 01 32 12 | | |
| 22 | Epicentre:- 51°0N, 176°0W (Aleutian Islands, felt at Adak) | | | O = 10h. 16m. 23s. (U.S.C.G.S.) | | |
| | New Delhi | N,E | eP iS | 10 28 22 10 38 12 | 2590 | Moderate. |
| | | N | PS | 10 38 48 | | |
| | | | SS | 10 43 05 | | |
| | | | LQ | 10 47 44 | | |
| | | | M | 10 58 02 | | |
| | Poona | Z,E | iP | 10 29 14 | 9650 | Moderate. |
| | | E | PPP | 10 34 39 | | |
| | | | SKS | 10 39 32 | | |
| | | | SKKS | 10 39 38 | | |
| | | | iS | 10 39 51 | | |
| | | | PS | 10 40 53 | | |
| | | | PPSS | 10 43 25 | | |
| | | | SS | 10 45 26 | | |
| | | | SSS | 10 49 11 | | |
| | Bombay | N,E | eP | 10 29 14 | 9855 | Moderate |
| | | | ePP | 10 32 47 | | |
| | | | SKS ₁ | 10 32 49 | | |
| | | | iS | 10 40 04 | | |
| | | N | M | 11 11 09 | | Per. = 19 secs. u = 9 |
| | | E | M | 11 11 27 | P | Per. = 19 secs. u = 6 |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | | Δ | REMARKS. |
|---------------|------------|--------|-------|----------|----|----|----------|--|
| | | | | h. | m. | s. | Km. | |
| Nov. 1950. | | | | | | | | |
| 22 (cont.) | | | | | | | | |
| | Hyderabad | N | eP | 10 | 29 | 14 | 9170 | |
| | | E | S | 10 | 39 | 31 | | |
| | | N | SS | 10 | 45 | 36 | | |
| | | | M | 11 | 02 | 29 | | Per. = 15 secs |
| | | E | M | 11 | 02 | 31 | | $\mu = 18$ Per. = 18 secs |
| | Kodaikanal | E | e | 10 | 10 | 39 | 59 | $\mu = 12$. Slight, distant |
| | | | M | 11 | 26 | 59 | | Per. = 18 secs |
| 22 | New Delhi | N,E | eP | 13 | 04 | 12 | 1180 | $\mu = 07$ Slight. |
| | | | eS | 13 | 06 | 13 | | |
| 22 | Kodaikanal | E | e | 17 | 43 | 59 | | Feeble tremor. |
| 22 | Bombay | N,E | e | 20 | 02 | -- | | Very feeble. |
| 23 | Kodaikanal | E | e | 04 | 13 | 44 | | Feeble tremor. |
| 23 | Kodaikanal | E | e | 06 | 54 | 59 | | |
| 23 | Bombay | N,E | e | 09 | 25 | -- | | Feeble. |
| | | | e | 09 | 26 | 22 | | |
| | New Delhi | O N,E | iP | 09 | 43 | 14 | 130 | Slight. |
| | | | iS | 09 | 43 | 29 | | |
| 23 | Kodaikanal | E | e | 19 | 50 | 49 | | Feeble tremor. |
| 24 | Kodaikanal | E | e | 04 | 58 | 59 | | Feeble tremor. |
| 24 | Kodaikanal | E | e | 23 | 30 | 34 | | Feeble tremor. |
| | Hyderabad | E | M | 23 | 30 | 52 | | Per. = 10 secs. |
| 26 | | | | | | | | $\mu = 2$. |
| 26 | Kodaikanal | E | e | 01 | 57 | 44 | 57 44 | Slight tremor. Probably at a very short distance. Phases not clear. |
| 28 | Kodaikanal | E | e | 06 | 45 | 00 | | Feeble tremor. |
| 29 | Bombay | N,E | eP? | 18 | 45 | 48 | | Very feeble. |

MLP.
19-4-51.

| Year | Country | Number of Earthquakes |
|------|---------|-----------------------|
| 1970 | USA | 10 |
| 1971 | USA | 12 |
| 1972 | USA | 15 |
| 1973 | USA | 18 |
| 1974 | USA | 20 |
| 1975 | USA | 22 |
| 1976 | USA | 25 |
| 1977 | USA | 28 |
| 1978 | USA | 30 |
| 1979 | USA | 32 |
| 1980 | USA | 35 |
| 1981 | USA | 38 |
| 1982 | USA | 40 |
| 1983 | USA | 42 |
| 1984 | USA | 45 |
| 1985 | USA | 48 |
| 1986 | USA | 50 |
| 1987 | USA | 52 |
| 1988 | USA | 55 |
| 1989 | USA | 58 |
| 1990 | USA | 60 |
| 1991 | USA | 62 |
| 1992 | USA | 65 |
| 1993 | USA | 68 |
| 1994 | USA | 70 |
| 1995 | USA | 72 |
| 1996 | USA | 75 |
| 1997 | USA | 78 |
| 1998 | USA | 80 |
| 1999 | USA | 82 |
| 2000 | USA | 85 |
| 2001 | USA | 88 |
| 2002 | USA | 90 |
| 2003 | USA | 92 |
| 2004 | USA | 95 |
| 2005 | USA | 98 |
| 2006 | USA | 100 |
| 2007 | USA | 102 |
| 2008 | USA | 105 |
| 2009 | USA | 108 |
| 2010 | USA | 110 |
| 2011 | USA | 112 |
| 2012 | USA | 115 |
| 2013 | USA | 118 |
| 2014 | USA | 120 |
| 2015 | USA | 122 |
| 2016 | USA | 125 |
| 2017 | USA | 128 |
| 2018 | USA | 130 |
| 2019 | USA | 132 |
| 2020 | USA | 135 |
| 2021 | USA | 138 |
| 2022 | USA | 140 |

GOVERNMENT OF INDIA

METEOROLOGICAL DEPARTMENT

SEISMOLOGICAL BULLETIN

October, 1950.

Published under the direction of

V.V. Sohoni, B.A.(Hons.), M.Sc.,
Director General of Observatories.

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 were being published in the form of the Quarterly Seismological Bulletin. From the month of January 1948, the data are being published in the present form of a Monthly Seismological Bulletin. With the kind co-operation of the Surveyor-General of India, the Director of the Nizamia Observatory, Hyderabad and the Director, Colombo Observatory, it has been possible to incorporate in the Bulletin the seismic data of their respective observatories viz. Dehra Dun, Hyderabad, and Colombo. The instrumental and non-instrumental voluntary observations are collected and edited at the Meteorological Office, Poona.

TABLE I.
List of Seismograph Stations.

| Station | Latitude North ° ' " | Longitude East ° ' " | Height above M.S.L. 'meters' | Lithologic Foundation | Officer-in- charge of Observatory. |
|------------|----------------------------|----------------------------|---------------------------------------|--------------------------|--|
| Bombay | 18 54 | 72 49 | 6 | Deccan Trap | Director. |
| Calcutta | 22 32 | 88 22 | (i)7 (ii)6 | Alluvium | Director. |
| Colombo | 06 54 | 79 52 | 7 | Beach sand | Director. |
| Dehra Dun | 30 19 | 78 03 | 682 | Gravel | President. |
| Hyderabad | 17 26 | 78 27 | 528 | Granite | Director. |
| Kodaikanal | 10 14 | 77 28 | 2343 | Rock | Director. |
| New Delhi | 28 35 | 77 12 | 207 | Massive Quartzite | Dy. Director General of Obser- vatories (I & S). |
| Poona | 18 32 | 73 51 | 560 | Deccan Trap | Dy. Director General of Obser- vatories (C & G). |
| Milne-Shaw | | | | | Onori-Ewing. |

TABLE II.
Instruments and their constants.

| Station | Instrument | Compo- nent | Period in secs. | Static magnifi- cation | Damping Ratio | Paper Speed mm/min. |
|------------|---------------|----------------|------------------------|------------------------------|-------------------------------------|---------------------------|
| Bombay | Milne-Shaw | N | 12 | 250 | 21:1 | 8.0 |
| | Milne-Shaw | E | 12 | 350 | 21:1 | 8.0 |
| Calcutta | Milne-Shaw | E | 12 | 250 | 20:1 | 8.0 |
| | Onori-Ewing | N | 15 | 32 | -- | 25.4 |
| | Onori-Ewing | E | 16 | 30 | -- | 25.4 |
| | Wood-Anderson | N | 2 | 1000 | Critical | 30.0 |
| | | | | | from 21st to 31st October, 1950. | |
| Colombo | Milne-Shaw | E | 12 | 250 | 20:1 | 8.0 |
| Dehra Dun | Onori | N | 30 | 12 | -- | -- |
| Hyderabad | Milne-Shaw | E | 12 | 242 | 20:1 | 8.0 |
| | Milne-Shaw | N | 12 | 268 | 20:1 | 8.0 |
| Kodaikanal | Milne-Shaw | E | 10 | 250 | 20:1 | 8.0 |
| New Delhi | Milne-Shaw | N | 12 | 299 | 20:1 | 8.0 |
| | Wood-Anderson | N | 4 | 1000 | 20:1 | 16.0 |
| | Wood-Anderson | E | 2 | 1700 | 30:1 | 60.0 |
| | Onori-Ewing | E | 30 | 30 | 1 | 12.0 |
| Poona | Benioff | Z | To = 1, Tg = 0.28 sec. | | - | - |
| | Milne-Shaw | N | 12 | 250 | 20:1 | 8.0 |
| | Wood-Anderson | E | 4 | 1000 | 20:1 | 16.0 |
| | Sprengnether | E | To=Tg=7.2 secs. | | - | 30.0 |

| Date | Station | Compt. | Phase | G. M. T. | Δ | Remarks. |
|---------------|---|--------------------|--|--|----------|---|
| | | | | h. m. s. | Km. | |
| October 1950. | | | | | | |
| 1. | Calcutta | E | eP eS Mn | 02 05 23 02 06 31 02 08 23 | 645 | Slight. Per. = 8 ses $\mu = 9$ |
| 3 | Calcutta | E | e | 02 48 45 | | Slight, near. |
| 3 | Calcutta | E | eP eS SSS | 12 27 49 12 31 03 12 31 41 | 1925 | Slight |
| 3 | Epicentre 28.5°N, 94.5° E in north-east Assam | | | | | |
| | | | | 0 = 23h. 02m. 12s. (Poona). | | |
| | | | | 0 = 23h. 02m. 00s. (U.S.C.G.S.). | | |
| | Calcutta | E | eP LQ eS ISS | 23 04 31 23 05 50 23 06 02 23 06 13 | 880 | Moderate. |
| | New Delhi | N,E | eP PP PPP LQ E SS SSS | 23 05 59 23 06 12 23 06 20 23 09 02 23 09 27 23 09 38 | 1870 | Slight. |
| | Poona | N Z E E,Z | M iP eP PP PPP | 23 11 15 23 07 03 23 07 25 23 07 36 | 2368 | Slight. |
| | | E E,N | eS LQ SS SSS | 23 10 56 23 11 15 23 11 29 23 11 44 | | |
| | | E | LR M PcS ScP | 23 12 07 23 13 52 23 14 21 23 17 53 | | |
| | Bombay | N,E | eP eS | 23 07 13 23 11 27 | 2700 | Moderate. |
| | | N E N | LQ LQ LR LR M | 23 11 32 23 11 50 23 13 03 23 13 07 23 16 40 | | |
| | | E | M | 23 17 48 | | Per. = 9 secs. $\mu = 14.$ |
| | Kodaikanal | E | eP eS L M | 23 07 30 23 11 53 23 14 00 23 16 05 | 2790 | Per. = 9 scs. $\mu = 13$ Slight. |
| | | N | eP eS M ₁ M ₂ | 23 12 06 23 14 24 23 15 21 23 18 48 | 1465 | Per. = 10 scs. $\mu = 5$ 4.1. Per. = 12 secs. $\mu = 0.5''$ Per. = 12 secs, $\mu = 0.02''$ |
| | Dehra Dun | | | | | |

| Date | Station | Compt. | Phase | G. M. T. | Δ | Remarks. |
|---------------|------------|---|-------------------|----------|----------|--|
| | | | | h. m. s. | Km. | |
| October 1950. | | | | | | |
| 4 | Bombay | N,E | e | 18 15 -- | | Feeble.Distant. |
| 5 | Epicentre | 18.5°S, 170.0°E (New Hebrides Islands Region). O = 00h. 41m. 07s. (U.S.C.G.S.) | | | | |
| | Colombo | E | eP | 00 58 35 | | |
| | | | M | 01 30 -- | | |
| | Poona | E | ePP | 00 59 28 | 11300 | |
| | | | ePPP | 01 01 36 | | Moderate |
| | | | SKS | 01 05 47 | | |
| | | | SKKS | 01 06 13 | | |
| | | | SKS ₁ | 01 06 29 | | |
| | | | eS | 01 06 39 | | |
| | | | PS | 01 08 17 | | |
| | | | PPS | 01 09 07 | | |
| | | | SSP | 01 13 44 | | |
| | Kodaikanal | E | e | 01 05 29 | | Tremor |
| | Bombay | N,E | e | 01 05 49 | | Feeble |
| 5 | Epicentre | 10.5°N, 85.0°W, Northern Costa Rica, damage reported in Puntarenas. h = 100kms. O = 16h. 09m. 34s. (U.S.C.G.S.) | | | | |
| | New Delhi | N | ePKP | 16 28 43 | 15550 | Very great |
| | | | PKS ₁ | 16 32 31 | | |
| | | | PPP ₁ | 16 34 46 | | |
| | | | SKS ₂ | 16 35 48 | | |
| | | | i | 16 36 35 | | |
| | | | PKKP ₁ | 16 38 05 | | |
| | | | SKSP | 16 41 50 | | |
| | | | PPS | 16 44 04 | | |
| | | | SKKS ₁ | 16 44 31 | | |
| | | | SKKS ₂ | 16 45 15 | | |
| | | | SS | 16 50 04 | | |
| | | | SSP | 16 50 35 | | |
| | | | SSS | 16 55 24 | | |
| | | | L ₀ | 17 08 57 | | |
| | | | LR | 17 15 21 | | |
| | | | M | 17 24 15 | | |
| | | | Mn | 17 32 14 | | |
| | Poona | N,E,Z | ePKP ₁ | 16 29 06 | 16000 | Per. = 25 secs. $\mu = 330$ Great. |
| | | N | PP | 16 32 23 | | |
| | | | PKS ₁ | 16 32 41 | | |
| | | | PPP | 16 35 34 | | |
| | | | SKS ₂ | 16 36 11 | | |
| | | N,E | ePPS | 16 45 15 | | |
| | | N | SS | 16 51 37 | | |
| | | | SSP | 16 52 05 | | |
| | | | SSS | 16 56 30 | | |
| | | | SSP(2) | 17 03 46 | | |
| | | | L ₀ | 17 09 26 | | |
| | | | SSS(2) | 17 11 37 | | |
| | | | LR | 17 16 26 | | |
| | | | M | 17 29 -- | | |
| | Bombay | N,E | iPKP ₁ | 17 29 06 | 15690 | Per. = 19 scs. $\mu = 111$. Great. |
| | | N | PP | 16 32 13 | | |
| | | E | SKSP | 16 42 35 | | |
| | | N,E | SKSP | 16 42 42 | | |
| | | N | i | 16 46 14 | | |
| | | N | SS | 16 51 20 | | |
| | | M | M | 17 35 05 | | |
| | | E | M | 17 38 42 | | Per. = 23 secs. $\mu = 230$. Per. = 21 secs. $\mu = 114$. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | △ | REMARKS. |
|------------|------------|--------|-------------------|----------|-------|--------------------------------|
| | | | | h. m. s. | Km. | |
| Oct. 1950. | | | | | | |
| 5 (cont.) | | | | | | |
| | Hyderabad | N | PKP ₁ | 16 29 12 | 14140 | |
| | | E | PKP ₁ | 16 29 14 | | |
| | | E,N | SKS ₁ | 16 35 49 | | |
| | | E | SKKS | 16 38 44 | | |
| | | | PS | 16 41 25 | | |
| | | N | PS | 16 41 29 | | |
| | | | SS | 16 48 11 | | |
| | | E | SS | 16 48 17 | | |
| | | | M | 17 20 26 | | Per. = 18 secs. $\mu = 167$ |
| | | N | M | 17 20 49 | | Per. = 21 secs $\mu = 177$ |
| | Calcutta | E | iPKP ₁ | 16 29 15 | 16390 | Very great. |
| | | | i | 16 29 47 | | |
| | | | PP | 16 32 47 | | |
| | | | PPP | 16 36 07 | | |
| | | | SKS ₂ | 16 36 20 | | |
| | | | PKKP ₁ | 16 37 52 | | |
| | | | SKKS ₁ | 16 39 11 | | |
| | | | PKKS ₁ | 16 41 24 | | |
| | | | PS | 16 43 09 | | |
| | | | SS | 16 51 14 | | |
| | | | SSS | 16 56 34 | | |
| | | | L _Q | 17 10 03 | | |
| | | | L _R | 17 17 23 | | |
| | | | M | 17 29 59 | | |
| | | | Mn | 17 34 43 | | Per. = 15 secs. $\mu = 375$ |
| | Kodaikanal | E | ePKP ₁ | 16 29 25 | 16445 | Great. |
| | | | PP | 16 32 35 | | |
| | | | SKS ₂ | 16 36 25 | | |
| | | | SKKKS | 16 40 05 | | |
| | | | SKSP | 16 42 50 | | |
| | | | SS | 16 52 04 | | |
| | | | SSP | 16 52 44 | | |
| | | | SSS | 16 57 34 | | |
| | | | L _Q | 17 11 39 | | |
| | | | L _R | 17 18 37 | | |
| | | | M | 17 30 59 | | Per. = 29 25 $\mu = 325$ |
| | Colombo | E | P | 16 29 32 | | |
| | | | S | 16 43 55 | | |
| | | | L | 17 31 35 | | |
| | | | M | 17 44 45 | | |
| | Dehra Dun | N | eP? | 16 29 39 | | |
| | | | e | 16 45 06 | | |
| | | | e | 16 56 45 | | |
| | | | e | 17 06 21 | | |
| | | | e | 17 20 09 | | |
| | | | M | 17 25 39 | | Per. = 27 secs. |
| 5 | Poona | Z | i | 23 27 45 | | Tremor. |
| 6 | Bombay | N | eP | 17 57 55 | | Very feeble. |
| | | E | i | 17 59 33 | | |
| | P | N | e | | | |
| | Poona | Z | i | 17 58 06 | | |
| | | | e | 17 59 22 | | |
| | | | i | 18 04 58 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | Km. | REMARKS. |
|------------|---|--------|----------------|---------------------------------|----|-----|--------------------------------|
| | | | | h.m. | s. | | |
| Oct. 1950. | | | | | | | |
| 6 | | | | O = 21h. 20m. 30s. (Poona) | | | |
| | Colombo | E | e | 21 | 20 | 50 | Times uncertain |
| | | | S | 21 | 34 | 22 | |
| | | | L | 21 | 36 | 20 | |
| | | | M | 21 | 36 | 35 | |
| | DehraDun | N | eP | 21 | 21 | 24 | Slight. |
| | New Delhi | N,E | eP | 21 | 22 | 00 | |
| | | | OP* | 21 | 22 | 08 | |
| | | | P | 21 | 22 | 16 | |
| | | | PPP | 21 | 22 | 19 | |
| | | | L _Q | 21 | 22 | 32 | |
| | | | iS | 21 | 22 | 47 | |
| | | | S* | 21 | 22 | 57 | |
| | | | S | 21 | 23 | 06 | |
| | Bombay | N,E | e | 21 | 24 | -- | |
| | | E | eS? | 21 | 26 | 46 | Per. = 10 secs. $\mu = 3$. |
| | | | M | 21 | 29 | 36 | |
| | | N | M | 21 | 29 | 50 | Per. = 9 secs. $\mu = 7$. |
| | Poona | Z | eP | 21 | 24 | 01 | Slight. |
| | | E,Z | eS | 21 | 26 | 46 | |
| | | Z | SS | 21 | 27 | 06 | |
| | | | SSS | 21 | 27 | 20 | |
| | | | L _R | 21 | 27 | 29 | |
| | | | M | 21 | 28 | 20 | |
| | Calcutta | E | e | 21 | 26 | 24 | Slight, near. |
| | | | e | 21 | 28 | 47 | |
| | Hyderabad | E | eS | 21 | 27 | 06 | Per. = 9 secs. $\mu = 3$ |
| | | | ? | 21 | 28 | 50 | |
| | | | M | 21 | 29 | 54 | |
| 7 | Calcutta | E | e | 21 | 47 | 53 | Slight. Distant. |
| 7 | Calcutta | E | e | 22 | 39 | 51 | Slight. Distant |
| | | | e | 22 | 45 | 04 | |
| | | | e | 22 | 46 | 01 | |
| | Bombay | N | e | 22 | 49 | 23 | Feeble surface waves |
| | | E | | Loss of record. | | | |
| 8 | Epicentre 4.0°S, 128.0°E (Molucco Islands, seismic sea wave reported) | | | | | | |
| | | | | O = 03h. 23m. 09s. (U.S.C.G.S.) | | | |
| | | | | O = 03h. 23m. 06s. (Poona). | | | |
| | Calcutta | E | iP | 03 | 31 | 46 | 5055 Very great. |
| | | | PcP | 03 | 33 | 43 | |
| | | | PpP | 03 | 33 | 33 | |
| | | | PcS | 03 | 37 | 19 | |
| | | | eS | 03 | 38 | 29 | |
| | | | PPS | 03 | 38 | 49 | |
| | | | SS | 03 | 41 | 45 | |
| | | | ? | 03 | 43 | 10 | |
| | | | M | 03 | 47 | 53 | |
| | | | Mn | 03 | 48 | 13 | |
| | | | | Per = 11 secs. | | | $\mu = 135$. |

6

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|---------------------------|------------|--------|-------|----------|----------|-----------------------------------|
| | | | | h. m. s. | Km. | |
| Oct. 1950 8 (cont.) | | | | | | |
| | Colombo | E | P | 03 32 00 | | |
| | | | S | 03 39 15 | | |
| | | | L | 03 52 23 | | |
| | | | M | 03 53 49 | | |
| | Kodaikanal | E | iP | 03 32 18 | 5835 | Great. |
| | | | PP | 03 34 17 | | |
| | | | PPP | 03 35 20 | | |
| | | | iS | 03 39 44 | | |
| | | | SS | 03 43 18 | | |
| | | | LR | 03 47 36 | | |
| | | | M | 03 52 02 | | |
| | Hyderabad | E,N | iP | 03 32 32 | 5970 | |
| | | E | PP | 03 34 28 | | |
| | | E,N | iS | 03 40 06 | | |
| | | E | SS | 03 44 44 | | |
| | | E | L | 03 47 43 | | |
| | | N | M | 03 53 41 | | Per. = 22 secs. $\mu = 144$ |
| | | E | M | 03 54 08 | | Per. = 20 secs. $\mu = 109$ |
| | Dehra Dun | N | eP | 03 32 39 | 6651 | |
| | | | eS | 03 40 45 | | |
| | | | eL | 03 50 24 | | |
| | | | M | 03 59 42 | | per. = 24 secs. $\mu = 0.65''$ |
| | Poona | E,Z | iP | 03 33 03 | 6445 | Great. |
| | | E | PcP | 03 33 55 | | |
| | | | PP | 03 35 12 | | |
| | | | PPP | 03 36 28 | | |
| | | | PcS | 03 37 42 | | |
| | | E | iS | 03 41 03 | | |
| | | | PPS | 03 41 26 | | |
| | | | ScS | 03 42 59 | | |
| | | | SS | 03 44 37 | | |
| | | | SSS | 03 47 15 | | |
| | | | LQ | 03 47 30 | | |
| | | | LR | 03 49 30 | | |
| | | | M | 03 54 10 | | |
| | New Dehhi | N,E | eP | 03 33 09 | 6550 | Great |
| | | N | PcP | 03 33 57 | | |
| | | | PP | 03 35 28 | | |
| | | | PPP | 03 36 58 | | |
| | | | iS | 03 41 15 | | |
| | | | PPS | 03 41 38 | | |
| | | | ScS | 03 43 01 | | |
| | | | iP | 03 45 50 | | |
| | | | SSS | 03 47 43 | | |
| | | | LQ | 03 48 06 | | |
| | | | LR | 03 51 01 | | |
| | | | M | 03 55 35 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|-----------|---|--------|-------|---|----------|--------------------------------|
| Oct. | | | | h. m. s. | km. | |
| 1950. | | | | | | |
| 8 (cont.) | | | | | | |
| | Bombay | N,E | iP | 03 33 13 | 6535 | Great. |
| | | | iPP | 03 35 28 | | |
| | | | iPPP | 03 36 57 | | |
| | | | iS | 03 41 19 | | |
| | | N | iSS | 03 45 00 | | |
| | | E | iSS | 03 45 24 | | |
| | | N | LQ | 03 47 50 | | |
| | | E | LQ | 03 48 15 | | |
| | | | LR | 03 51 07 | | |
| | | | M | 04 03 45 | | Per. = 17 secs. $\mu = 91.$ |
| | | N | M | Mixed up with the record of subsequent shock. | | |
| 8 | Epicentre 29°5N, 93°5E (Felt at Tezpur, Assam) | | | O = 04h. 50m. 22s. (Poona). | | |
| | | | | O = 04h. 50m. 20s. (U.S.C.G.S.) | | |
| | Calcutta | E | iP | 04 52 17 | 870 | Great. |
| | | | PPP | 04 52 31 | | |
| | | | LQ | 04 53 33 | | |
| | | | iS | 04 53 46 | | |
| | | | SS | 04 53 57 | | |
| | | | Mn | 04 56 35 | | Per. = 2 secs. $\mu = 292.$ |
| | New Delhi | N,E | eP | 04 53 44 | 1550 | Moderate. |
| | | E | PP | 04 53 55 | | |
| | | N,E | PPP | 04 54 04 | | |
| | | | LQ | 04 56 18 | | |
| | | | iS | 04 56 21 | | |
| | | | SS | 04 56 37 | | |
| | | | SSS | 04 56 51 | | |
| | | | M | 04 58 03 | | |
| | Hyderabad | E | iP | 04 54 29 | 2040 | |
| | | N | iS | 04 57 52 | | |
| | | | L | 04 59 45 | | |
| | | | M | 04 01 02 | | Per. = 14 secs. $\mu = 21.$ |
| | | E | M | 05 01 15 | | Per. = 12 secs. $\mu = 18$ |
| | Poona | Z | iP | 04 55 04 | 2280 | Moderate. |
| | | E | PP | 04 55 33 | | |
| | | | PPP | 04 55 47 | | |
| | | | iS | 04 58 49 | | |
| | | | PcP | 04 59 04 | | |
| | | | LQ | 04 59 12 | | |
| | | | SS | 04 59 27 | | |
| | | | SSS | 04 59 48 | | |
| | | | LQ | 05 00 10 | | |
| | | | M | 05 01 10 | | Per. = 5. secs. $\mu = 26.$ |
| | Bombay | N,E | iP | 04 55 15 | 2490 | Moderate. |
| | | | iS | 04 59 13 | | |
| | | E | LR | 05 01 18 | | |
| | | N | LR | 05 01 25 | | |
| | | N,E | M | Mixed up with the previous shock. | | |
| | Colombo | E | P | 04 55 47 | | |
| | | | S | 05 00 -- | | Lost in the hour mark. |
| | | | L | 05 09 30 | | |
| | | | M | 05 12 58 | | Amp. = 0.9 mm. |
| | Kodaikanal | E | iP | 04 59 57 | | later phases are uncertain. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | △ | REMARKS. |
|------------|-----------|------------------|---|--|------|--|
| | | | | h. m. s. | Km. | |
| Oct. 1950. | | | | | | |
| 8 (cont) | Dehra Dun | N | eP eS M | 05 01 54 05 04 03 05 04 36 | ? | Per. = 12 secs. $\mu = 0.1''$ |
| 8 | Poona | Z | i i | 15 01 57 15 02 04 | | |
| | Bombay | E N,E | e e | 15 03 07 15 12 20 | | Feeble |
| 9 | Calcutta | E | e e | 18 23 20 18 24 17 | | Slight, near. |
| | Poona | Z | iP? iS? | 18 26 03 18 30 36 | | Feeble, near. |
| | Bombay | N,E | e | 18 31 -- | | Very feeble. |
| 10 | New Delhi | N,E | iP PP S(?) | 00 05 04 00 05 12 00 06 46 | 990 | Slight may be a little earlier due to minute mark. |
| | Bombay | N N E N | SS iP eP eS | 00 06 48 00 06 48 00 10 00 | 1965 | Slight. |
| | Poona | Z Z E | iP PP PPP iS L ₀ SS SSS LR M | 00 06 49 00 07 00 00 07 11 00 10 14 00 10 25 00 10 41 00 10 53 00 11 17 00 11 22 | 2067 | Slight |
| 10 | New Delhi | N,E | eP eS | 09 18 10 09 23 38 | 240 | Slight |
| 10 | Calcutta | E | e e e | 13 20 29 13 22 43 13 24 10 | | Slight, near. |
| 10 | Poona | Z | i i | 13 59 40 13 59 52 | | |
| | Calcutta | E | e e | 14 00 05 14 01 19 | | Slight, near. |
| | Bombay | N,E | e | 14 06 -- | | Very feeble. |
| 10 | Poona | Z | i i | 16 59 34 17 01 15 | | |
| | Bombay | N,E | e | 17 01 -- | | Very feeble. |
| | Calcutta | E | e e e | 17 02 37 17 04 55 17 11 31 | 7 | Slight, distant. |
| 11 | Poona | Z | i | 14 05 05 | | |
| 12 | Poona | Z | iP i i i iS? | 20 25 18 20 25 28 20 25 41 20 26 27 20 29 25 | | Slight, near. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|------------|------------|--------------------------------|--|--|----------|--|
| | | | | h. m. s. | Km. | |
| Oct. 1950. | | | | | | |
| 12 (cont.) | | | | | | |
| | New Delhi | E | eP iS | 20 43 43 20 45 20 | 940 | Slight |
| 12/13 | New Delhi | N,E | eP PP eS PS | 23 59 29 00 01 41 00 07 30 00 07 38 | 6460 | Slight. |
| | Bombay | N,E | e | 23 59 32 | | Feeble |
| | Calcutta | E | i i i | 00 07 39 00 58 10 01 14 56 | | Slight,distant. |
| 15 | Calcutta | E | eP PP PPP iS SKS ₁ ScS PS PPS SS SSS | 16 11 49 16 14 43 16 16 22 16 21 36 16 21 51 16 21 57 16 22 04 16 22 22 16 26 36 16 29 37 | 8525 | Slight. |
| | Poona | Z E | i e | 16 12 52 16 23 16 | | Feeble. |
| | Kodaikanal | E | i | 16 23 33 | | Tremor |
| | Bombay | N,E | eS ? | 16 22 31 16 23 25 | | Feeble |
| 16 | Epicentre | | | 0 = 15h. 42m.28s. (Poona). | | |
| | Calcutta | E | eP LQ iS SS | 15 44 47 15 46 21 15 46 32 15 46 44 | 1020 | Slight. |
| | New Delhi | E N,E N N,E | eP PP PPP LQ iS SS SSS | 15 46 15 15 46 25 15 48 32 15 48 59 15 49 05 15 49 26 15 49 33 | 1690 | Slight. |
| | Hyderabad | N | M eP eS L M | 15 51 08 15 46 52 15 50 29 15 52 32 15 54 35 | 2190 | |
| | Poona | Z E Z,E Z Z,E Z | iP eP PP PPP iS LQ SS SSS | 15 47 29 | 2490 | Per. = 9 secs. $\mu = 3$ Slight. |
| | | E | L _R M | | | |
| | | | | 15 52 11 15 52 25 15 52 57 15 54 07 | | Per. = 4 secs. $\mu = 04$ |

11

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|-----------------------------|----------|--------|--------------------|----------|----------|---------------------------------|
| | | | | h. m. s. | Km. | |
| Oct. 1950. 23 (cont.) | Calcutta | E | ePKP ₁ | 16 32 60 | 15820 | Moderate. |
| | | | PP | 16 36 01 | | |
| | | | PKS ₁ | 16 36 22 | | |
| | | | PKS ₂ | 16 36 49 | | |
| | | | PPP | 16 39 05 | | |
| | | | SKS ₂ | 16 40 01 | | |
| | | | PKKP ₁ | 16 41 57 | | |
| | | | SKKS ₁ | 16 43 05 | | |
| | | | PKKS ₁ | 16 45 34 | | |
| | | | PS | 16 46 30 | | |
| | | | PPP(2) | 16 47 35 | | |
| | | | SSKKS ₂ | 16 49 01 | | |
| | | | SKKKS | 16 50 36 | | |
| | | | SS | 16 54 17 | | |
| | | | SSS | 16 59 31 | | |
| | | | SSP(2) | 17 08 05 | | |
| | | | L _Q | 17 11 24 | | |
| | | | SSS(2) | 17 16 00 | | |
| | | | L _R | 17 20 17 | | |
| | | | M | 17 30 42 | | |
| | | | Mn | 17 32 36 | | Per. = 26 secs. $\mu = 140$ |
| | Bombay | N,E | ePKP ₁ | 16 32 51 | 16510 | Moderate. from(SS-P) |
| | | N | ePP | 16 36 31 | | |
| | | E | e ePP | 16 36 37 | | |
| | | N | SKKS ₁ | 16 43 00 | | |
| | | E | SKKS ₁ | 16 43 15 | | |
| | | N,E | eSS | 16 55 36 | | |
| | | E | SSS | 17 01 31 | | |
| | | N,E | L _R | 17 22 12 | | |
| | | N | M | 17 43 44 | | Per. = 22 secs. $\mu = 26$. |
| | | E | M | 17 47 01 | | Per. = 20 secs. $\mu = 27$ |
| | Poona | Z,E N | PKP ₁ | 16 32 54 | | |
| | | Z | PKP ₂ | 16 32 57 | | |
| | | N | PP | 16 36 22 | | |
| | | | PKS ₂ | 16 36 38 | | |
| | | | PPP | 16 39 23 | | |
| | | | SKS ₂ | 16 39 39 | | |
| | | | SKKS ₁ | 16 43 01 | | |
| | | | SKKKS | 16 43 27 | | |
| | | | SKSP | 16 46 01 | | |
| | | | PS | 16 46 49 | | |
| | | | SKKS | 16 47 53 | | |
| | | | SS | 16 54 49 | | |
| | | | SSP | 16 55 38 | | |
| | | | SSS | 17 01 09 | | |
| | | | L _Q | 17 11 00 | | |
| | | | L _R | 17 21 00 | | |
| | | | M | 17 29 42 | | Per. = 33 secs. $\mu = 71$. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | △ | REMARKS. |
|------------|---|--------|----------------|----------|------|--------------------------------|
| | | | | h. m. s. | Km. | |
| Oct. 1950. | | | | | | |
| 23 (cont.) | Hyderabad | N | P | 16 33 00 | 9800 | |
| | | | PP | 16 36 13 | | |
| | | | eS | 16 43 43 | | |
| | | | SS | 16 49 20 | | |
| | | | M | 17 09 02 | | Per. = 20 secs. u = 25. |
| | Colombo | E | P | 16 33 25 | | |
| | | | L | 17 32 -- | | |
| | | | M ₁ | 17 46 30 | | |
| | | | M ₂ | 17 52 15 | | |
| | Dehra Dun | N | eP? | 16 33 36 | | |
| | | | eS? | 16 46 27 | | |
| | | | eL | 16 58 24 | | |
| | | | M | 17 32 22 | | Per. = 24 secs. A.P. = 0.5" |
| 23 | Poona | Z | i | 17 26 00 | | Feeble, near |
| 23 | Poona | Z | i 1 | 18 07 28 | | Feeble, near. |
| 23 | Poona | Z | i | 18 19 13 | | Feeble, near. |
| | | | i | 18 21 16 | | |
| 23 | Poona | Z | i | 20 10 23 | | Feeble, near. |
| 23 | Poona | Z | i | 21 51 30 | | Feeble, near. |
| 23 | Poona | Z | i | 23 58 22 | | Feeble, near. |
| 24 | Poona | Z | i | 00 08 40 | | Feeble, near. |
| 24 | Poona | Z | i | 01 11 39 | | Feeble, near. |
| 24 | Poona | Z | i | 02 11 37 | | Feeble, near. |
| 25 | Epicentre 26°0N, 125°5E. (Ryuhu Islands Region. Felt at Ishigaki-Shima) | | | | | |
| | h = 100 Kms. + | | | | | |
| | h = 100 Kms. ± | | | | | |
| | 0 = 07h. 03m. 17s. (U.S.C.G.S.) | | | | | |
| | 0 = 07h. 03m. 27s. (Poona) | | | | | |
| | Calcutta | E | eP | 07 09 56 | 3365 | Slight. |
| | | | PP | 07 11 05 | | |
| | | | PPP | 07 11 27 | | |
| | | | PcP | 07 12 42 | | |
| | | | iS | 07 15 14 | | |
| | | | PcS | 07 16 27 | | |
| | | | SSS | 07 17 33 | | |
| | | | LR | 07 18 57 | | |
| | | | ScS | 07 20 25 | | |
| | | | M | 07 21 23 | | |
| | New Delhi | N, E | eP | 07 11 11 | 4500 | Moderate. |
| | | | iS | 07 17 21 | | |
| | | N | i | 07 18 11 | | |
| | | | LQ | 07 20 26 | | |
| | | N, E | SSS | 07 20 59 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Km. | REMARKS. |
|-----------------------------|------------|----------------|--------------------|--------------|------|------------------|
| | | | | h. m. s. | | |
| Oct. 1950. 25 (cont.) | Poona | Z, E | iP | 07 11 54 | 5360 | Moderate. |
| | | | pP | 07 12 14 | | |
| | | | sP | 07 12 27 | | |
| | | E | PPP | 07 14 30 | | |
| | | | iS | 07 18 42 | | |
| | | | PS | 07 18 50 | | |
| | | | PPS | 07 18 58 | | |
| | | | sS | 07 19 20 | | |
| | | | ScS | 07 21 30 | | |
| | | | SS | 07 21 57 | | |
| | | | SSS | 07 23 10 | | |
| | | | LR | 07 25 40 | | |
| | Bombay | E | e | 07 12 26 | | Feeble. |
| | | N, E | iS? | 07 18 50 | | |
| | Hyderabad | E | S | 07 17 47 | | |
| 25 | Poona | Z | i | 07 56 40 | | |
| 26 | Epicentre | 32°0S, 178°0W. | O = 03h. 49m. 55s. | (U.S.C.G.S.) | | |
| | Bombay | N, E | e | 04 09 -- | | Feeble, distant. |
| | Colombo | E | P | 04 09 05 | | |
| | | | L | 04 49 -- | | |
| | | | M | 04 50 22 | | |
| | Kodaikanal | E | e | 04 14 54 | | Tremor. |
| | Poona | E | e | 04 15 15 | | Slight, distant. |
| | | | e | 04 19 09 | | |
| 26 | Epicentre | 32°0S, 178°0E | O = 15h. 38m. 43 | (U.S.C.G.S.) | | |
| | Calcutta | E | e | 15 57 04 | | Slight, distant. |
| | | | e | 16 03 29 | | |
| | | | e | 16 06 30 | | |
| | Bombay | E | e | 15 57 19 | | Feeble |
| | | | e | 16 04 22 | | surface waves |
| | | N, E | e | 16 08 21 | | |
| | Colombo | E | P | 15 57 30 | | |
| | | | L | 16 30 30 | | |
| | | | M ₁ | 16 39 30 | | |
| | | | M ₂ | 16 45 15 | | |
| | Poona | E | e | 16 04 12 | | Slight, distant. |
| | | | e | 16 08 03 | | |
| | Kodaikanal | E | e | 17 03 44 | | Tremor. |
| 27 | Poona | E | i | 16 39 25 | | |
| | | | i | 16 43 30 | | |
| | Calcutta | E | e | 16 59 36 | | Slight, near |
| | | | e | 17 02 34 | | |
| 27 | New Delhi | N, E | eP | 17 37 40 | 1055 | Slight. |
| | | E | e PP | 17 37 49 | | |
| | | | PPP | 17 37 55 | | |
| | | N, E | LQ | 17 39 19 | | |
| | | | iS | 17 39 29 | | |
| | | E | SS | 17 39 41 | | |
| | | | LR | 17 39 47 | | |
| | | | S* | 17 40 05 | | |
| | | | Sg | 17 40 35 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|------------|------------|----------------|--|-------------------|----------|-------------------------------|
| Oct. 1950. | | | | h. m. s. | Km. | |
| 27 | Poona | Z | i | 21 42 20 | | Feeble, near. |
| | Bombay | E | e | 21 42 29 | | |
| | | | e | 21 45 -- | | Very feeble. |
| | | | e | 21 53 03 | | |
| | Calcutta | N | Record lost due to thickness of trace. | | | |
| | | E | e | 21 51 50 | | Slight, near. |
| 28 | Bombay | N,E | e | 09 31 14 | | Feeble. |
| 28 | Poona | Z | i | 22 35 16 | | Feeble, near. |
| 29 | Epicentre | 28.5°N, 95.0°E | | 0 = 06h.02m. 22s. | (Poona). | |
| | Calcutta | E | eP | 06 04 28 | 890 | Moderate. |
| | | | LQ | 06 05 41 | | |
| | | | eS | 06 06 00 | | |
| | | | SS | 06 06 11 | | |
| | | | SSS | 06 06 21 | | |
| | | | M | 06 06 50 | | |
| | | | Mn | 06 09 47 | | Per. = 5 secs. $\mu = 60.$ |
| | New Delhi | N | PcP | 06 11 19 | | |
| | | E | eP | 06 06 10 | 1755 | Moderate. |
| | | N | eP | 06 06 07 | | |
| | | | LQ | 06 09 02 | | |
| | | | iS | 06 09 05 | | |
| | | | SS | 06 06 21 | | |
| | | | SSS | 06 09 36 | | |
| | | | LR | 06 09 45 | | |
| | | | M | 06 11 08 | | |
| | Poona | Z,E | iP | 06 06 18 | 2424 | Moderate. |
| | | E | PPP | 06 07 57 | | |
| | | | PcP | 06 11 07 | | |
| | | | eS | 06 11 15 | | |
| | | | LQ | 06 11 23 | | |
| | | | SS | 06 11 59 | | |
| | | | SSS | 06 12 28 | | |
| | | | LR | 06 12 43 | | |
| | | | M | 06 14 19 | | Per. = 03 secs. $\mu = 03$ |
| | Bombay | N,E | eP | 06 07 28 | 2535 | Moderate. |
| | | | eS | 06 11 29 | | |
| | | N | M | 06 14 41 | | Per. = 7 secs. $\mu = 12$ |
| | | E | M | 06 17 29 | | Per. = 10 secs. $\mu = 4.$ |
| | Hyderabad | N | eS | 06 10 02 | 2067 | |
| | | | i | 06 12 08 | | |
| | | | e | 06 12 32 | | |
| | | | M | 06 14 57 | | Per. = 12 secs. $\mu = 5.$ |
| | Kodaikanal | E | e | 06 12 03 | | Tremor. |

| DATE | STATION | COMTT. | PHASE | G. M. T. | \triangle | REMARKS. |
|-------------|---|--------------------|--|--|-------------|---|
| <u>Oct.</u> | | | | h. m. s. | Km. | |
| 1950 | | | | | | |
| 29 | After shock of the preceding moderate shock | | | | | |
| | | | | 0 = 06h. 30m. 13s. | | 16s. (Poona) |
| | New Delhi | N,E E | eP PP PPP LQ iS SS SSS LR M Mn | 06 16 58 06 17 10 06 17 19 06 19 48 06 19 51 06 20 19 06 20 23 06 20 32 06 21 50 06 24 30 | 1720 | Slight. |
| | Poona | E | Mn | 06 24 30 | | Per. = 3 secs. $\mu = 01.$ |
| | | | | Slight. Other phases lost in the coda of the previous shock. | | |
| 30 | Epicentre 28.5°N, 95.5°E. | | | | | |
| | Calcutta | E | eP LQ eS SS SSS M Mn | 09 06 55 09 08 14 09 08 33 09 08 44 09 09 00 09 09 29 09 10 48 | 966 | Slight. |
| | New Delhi | N,E | eP LQ eS SS SSS M | 09 08 59 09 11 54 09 11 58 09 12 13 09 12 38 09 12 57 | 1790 | Per. = 6 secs. $\mu = 28.$ Slight |
| | Hyderabad | E E,N N | eP S M | 09 09 19 09 13 04 09 15 47 | 2280 | Per. = 12 secs. $\mu = 3.$ |
| | | E | M | 09 15 49 | | Per. = 12 secs $\mu = 3.$ |
| | Poona | Z E | iP eP PP PPP PcP iS LQ SS SSS LR SCP Mn | 09 09 56 09 10 23 09 10 37 09 13 32 09 14 00 09 14 25 09 14 43 09 14 55 09 15 30 09 17 04 09 17 30 | 2500 | Slight. |
| | Bombay | N N,E N E | eP eS M M | 09 10 07 09 14 14 09 17 31 09 19 17 | 2600 | Per = 09 secs. $\mu = 03$ Slight. Per. = 6 secs. $\mu = 4$ Per. = 9 secs. $\mu = 2$ |

| DATE | STATION | COMPT | PHASE | G. T. M. | \triangle | REMARKS |
|---------------------|-----------|---------------|--|--|-------------|---|
| | | | | h. m. s. | Km. | |
| Oct. 1950. 30 | | | | 0 = 23h. 13m 52 s. | | |
| | New Delhi | N,E N | eP iS SS LR M | 23 17 51 23 21 04 23 21 21 23 21 52 23 00 04 | 1935 | Slight. |
| | Calcutta | E | eP LQ eS SS SSS M Mn | 23 18 35 23 20 29 23 20 38 23 20 50 23 20 58 23 21 50 23 23 15 | 1190 | Slight. Per.=5 secs. $\mu = 14.$ = Slight, near. |
| | Bombay | N,E E N | e i M M | 23 19 -- 23 24 00 23 29 28 23 30 10 | | Per. = 9 secs. $\mu = 2.$ Per.= 7 secs. $\mu = 3.$ |
| | Hyderabad | E | P S M | 23 19 01 23 23 02 23 27 14 | 2460 | Per. = 9 secs. $\mu = 3.$ |
| | Poona | Z E N | iP PPP iS LQ SS SSS LR ScP M | 23 19 21 23 20 11 23 23 46 23 24 24 23 24 44 23 25 06 23 25 55 23 26 15 23 28 10 | 2825 | Slight. Per. = 10 secs. $\mu = 3.$ |
| 31 | Bombay | N,E | , e | 03 14 -- | | Very feeble |
| 31 | Bombay | N,E | e | 19 41 43 | | Very feeble. |

M.L.P.
9-4-51.



GOVERNMENT OF INDIA

METEOROLOGICAL DEPARTMENT

SEISMOLOGICAL BULLETIN

September, 1950.

Published under the direction of
V. V. Sohoni, B.A.(Hons.),M.Sc.,
Director General of Observatories.

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 were being published in the form of the Quarterly Seismological Bulletin. From the month of January 1948, the data are being published in the present form of a Monthly Seismological Bulletin. With the kind co-operation of the Surveyor-General of India, the Director of the Nizamiah Observatory, Hyderabad and the Director, Colombo Observatory, it has been possible to incorporate in the Bulletin the seismic data of their respective observatories viz. Dehra Dun, Hyderabad, and Colombo. The instrumental and non-instrumental voluntary observations are collected and edited at the Meteorological Office, Poona.

TABLE I.
List of Seismograph Stations.

| Station | Latitude North o' | Longitude East o' | Height above M.S.L. 'metres' | Lithologic Foundation | Officer-in-charge of Observatory. |
|------------|-------------------------|-------------------------|---------------------------------------|--------------------------|---|
| Bombay | 18 54 | 72 49 | 6 | Deccan Trap | Director. |
| Calcutta | 22 32 | 88 22 | (i)7 (ii)6 | Alluvium | Director. |
| Colombo | 06 54 | 79 52 | 7 | Beach sand | Director. |
| Dehra Dun | 30 19 | 78 03 | 682 | Gravel | President. |
| Hyderabad | 17 26 | 78 27 | 528 | Granite | Director. |
| Kodaikanal | 10 14 | 77 28 | 2343 | Rock | Director. |
| New Delhi | 28 35 | 77 12 | 207 | Massive Quartzite | Dy. Director General of Observatories (I & S) |
| Poona | 18 32 | 73 51 | 560 | Deccan Trap | Dy. Director General of Observatories (C & G). |

(i) Milne-Shaw

(ii) Omori-Ewing.


TABLE II.
Instruments and their constants.

| Station | Instrument | Component | Period in secs. | Static Magnifi- cation | Damping Ratio. | Paper Speed mm/min. |
|------------|------------------------------|-----------|-----------------------|------------------------------|-------------------|---------------------------|
| Bombay | Milne-Shaw | N | 12 | 250 | 23:1 | 8.0 |
| | Milne-Shaw | E | 12 | 350 | 22:1 | 8.0 |
| Calcutta | Milne-Shaw | E | 12 | 250 | 20:1 | 8.0 |
| | Omori-Ewing | N | 15 | 32 | - | 25.4 |
| | Omori-Ewing | E | 16 | 30 | - | 25.4 |
| | Wood-Anderson | N | 4 | 1000 | 5:1 | 60.0 |
| Colombo | Milne-Shaw | E | 12 | 250 | 20:1 | 8.0 |
| Dehra Dun | Omori | N | 30 | 12 | - | - |
| Hyderabad | Milne-Shaw | E | 12 | 268 | 20:1 | 8.0 |
| | Milne-Shaw | N | 12 | 245 | 20:1 | 8.0 |
| Kodaikanal | Milne-Shaw | E | 10 | 250 | 20:1 | 8.0 |
| New Delhi | Milne-Shaw | N | 12 | 299 | 20:1 | 8.0 |
| | Wood-Anderson | N | 8 | | | |
| | (from 1 to 8th After 8th) | | 4 | 1072 | 30:1 | 16.0 |
| | | | 4 | 1000 | 20:1 | 16.0 |
| | Wood-Anderson | E | | | | |
| | (from 1 to 8 After 8th) | | 2 | 1474 | 30:1 | 60.0 |
| | | | 2 | 1700 | 30:1 | 60.0 |
| Poona | Omori-Ewing | E | 30 | 30 | - | 12.0 |
| | Milne-Shaw | N | 12 | 250 | 20:1 | 8.0 |
| | Wood-Anderson | E | 4 | 1000 | 20:1 | 16.0 |




| DATE | STATION | COMPT. | PHASE | G. M. T. | △ | |
|-------|---|--------|----------------|----------------------------|------|------------------------------|
| Sept. | | | | h. m. s. | Km. | |
| 1950. | | | | | | |
| 1 | Epc:- 4.0 S, 89.5 E, in Pacific Ocean | | | 0 = 02h. 46m. 52s. (Poona) | | |
| | Dehra Dun | N | e | 02 48 09 | | |
| | | | e | 03 01 48 | | |
| | | | e | 03 09 18 | | |
| | | | M | 03 10 33 | | Per.= 15 secs. Amp.=0.03" |
| | Colombo | E | P | 02 50 10 | 1555 | |
| | | | S | 02 52 36 | | |
| | | | L | 02 56 15 | | |
| | | | M | 02 57 15 | | Amp.=4.3 mm. Moderate |
| | Kodaikanal | E | iP | 02 51 10 | 2040 | |
| | | | PPP | 02 51 36 | | |
| | | | iS | 02 54 33 | | |
| | | | SSS | 02 55 07 | | |
| | | | L _R | 02 55 30 | | |
| | | | M | 02 57 10 | | Per.= 9 secs. μ = 4 |
| | Hyderabad | E,N | iP | 02 52 03 | 2610 | |
| | | N | N ₁ | 02 56 14 | | |
| | | E | iS | 02 56 18 | | |
| | | N | L | 02 58 30 | | |
| | | E | M | 03 01 07 | | Per.= 10 secs. μ = 7. |
| | | N | M | 03 01 09 | | Per.= 11 secs. μ = 6. |
| | Calcutta | E | eP | 02 52 34 | 2955 | Moderate. |
| | | | ePP | 02 55 15 | | |
| | | | eS | 02 57 08 | | |
| | | | e | 02 57 25 | | |
| | | | L _Q | 02 58 10 | | |
| | | | eSS | 02 58 26 | | |
| | | | eSSS | 02 58 43 | | |
| | | | Mn | 03 06 00 | | Per.= 13 secs. μ = 73. |
| | Poona | Z | P | 02 52 37 | 2920 | Moderate. |
| | | E | S | 02 57 08 | | |
| | | | L _Q | 02 58 16 | | |
| | | | SSS | 02 58 54 | | |
| | | | L _R | 02 59 46 | | |
| | | | M | 03 01 30 | | |
| | Bombay | N,E | eP | 02 52 45 | 3100 | Moderate. |
| | | | eS | 02 57 27 | | |
| | | N | L _Q | 02 58 15 | | |
| | | | L _R | 02 59 48 | | |
| | | E | M _R | 03 04 01 | | Per.= 17 secs. μ = 16. |
| | | N | M | 03 06 07 | | Per.= 11 secs. μ = 7 |
| | New Delhi | N,E | eP | 02 53 40 | 3845 | Moderate. |
| | | N | iS | 02 59 09 | | |
| | | | SS | 03 00 58 | | |
| | | | L _R | 03 02 37 | | |
| 1 | 1 Probable Epc:- 33.0 N, 94.0E, 0 = 07h. 11m. 54s. (Poona). | | | | | |
| | New Delhi | N | eP | 07 15 40 | 1720 | Slight. |
| | | | PP | 07 15 51 | | |
| | | | PPP | 07 16 01 | | |
| | | | L _Q | 07 18 26 | | |
| | | | eS | 07 18 33 | | |
| | | | SS | 07 18 50 | | |
| | | | L _R | 07 19 13 | | |
| | | | M | 07 20 30 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|----------------|--|----------------------------|---|--|----------|---|
| Sept. 1950. | | | | h. m. s. | Km. | |
| 1 (cont.) | Calcutta | E | eP iS eS* Mn | 07 16 10 ? 07 17 33 ? 07 18 00 07 19 18 | | Moderate. Per. = 7 secs. $\mu = 65.$ |
| | Hyderabad | E N E N E N | eP eP eS L M M | 07 16 27 07 16 30 07 20 13 07 22 19 07 23 42 07 23 44 | 2290 | Per. = 8 secs. $\mu = 2$ Per. = 9 secs. $\mu = 4.$ |
| | Poona | Z E | P S L M ^R | 07 17 06 07 21 17 07 22 46 07 25 -- | 2600 | Slight. |
| | Bombay | N,E N E | eP eS M M | 07 17 09 07 21 22 07 26 07 07 26 15 | 2680 | Slight. Per. = 11 secs. $\mu = 5$ Per. = 9 secs. $\mu = 5.$ |
| 1 | Calcutta | E | e | 07 38 36 | | Slight, near tremor. |
| 1 | New Delhi | E | eP e eS SS SSS L _a e | 16 06 57 16 07 02 16 10 02 16 10 18 16 10 34 16 10 41 16 07 21 | 1790 | Slight. |
| | Bombay | N,E | e | 16 14 16 | | Feeble |
| | Poona | E | e | 16 14 34 | | Tremor. |
| 1 | Calcutta | E | e | 20 30 21 | | Slight near tremor. |
| | New Delhi | N | e e i i | 20 30 22 20 33 46 20 35 14 20 35 32 | | |
| | Poona | E | e | 20 37 23 | | Tremor. |
| | Bombay | N,E | e | 20 38 22 | | Tr Feeble, |
| 1 | Epc:- 30° ⁰ ON, 95° ⁰ E, | | | O = 23h. 44m. 40s. (Poona). | | |
| | New Delhi | N | eP PP LQ S SS | 23 48 22 23 48 33 23 51 01 23 51 13 23 51 30 | 1710 | Slight. |
| | Calcutta | E | S i | 23 48 41 23 49 48 | 1000 | Slight |
| | Hyderabad | E | eP eS M | 23 49 08 23 52 48 23 56 12 | 2220 | Per. = 8 secs. $\mu = 2$ |
| | Poona | Z,E E | P S M | 23 49 47 23 53 50 23 56 30 | 2500 | Slight. |

| DATE | STATION | COMPT. | PHASE | G. M. T. |  | REMARKS. |
|-------------|--|--------|--|--|---|--|
| | | | | h. m. s. | Km. | |
| Sept. 1950. | | | | | | |
| 1 (cont.) | Bombay | E | eP eS M | 23 49 52 23 53 59 23 58 41 | 2560 | Slight. Per.= 11 secs. $\mu = 5$ |
| | | N | Congestion of lines. | | | |
| 2 | Bombay | N,E | e | 03 30 08 | | Feeble surface waves. |
| | | E | M | 0345 19 | | Per.= 17 secs. $\mu = 4.$ |
| | New Delhi | N | e | 03 35 50 | | |
| | | | e | 03 39 24 | | |
| | Hyderabad | N | M | 03 41 56 | | Per.= 15 secs. $\mu = 4.$ |
| 2 | Calcutta | E | e | 10 46 35 | | Slight, near tremor. |
| 2 | Bombay | N,E | e | 13 49 -- | | Feeble surface waves |
| 2 | Hyderabad | N | M | 14 09 50 | | Per.= 16 secs. $\mu = 4.$ |
| 2 | Epc:- 30.0° ON, 97.0° E in Assam, 0 = 16 secs. 0 = 16h. 14m. 33s. (Poona). | | | | | |
| | Calcutta | E | iP iS eSS Mn | 16 17 14 16 19 08 16 19 20 16 24 00 | 1110 | Great Per.= 8 secs. $\mu = 127$ |
| | New Delhi | N | eP PP PPP LQ iS SS SSS | 16 18 37 16 18 50 16 18 57 16 21 30 16 21 37 16 21 53 16 22 04 | 1720 | Moderate. |
| | Dehra Dun | N | eP eS M | 16 19 36 16 21 57 16 22 33 | 1465 | Per.= 15 secs. Amp.= 0.1" |
| | Poona | E | iP PP PPP PcP S LQ M | 16 19 51 16 20 23 16 20 35 16 23 21 16 24 07 16 24 39 16 27 50 | 2680 | Moderate |
| | Bombay | N,E | iP PP | 16 19 59 16 20 28 | 2745 | Moderate. |
| | | N | eS | 16 24 17 | | |
| | | E | iS | | | |
| | | N,E | i | 16 24 28 | | |
| | | E | SS | 16 25 02 | | |
| | | N | SS | 16 25 27 | | |
| | | E | SSS | 16 25 36 | | |
| | | E | L _R | 16 25 58 | | |
| | | N | SSS | 16 26 01 | | |
| | | | L _R | 16 26 47 | | |
| | | E | M | 16 29 27 | | Per.= 9 secs. $\mu = 26$ |
| | | N | M | 16 30 36 | | Per.= 7 secs. $\mu = 14.$ |

5

| DATE | STATION | COMPT. | PHASE | G. M. T. |  | REMARKS. |
|--------------|------------|-------------------|----------------|-----------------------------|---|--------------------|
| | | | | h. m. s. | Km. | |
| <u>Sept.</u> | | | | | | |
| 1950. | | | | | | |
| 2 (cont.) | | | | | | |
| | Kodaikanal | E | iP | 16 20 23 | 2900 | Moderate. |
| | | | iS | 16 24 53 | | |
| | | | SS | 16 26 12 | | |
| | | | L _R | 16 26 12 | | |
| | | | M | 16 29 23 | | Per. = 12.0 Secs. |
| | Colombo | E | P | 16 20 30 | 3180 | $\mu = 3.$ |
| | | | S | 16 25 18 | | Amplitude small |
| | | | | | | M not pronounced |
| 2 | New Delhi | E | e | 20 38 41 | | |
| | | | i | 20 40 40 | | |
| | | | i | 20 41 04 | | |
| 3 | Epc:- Near | 28.5°N, 94.0°E, | | 0 = 02h. 54m. 55s. (Poona). | | |
| | Calcutta | E | eP | 02 57 31 | 890 | Slight. |
| | | | eS | 02 59 03 | | |
| | | | eS* | 02 59 33 | | |
| | | | eS | 02 59 57 | | |
| | New Delhi | N | eP | 02 58 30 | 1620 | Slight. |
| | | | PP | 02 58 42 | | |
| | | | PPP | 02 58 45 | | |
| | | | eS | 03 01 13 | | |
| | | | SS | 03 01 23 | | |
| | | | SSS | 03 01 47 | | |
| | | | PcP | 03 41 41 | | |
| | Poona | E | P | 02 59 44 | 2380 | Slight. |
| | | | S | 03 03 38 | | |
| | | | M | 03 05 30 | | |
| | Bombay | N,E | eP | 02 59 57 | 2590 | Slight. |
| | | | eS | 02 04 01 | | |
| | | N | M | 03 06 32 | | Per. = 6 secs. |
| | | | | | | $\mu = 3$ |
| 3 | Epc:- | 31.0° N, 94.0° E, | | 0 = 23h. 30m. 54s. (Poona). | | |
| | New Delhi | N | eP | 23 34 30 | 1645 | Slight. |
| | | | PP | 23 34 40 | | |
| | | | PPP | 23 34 47 | | |
| | | | L _Q | 23 37 04 | | |
| | | | eS | 23 37 15 | | |
| | | | SS | 23 37 34 | | |
| | | | SSS | 23 37 45 | | |
| | | | L _R | 23 37 49 | | |
| | Calcutta | E | eP | 23 34 46 | 767 | |
| | | | iS | 23 36 05 | | |
| | Poona | E,Z | iP | 23 35 46 | 2490 | Slight. A double |
| | | E | eP | | | shock with second |
| | | E | S | 23 39 51 | | onset of P at 23h. |
| | | | L _R | 23 40 30 | | 35m. 53s. and S |
| | | | M | 23 41 30 | | at 23h. 39m. 58s. |
| 4 | Epc:- Near | 30.0° N, 96.0°E, | | 0 = 06h. 18m. 55s. (Poona) | | |
| | New Delhi | E | eP | 06 22 54 | 1870 | Slight. |
| | | | eP | 06 22 59 | | |
| | | | PP | 06 23 08 | | |
| | | | PPP | 06 23 17 | | |
| | | | L _Q | 06 25 44 | | |
| | | | S | 06 26 02 | | |
| | | | SS | 06 26 15 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. | |
|----------------|--------------------|----------|------------------|-------------------------|----------|--|---------|
| Sept. 1950. | | | | h. m. s. | Km | | |
| (4 (cont.) | Hyderabad | E,N N | P | 06 23 35 | 2280 | Per.= 10 secs. $\mu = 2$ Slight. | |
| | | | S | 06 27 20 | | | |
| | | | L | 06 29 09 | | | |
| | | | M | 06 31 12 | | | |
| | Poona | E | eP | 06 24 04 | 2665 | | |
| | | | eS | 06 28 18 | | | |
| | | | L _Q | 06 28 42 | | | |
| | | | L _R | 06 29 40 | | | |
| | Bombay | N,E N | M | 06 31 -- | 2665 | | |
| | | | eP | 06 24 18 | | | |
| | | | eS | 06 28 30 | | | |
| | | | M | 06 32 43 | | | |
| 4 | New Delhi | N | eP | 08 16 40 | 1680 | Slight. | |
| | | | PP | 08 16 49 | | | |
| | | | PPP | 08 16 57 | | | |
| | | | L _Q | 08 19 25 | | | |
| | | | eS | 08 19 28 | | | |
| | | | SS | 08 19 47 | | | |
| | | | SSS | 08 20 00 | | | |
| | | | L _R | 08 20 08 | | | |
| | Hyderabad | N | PcP | 08 21 40 | 2510 | | |
| | | | eP | 08 17 18 | | | |
| | | | eS | 08 21 22 | | | |
| | | | L | 08 23 32 | | | |
| Bombay | N,E E | M | 08 26 03 | | | | |
| | | e | 08 22 15 | | | | |
| | | M | 08 27 29 | | | | |
| | | | | | | | |
| 5 | Kodaikanal | E | e | 08 32 00 | | Per.= 9 secs. $\mu = 2$ Slight. Per.= 9 secs. $\mu = 4$ | |
| | | | e | 08 38 10 | | | |
| | Poona | E | L _Q ? | 08 40 30 | | | |
| | | | M | 08 42 59 | | | |
| 5 | E New Delhi | E N | eP | 20 21 21 | 1335 | Slight | |
| | | | eP | 20 21 22 | | | |
| | | | PPP | 20 21 40 | | | |
| | | | L _Q | 20 23 26 | | | |
| | | | eS | 20 23 37 | | | |
| | | | SS | 20 23 48 | | | |
| | | | SSS | 20 23 55 | | | |
| | | | Calcutta | E | | | eP |
| | iS | 20 22 37 | | | | | |
| | iS* | 20 22 56 | | | | | |
| | iS | 20 23 08 | | | | | |
| | Poona | E | eP | 20 22 47 | 2290 | | Slight. |
| eS | | | 20 26 33 | | | | |
| M | | | 20 29 30 | | | | |
| e | | | 20 22 59 | | | | |
| Bombay | N E N,E N | i | 20 26 51 | | | | |
| | | eS ? | | | | | |
| | | M | | | 20 29 28 | | |
| | | M | | | 20 31 01 | | |
| 6 | Bombay | N E | e | 07 33 -- | | Per.= 9 secs. $\mu = 5$ Per.= 10 secs. $\mu = 5$ Feeble. | |
| | | | Record | artificially disturbed. | | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|----------------|------------|--------|--|--|----------|--|
| | | | | h. m. s. | Km. | |
| Sept. 1950. | | | | | | |
| 6 (cont.) | | | | | | |
| | Dehra Dun | N | eP eS M | 07 37 00 07 40 30 07 43 27 | 2818 | |
| | New Delhi | N | eP PP PPP LQ eS SS SSS | 07 38 43 07 38 47 07 38 54 07 39 41 07 39 50 07 40 05 07 40 13 | 633 | Per.= 12 secs. Amp.= 0.02" Slight. |
| | Poona | Z | P? | 07 39 59 | | Very feeble. |
| | Hyderabad | E | S? S M | 07 43 49 07 44 24 07 46 52 | | Per.= 8 secs. $\mu = 3$ |
| 8 | Calcutta | E | e | 15 31 07 | | Slight, near tremor. |
| | Bombay | N,E | e | 15 38 -- | | |
| 8 | Calcutta | E | e | 17 26 03 | | Slight, near tremor. |
| 9 | Bombay | N | e | 06 02 50 | | Feeble. |
| | Poona | E | Record | artificially disturbed | | at the time. |
| | | | e | 06 32 30 | | Feeble tremor. |
| | | | i | 06 32 45 | | |
| 9 | Bombay | N,E | e | 10 33 -- | 8440 | Slight, distant. |
| | Hyderabad | E | eP | 10 33 35 | | |
| | | | eS | 10 43 18 | | |
| | Poona | E | i | 10 36 30 | | Feeble, distant. |
| | | | i | 10 43 10 | | |
| | | | e | 11 07 -- | | |
| 9 | Kodaikanal | E | e | 11 35 00 | | Tremor. |
| 9 | Poona | E | e M | 13 03 55 13 06 -- | | Feeble, near. |
| 10 | Poona | Z | iP | 03 31 34 | | Feeble, near. |
| | New Delhi | N | e e e e | 03 34 04 03 36 41 03 38 19 03 39 56 | | |
| | Bombay | N,E | eP | 03 39 56 | | Slight distant. |
| | | N | M | 03 58 34 | | Per.= 13 secs. $\mu = 3$. |
| 10 | Hyderabad | E | M | 06 33 07 | | Per.= 11 secs. $\mu = 3$ |
| 10 | New Delhi | N | e e e | 07 37 10 07 37 43 07 39 12 | | |
| 10 | Calcutta | E | eP eS is* eS | 10 34 05 10 35 42 10 36 15 10 36 39 | 945 | Slight. |
| | Bombay | N | e eS? | 10 39 00 10 42 23 | | Feeble |
| | | N,E | e | 10 43 05 | | |
| | Poona | E | e e | 10 42 10 10 43 25 | | Feeble. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | REMARKS. |
|----------------|---|--------|------------------------|----------|---|
| Sept. 1950. | | | | h. m. s. | Km. |
| 10 | Epc:- 14°0 S, 167°0E, New Hebridies Region. | | | | |
| | O = 15h. 15m. 57s. (U.S.C.G.S.) | | | | |
| | Calcutta | E | iP | 15 28 43 | 9345 Moderate. |
| | | | ipP? | 15 29 21 | |
| | | | iS | 15 38 54 | |
| | | | isS? | 15 39 59 | |
| | | | iScS | 15 39 07 | |
| | | | eSS | 15 43 58 | |
| | | | eSSS | 15 47 14 | |
| | Colombo | E | P | 15 29 02 | |
| | | | S | 15 39 17 | |
| | | | L | 15 57 -- | |
| | | | M | 16 06 05 | |
| | Hyderabad | E | eP | 15 29 15 | 9320 Amp.= 0.5 mm. |
| | | | iS | 15 39 29 | |
| | | | L | 15 57 22 | |
| | | | M | 16 04 21 | |
| | Kodaikanal | E | eP | 15 29 10 | 10110 Per.= 18 secs. $\mu = 9$. Moderate. |
| | | | PP | 15 32 55 | |
| | | | iSKS ₁ | 15 39 31 | |
| | | | S | 15 40 06 | |
| | | | PS | 15 41 06 | |
| | | | SS | 15 45 41 | |
| | | | SSS | 15 49 26 | |
| | | | M | 16 03 -- | |
| | New Delhi | N | eP | 15 29 30 | 10550 Per.= 18 secs. $\mu = 13$. Moderate. |
| | | | iSKS ₁ | 15 40 03 | |
| | | | iS | 15 40 41 | |
| | | | PS | 15 41 49 | |
| | | | PPS | 15 42 31 | |
| | | | SS | 15 46 52 | |
| | | | SSS | 15 50 37 | |
| | | | L _Q | 15 55 -- | |
| | | | L _R | 16 01 -- | |
| | | | M | 16 06 -- | |
| | Poona | E | iP | 15 29 32 | 10665 Moderate. |
| | | | iSKS ₁ | 15 40 01 | |
| | | | SKKS ₁ | 15 40 15 | |
| | | | iS | 15 40 45 | |
| | | | PS | 15 42 17 | |
| | | | PPS | 15 42 57 | |
| | | | SS | 15 47 25 | |
| | | | SSP | 15 47 35 | |
| | Bombay | E | eP | 15 29 43 | Moderate. |
| | | N | Masked by microseisms. | | |
| | | E | ePP | 15 33 08 | |
| | Dehra Dun | e N | eP | 15 40 30 | |
| | | | e | 15 51 54 | |
| | | | e | 16 00 00 | |
| | | | M | 16 03 54 | |
| | | | | | Per.= 18 secs. $\mu = 0.05''$ |
| 11 | Epc:- 28°0 N, 95°0 E, | | | | |
| | O = 00h. 18m. 30s. (Poona). | | | | |
| | Calcutta | E | eS | 00 21 52 | 830 Slight. |
| | | | i | 00 22 47 | |
| | New Delhi | N | eP | 00 22 08 | 1700 Slight. |
| | | | eS | 00 24 58 | |
| | | | SS | 00 25 19 | |
| | Poona | E | P | 00 23 24 | 2400 Slight. |
| | | | S | 00 27 20 | |
| | | | L _Q | 00 27 46 | |
| | | | SSS | 00 28 10 | |
| | | | M | 00 30 30 | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | | Δ | REMARKS. |
|----------------|------------|--------|---------------------------|---------------------|----|----|----------|---|
| | | | | h. | m. | s. | Km. | |
| Sept. 1950. | | | | | | | | |
| 11 (cont.) | Bombay | N,E | eP e eS i | 00 | 23 | 30 | 2465 | Slight |
| | Dehra Dun | N | e | 00 | 34 | 27 | | |
| 11 | Poona | E | P S LQ SS SSS | 09 | 44 | 39 | 2290 | Slight. A double shock with a second on set of P at 09h 44m. 45s. and S at 09h. 48m. 31s. |
| | Bombay | N,E | eP eS LQ LR | 09 | 44 | 45 | 2445 | Moderate. |
| | | E | LQ | 09 | 48 | 49 | | |
| | | N,E | LR | 09 | 49 | 49 | | |
| | | E | M | 09 | 53 | 11 | | Per.= 10 secs. $\mu = 6$ |
| | Dehra Dun | N | M | Congestion of lines | | | | |
| | | N | eP | 09 | 47 | 30 | 1240 | |
| | | | eS | 09 | 49 | 30 | | |
| | | | M | 09 | 51 | 18 | | Per.= 12 secs. $\mu = 0.01''$ |
| | Kodaikanal | E | e | 09 | 49 | 29 | | Tremor. |
| 12 | Dehra Dun | N | eP | 06 | 20 | 55 | | |
| | Bombay | N,E | e | 06 | 24 | 23 | | Feeble. |
| | | | e | 06 | 26 | 31 | | |
| | Poona | E | S LQ SS | 06 | 24 | 43 | | Slight. P indefinite |
| | | | LQ | 06 | 24 | 57 | | |
| | | | SS | 06 | 25 | 15 | | |
| 12 | New Delhi | E | eP PP PPP LQ | 20 | 35 | 28 | 1690 | Moderate. |
| | | | PP | 20 | 35 | 39 | | |
| | | | PPP | 20 | 35 | 57 | | |
| | | | LQ | 20 | 38 | 11 | | |
| | | | eS | 20 | 38 | 17 | | |
| | | | SS | 20 | 38 | 31 | | |
| | | | SSS | 20 | 38 | 42 | | |
| | | | LR | 20 | 38 | 55 | | |
| | Calcutta | E | eP? | 20 | 35 | 42 | | Slight |
| | | | eS? | 20 | 36 | 32 | | |
| | Poona | Z | P S LQ | 20 | 36 | 36 | 2410 | Slight. |
| | | | S | 20 | 40 | 32 | | |
| | | | LQ | 20 | 40 | 52 | | |
| | | | SS | 20 | 41 | 10 | | |
| | | | SSS | 20 | 41 | 28 | | |
| | | | LR | 20 | 41 | 44 | | |
| | | | M | 20 | 43 | 30 | | |

13 Probable Epc:- $23^{\circ}0' N, 104^{\circ}0' E$. North French Indochina.
O = 00h. 02m. 57s. (Poona).

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|-------------|--|---|--|--|----------|--|
| | | | | h. m. s. | Km. | |
| Sept. 1950. | | | | | | |
| 13 (cont.) | | | | | | |
| | Calcutta | E | e iS Mn | 00 07 55 00 09 00 00 14 -- | 1600 | Moderate. Per. = 11 secs. $\mu = 90$ Slight |
| | Dehra Dun | N | eP eS SS SSS LR M | 00 08 19 00 12 35 00 13 31 00 13 46 00 14 12 00 16 12 | 2680 | Slight |
| | Poona | E | P | 00 08 52 | 3140 | Slight |
| | | Z | P | 00 08 59 | | |
| | | E | S | 00 13 39 | | |
| | Dehra Dun | N | eP e e M | 00 11 11 00 13 05 00 16 29 00 17 41 | | Per. = 12 secs. Amp. = 0.05 Slight. |
| | Bombay | E | e e | 00 13 26 00 15 54 | | |
| | | N | Loss of Record. | | | |
| 13 | Poona | E | P S LQ SS SSS M | 00 09 30 00 14 13 00 15 21 00 15 37 00 15 55 00 19 -- | 3090 | Moderate. |
| 13 | Bombay | N,E | e | 08 33 09 | | Tremor Tremor. |
| 13 | Epc:- Near 28.5° N, 95.0° E. O = 11h. 07m. 36s. (Poona) Felt at Tezpur and Dibrugarh. | | | | | |
| | Calcutta | N | eP iS iS* iS | 11 09 38 11 11 05 11 11 31 11 11 50 | 830 | Moderate. |
| | New Delhi | N | eP PPP LQ S SS SSS | 11 11 12 11 11 37 11 13 54 11 14 03 11 14 18 11 14 31 | 1680 | Moderate. |
| | Poona | E | iP PP PPP S LQ SS SSS | 11 12 27 11 12 49 11 13 01 11 16 21 11 16 33 11 16 53 11 17 07 | 2380 | Great. |
| | Bombay | N N,E E N E N E N E N E | M eP PP PP iS i iSS iSS LR M M | 11 19 10 11 19 30 11 12 37 11 13 01 11 13 07 11 16 39 11 16 43 11 17 18 11 17 21 11 18 01 11 19 28 | 2470 | Per. = 5 $\mu = 8$ Moderate Δ from N compt. Per. = 7secs. $\mu = 97$ - Record faint. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|--------------------|------------|--------|-------|----------|----------|----------------------------------|
| | | | | h. m. s. | Km. | |
| <u>Sept. 1950.</u> | | | | | | |
| 13 (cont.) | | | | | | |
| | Kodaikanal | E | eP? | 11 13 33 | 2165 | Moderate |
| | | | S | 11 17 05 | | |
| | Dehra Dun | N | eP? | 11 14 32 | | |
| | | | eS? | 11 17 24 | | |
| | | | L | 11 21 48 | | |
| | | | M | 11 23 54 | | Per. = 12 secs. $\mu = 0.1''$ |
| | Colombo | E | P | 11 17 29 | | |
| | | | S | 11 23 09 | | |
| | | | L | 11 28 34 | | |
| | | | M | 11 30 49 | | Amp. = 0.7 m.m. |
| 13 | New Delhi | N | eP | 19 03 47 | 1500 | Slight |
| | | | PP | 19 03 54 | | |
| | | | PPP | 19 04 04 | | |
| | | | LQ | 19 06 07 | | |
| | | | S | 19 06 19 | | |
| | | | SS | 19 06 28 | | |
| | | | SSS | 19 06 45 | | |
| 14 | New Delhi | N | eP | 02 35 13 | 1545 | Slight. |
| | | | PPP | 02 35 30 | | |
| | | | LQ | 02 37 40 | | |
| | | | eS | 02 37 49 | | |
| | | | SS | 02 38 04 | | |
| | | | SSS | 02 38 15 | | |
| | Poona | E | P | 02 36 20 | 2460 | Feeble. |
| | | | S | 02 40 20 | | |
| | Bombay | N,E | e | 02 40 33 | | Slight. |
| | | N | M | 02 43 21 | | Per. = 6 secs. $\mu = 5$ |
| 14 | Kodaikanal | E | eP | 09 14 40 | 5155 | Moderate. |
| | | | PP | 09 16 15 | | |
| | | | eS | 09 21 28 | | |
| | | | LR | 09 28 10 | | |
| | | | M | 09 32 03 | | Per. = 20 secs. $\mu = 10.$ |
| | Bombay | N,E | e | 09 22 50 | | Slight, distant. |
| | | E | M | 09 40 55 | | Per. = 17 secs. $\mu = 4$ |
| | | N | M | 09 42 16 | | Per. = 17 secs. $\mu = 4.$ |
| | Poona | E | e | 09 23 20 | | Feeble, Distant. |
| | | | M | 09 36 -- | | |
| | Hyderabad | N | M | 09 38 16 | | Per. = 18 secs. $\mu = 7$ |
| 17 | Hyderabad | N | eP | 16 00 37 | 2410 | |
| | | | eS | 16 04 33 | | |
| | | | L | 16 07 08 | | |
| | | | M | 16 08 35 | | Per. = 8 secs. $\mu = 3$ |
| | Calcutta | E | eP? | 16 00 44 | 722 | Slight |
| | | | eS? | 16 01 59 | | |
| | | | eS* | 16 02 23 | | |
| | | | eS | 16 02 40 | | |
| | Poona | EZ | P | 16 01 00 | 2610 | Moderate. |
| | | E | S | 16 05 11 | | |
| | | | LQ | 16 05 35 | | |
| | | | LR | 16 06 37 | | |
| | | | M | 16 08 30 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | △ | REMARKS. |
|--------------|---|--------|------------------|------------|------|----------------------|
| | | | | h. m. s. | Km. | |
| <u>Sept.</u> | | | | | | |
| 1950. | | | | | | |
| 17 (cont.) | | | | | | |
| | Bombay | N,E | eP | 16 01 05 | 2735 | Slight. |
| | | | eS | 16 05 22 | | |
| | | E | LR | 16 07 23 | | |
| | | N | M | 16 09 02 | | Per.= 9 secs. |
| | | E | M | 16 10 33 | | $\mu = 5$ |
| | Dehra Dun | N | eP | 16 02 45 | | Per.= 11 secs. |
| | Kodaikanal | E | e | 16 08 35 ? | | $\mu = 3$ |
| | | | | | | Tremor. |
| 17 | Kodaikanal | E | e? | 21 23 00 | | Tremor. |
| | Poona | E | P | 21 38 27 | 2570 | Slight. |
| | | | S | 21 42 35 | | |
| | | | L _Q | 21 42 57 | | |
| | | | L _R | 21 44 05 | | |
| | Calcutta | E | M | 21 45 55 | | |
| | | | e | 21 39 18 | | Slight, near tremor |
| | Bombay | N,E | i | 21 39 47 | | |
| | | | e | 21 45 45 | | Feeble, distant. |
| 18 | New Delhi | N | eP | 19 10 29 | | Very feeble. |
| | | | M | 19 15 16 | | |
| | Dehra Dun | N | eP | 19 10 45 | | |
| | | | eS | 19 13 51 | | |
| | | | M | 19 14 06 | | Per.= 15 secs. |
| | Poona | E | P | 19 12 10 | | App.= 0.05" |
| | | | S? | 19 16 02 | | Slight |
| | | | L(s) | 19 16 16 | | |
| | | | SS | 19 16 36 | | |
| | | | SSS | 19 16 54 | | |
| | Calcutta | E | M | 19 20 -- | | |
| | | | eP | 19 12 11 | 1011 | Slight. |
| | | | iS | 19 13 55 | | |
| | Bombay | N,E | iS | 19 14 57 | | |
| | | | eP | 19 16 33 | 2135 | Slight. |
| | | | eS | 19 20 00 | | |
| | | E | LR | 19 21 06 | | |
| | | N | LR | 19 21 09 | | |
| | | | M | 19 22 20 | | Per.= 7 secs. |
| | | E | M | 19 23 34 | | $\mu = 4$ |
| | Kodaikanal | E | e | 19 16 41 | | Per.= 7 secs. |
| | | | | | | $\mu = 2$ |
| | | | | | | Tremor. |
| 19 | Calcutta | E | e | 03 19 43 | | Slight, near tremor. |
| | | | e | 03 20 48 | | |
| 19 | Epc:- 2 ^o 0S, 138.5 ^o E. Near North East of New Guinea. | | | | | |
| | 0 = 20h. 29m. 48s. (U.S.C.G.S.) | | | | | |
| | 1 ^o 0 S, 140 ^o 0E in the Pacific near New Guinea Island | | | | | |
| | 0 = 20h. 29m. 47s. (Poona). | | | | | |
| | Calcutta | E | eP | 20 39 27 | 6210 | Slight. |
| | | | eP ₄₀ | 20 40 23 | | |
| | | | 1PPP | 20 42 38 | | |
| | | | iS | 20 47 11 | | |
| | | | iScS | 20 49 04 | | |
| | | | iSS | 20 50 59 | | |
| | | | eSSS | 20 52 56 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | | △ | REMARKS. |
|-----------------------------|------------|--------|-------|----------|----|----|------|--------------------------------|
| | | | | h. | m. | s. | Km. | |
| Sept. 1950. 19(cont.) | Kodaikanal | E | eP | 20 | 39 | 29 | 6220 | Moderate. |
| | | | PP | 20 | 41 | 36 | | |
| | | | eS | 20 | 47 | 19 | | |
| | | | LR | 20 | 53 | 59 | | |
| | | | M | 21 | 01 | 59 | | Per. = 10 secs. $\mu = 4.$ |
| | Colombo | E | P | 20 | 39 | 51 | | |
| | | | S | 20 | 48 | 11 | | |
| | | | L | 21 | 03 | 06 | | |
| | | | M | 21 | 07 | 08 | | |
| | Hyderabad | N | eP | 20 | 40 | 13 | 6860 | Amp. = 0.5 mm. |
| | | | PP | 20 | 43 | 15 | | |
| | | | iS | 20 | 48 | 36 | | |
| | | | SS | 20 | 52 | 33 | | |
| | | | M | 21 | 04 | 28 | | Per. = 22 secs. $\mu = 27$ |
| | New Delhi | N | eP | 20 | 40 | 35 | 7200 | Moderate. |
| | | | PcP | 20 | 42 | 13 | | |
| | | | PcPS | 20 | 45 | 27 | | |
| | | | iS | 20 | 49 | 16 | | |
| | | | PS | 20 | 49 | 30 | | |
| | | | PPS | 20 | 49 | 41 | | |
| | | | SKS1 | 20 | 50 | 20 | | |
| | | | SS | 20 | 53 | 28 | | |
| | | | LQ | 20 | 57 | 06 | | |
| | | | LR | 20 | 59 | 56 | | |
| | Poona | E | P | 20 | 40 | 38 | 7360 | Moderate. |
| | | | PcP | 20 | 41 | 02 | | |
| | | | PP | 20 | 43 | 08 | | |
| | | | S | 20 | 49 | 22 | | |
| | | | PS | 20 | 49 | 48 | | |
| | | | ScS | 20 | 50 | 12 | | |
| | | | SS | 20 | 53 | 36 | | |
| | | | SSS | 20 | 56 | 30 | | |
| | | | LQ | 20 | 57 | 46 | | |
| | | | LR | 20 | 01 | 45 | | |
| | | | M | 21 | 08 | -- | | |
| | Bombay | N,E | eP | 20 | 40 | 49 | 7445 | Moderate. |
| | | E | iPcP | 20 | 41 | 23 | | |
| | | N,E | iS | 20 | 49 | 43 | | |
| | | E | iSS | 20 | 54 | 23 | | |
| | | N | iSS | 20 | 54 | 27 | | |
| | | E | LQ | 20 | 58 | 02 | | |
| | | N | LR | 20 | 01 | 20 | | |
| | | E | M | 21 | 09 | 40 | | Per. = 17 secs. $\mu = 7$ |
| | | N | M | 21 | 10 | 16 | | Per. = 17 secs. $\mu = 8.$ |
| | Dehra Dun | N | eP? | 20 | 45 | 12 | | |
| | | | eS? | 20 | 52 | 54 | | |
| | | | M | 21 | 03 | 21 | | Per. = 18 secs. Amp = 0.05" |
| 19 | New Delhi | N | e | 23 | 38 | 08 | | |
| | | | e | 23 | 39 | 36 | | |
| | | | e | 23 | 41 | 36 | | |
| | | | e | 23 | 44 | 36 | | |
| | | | e | 23 | 44 | 20 | | |
| | Poona | Z | P | 23 | 40 | 10 | 2290 | Feeble. |
| | | | S | 23 | 43 | 56 | | |
| | | | SS | 23 | 44 | 28 | | |
| | | | LR | 23 | 45 | 02 | | |
| | | | M | 23 | 47 | -- | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | REMARKS. |
|----------------|--|--------|----------------|----------|-------|---|
| Sept. 1950. | | | | h. m. s. | Km. | |
| 20 | New Delhi Poona | N E | e | 15 57 47 | | |
| | | | i | 16 02 38 | | |
| | | | i | 16 03 56 | | Feeble, distant. |
| 20 | Poona | E | e | 22 45 41 | | Feeble, tremor. |
| 20 | Calcutta | E | e | 22 46 33 | | |
| | | | e | 05 08 34 | | Slight tremor. |
| | | | e | 05 09 49 | | |
| 21 | New Delhi | N | eP | 16 14 39 | 1780 | Slight |
| | | | PP | 16 14 48 | | |
| | | | e | 16 15 25 | | |
| | | | eS | 16 17 37 | | |
| | | | SS | 16 17 48 | | |
| | | | LR | 16 18 10 | | |
| | Calcutta | E | e | 16 18 51 | | |
| | | | eP | 16 14 59 | ? 545 | Slight. |
| | | | eS | 16 15 57 | | |
| | Poona | Z | eS* | 16 16 13 | | |
| | | | iS | 16 16 25 | | |
| | Bombay | N,E | P | 16 15 32 | 2565 | Feeble. |
| | | | iS | 16 19 42 | | |
| | | | e | 16 16 -- | | Very feeble surface waves. |
| 21 | Epc:- 8.0S, 65.0° E, 0 = 22h. 51m. 06s. (Poona). | | | | | |
| | 9.0S, 67.0° E, 0 = 22h. 51m. 02s. (U.S.C.G.S.). | | | | | |
| | Kodaikanal | E | 1P | 22 55 38 | 2555 | Moderate. Times approximate. Times marks absent. |
| | | | PP | 22 56 23 | | |
| | | | iS | 22 59 45 | | |
| | | | SS | 23 00 45 | | |
| | | | SSS | 23 01 07 | | |
| | Colombo | E | M | 23 03 07 | | Per. = 9 secs. $\mu = 5$ |
| | | | P | 22 55 42 | | |
| | | | S | 22 59 44 | | |
| | | | L | 23 04 02 | | |
| | | | M ₁ | 23 06 27 | | |
| | Poona | E | M ₂ | 23 09 39 | | |
| | | | P | 22 57 00 | 3100 | Amp. = 0.6 m.m. Moderate. |
| | | | iS | 23 01 43 | | |
| | | | SS | 23 03 13 | | |
| | | | SSS | 23 03 28 | | |
| LR | 23 04 30 | | | | | |
| | Bombay | N,E | M | 23 07 -- | | |
| | | | eP | 22 51 01 | 3300 | Moderate. |
| | | | PPP | 22 58 14 | | |
| | | | iS | 23 01 56 | | |
| | | | LQ | 23 02 25 | | |
| | | | LQ | 23 02 34 | | |
| | | | SS | 23 02 40 | | |
| | | | SS | 23 02 59 | | |
| | | | LR | 23 03 46 | | |
| | | | LR | 23 04 23 | | |
| | | | M | 23 07 56 | | |
| | | N | M | 23 10 58 | | |
| 21 | Hyderabad | N | eP | 22 57 04 | 3210 | Per. = 12 secs. $\mu = 4.$ |
| | | | iS | 23 01 54 | | |
| | | | SS | 23 03 25 | | |
| | | | M | 23 07 12 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|----------------|---|--------|------------------------------------|--|----------|---|
| | | | | h. m. s. | Km. | |
| Sept. 1950. | | | | | | |
| 21 (cont.) | New Delhi | N | eP PP PPP iS SS SSS | 22 58 31 22 59 -- 23 00 23 23 04 27 23 07 07 23 07 37 | 4280 | Moderate. |
| | Calcutta | E | iP iS eSS | 22 58 37 23 04 29 23 07 18 | 4270 | Moderate. |
| | Dehra Dun | N | eP? eS? e M | 23 02 42 23 06 24 23 11 36 23 13 48 | | Per. = 12 secs. $\mu = 0.25''$ |
| 22 | Calcutta | E | e | 00 19 18 | | |
| 22 | Epicentral region:- $10^{\circ}0' S$, $65^{\circ}0' E$, $0 = 03h. 32m. 07s.$ (Poona). | | | | | |
| | Colombo | E | P S L M | 03 36 57 03 40 50 03 42 50 03 44 17 | | Amp. = 0.5 mm. Moderate. |
| | Kodaikanal | E | iP PPP iS SS M | 03 37 17 03 38 02 03 41 25 03 42 05 03 44 10 | 2565 | Per. = 8 secs. $\mu = 7.$ Slight. |
| | Bombay | N,E | eP eS M | 03 38 12 03 43 04 03 51 00 | 3245 | Per. = 10 secs. $\mu = 3$ |
| | | N | M | 04 53 08 | | Per. = 7 secs. $\mu = 3$ |
| | Poona | E | eP S LR | 03 38 12 03 43 03 03 45 -- | 3240 | Very feeble. |
| | Hyderabad | N | eP iS M | 03 38 17 03 42 59 03 48 09 | 3080 | Per. 12 secs. $\mu = 8$ |
| | New Delhi | N | eP PP eS LR | 03 39 39 03 40 11 03 45 39 03 50 29 | 4335 | Moderate. |
| | Calcutta | E | e | 03 45 32 | | Slight, Distant tremor. |
| | Dehra Dun | N | eP eS M | 03 47 18 03 51 00 03 57 12 | 2365 | Per. = 12 secs. $\mu = 0.02''$ |
| 22 | Calcutta | E | e | 07 59 47 | | Slight, distant tremor. |
| 22 | Bombay | N,E | e | 08 17 26 | | Feeble distant. |
| 22 | Hyderabad | N | M | 09 13 52 | | Per. = 18 secs $\mu = 4.$ |
| 22 | Calcutta | E | e | 09 40 38 | | Slight, near tremor. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | △ | REMARKS. |
|----------------|--|----------|--|--|------|---|
| Sept. 1950. | | | | h. m. s. | Km. | |
| 22 | Calcutta | E | eP .eS | 13 53 09 13 54 19 | 670 | Very slight. |
| 23 | Calcutta | E | eP is | 00 10 55 00 16 36 | 4210 | Slight. |
| | Colombo | E | iSSS P S L M M | 00 19 25 00 11 15 00 16 52 00 21 00 00 22 40 | | Slight deep focus. |
| | Kodaikanal | E | eP PcP is LR M | 00 11 31 00 14 08 00 16 53 00 20 53 00 23 46 | 3735 | Amp.=0.2 mm. Not developed. Moderate shock Times approximate |
| | Bombay | N,E E | eP iPP i is? | 00 12 01 00 14 53 00 17 33 00 21 37 | | Times marks absent. Slight. Phase not clear in N record. |
| | New Delhi | N | e e i i P PPP S PS PPS SS LQ | 00 12 09 00 12 55 00 17 20 00 18 24 00 12 22 00 14 35 00 18 16 00 18 23 00 18 38 00 21 20 00 21 35 | 4555 | Very feeble Probably deep focus. |
| | Hyderabad | N | SSS S M | 00 22 10 00 17 10 00 26 17 | | |
| 24 | New Delhi | E | eP eS SS LR | 18 09 00 18 10 42 18 10 56 18 10 59 | 989 | Per.= 12 secs. $\mu = 4$. Slight. |
| | Poona | E | SSS P is PPS SS SSS LR M | 18 11 07 18 47 51 18 55 05 18 56 21 18 59 31 19 01 21 19 02 21 19 07 -- | 5610 | Slight. |
| | Bombay | E N,E | e e | 18 48 -- 18 55 23 | | Feeble, distant. |
| | Kodaikanal | E | e | 18 53 11 | | |
| 24 | Epc:- 36°5N, 58°5 E in North-East Persia O = 22h. 56m. 18s. (Poona) | | | | | |
| | Dehra Dun | N | eP eS? e M | 22 59 30 23 03 18 23 08 48 23 09 45 | | |
| | New Delhi | N | iP PP eS SS LR M | 23 00 21 23 00 32 23 03 24 23 03 44 23 04 12 23 05 34 | 1820 | Per.= 12 secs. Amp. = 0.05" Moderate. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS |
|-------------|---------------------|--------------------|---|--|----------|---|
| | | | | h. m. s. | Km. | |
| Sept. 1950. | | | | | | |
| 24 (cont.) | Bombay | N,E | 1P eS | 23 01 07 23 04 51 | 2310 | Moderate. |
| | | N | M | 23 10 30 | | Per.= 11 secs. $\mu = 6$ |
| | | E | M | 23 10 36 | | Per.= 9 secs. $\mu = 4$ |
| | Poona | Z | P S LQ SS M | 23 01 17 23 05 07 23 05 17 23 05 37 23 07 35 | 2335 | Moderate. |
| | Hyderabad | N | S M | 23 01 50 23 06 34 23 12 07 | 3110 | Per.= 12 secs. $\mu = 8$ |
| | Calcutta | E | eP ePcP eS eSS | 23 02 20 23 05 08 23 07 12 23 08 48 | 3245 | Slight. |
| | Kodaikanal | E | eP eS M | 23 02 37 23 07 57 23 13 22 | 3555 | Slight. |
| 25 | Kodaikanal | E | e | 03 06 01 | | |
| 25 | New Delhi | E,N E | eP PP P* Pg LQ 1S SS | 16 59 06 16 59 13 16 59 17 16 59 27 16 59 53 17 00 05 17 00 16 | 555 | Moderate |
| | Poona | E,N E Z E | 1S SS 1P S SS SSS LR M | 17 01 19 17 03 56 17 04 -- 17 04 28 17 04 34 17 05 20 | 1555 | Slight. |
| | Bombay | E N E E | eP 1S eS | 17 04 13 17 05 08 | 544? | Slight. |
| | Kodaikanal | E | e | 17 04 30 | | Tremor. |
| | Hyderabad | N | e M | 17 05 52 17 07 16 | | Per.= 11 secs. $\mu = 5$ |
| 25 | New Delhi | N | e e e | 22 32 44 22 36 04 22 45 25 | | |
| 25 | Epc:- 9.5S, 126.0 E | | | | | Off Northern coast of Mindanao O = 23h. 15m. 58s. (U.S.C.G.S.) |
| | Kodaikanal | E | e | 23 14 16 | | |
| | Colombo | E | P S L M | 23 24 22 23 33 28 23 42 -- 23 46 22 | | Amp.= 0.2mm. |
| | Poona | E | P S PS LQ LR | 23 25 03 23 33 16 23 38 26 23 38 20 23 40 46 | 6680 | Moderate. |

| No. | Location | Dir. | Code | Time | Mag. | Depth | Notes |
|-----|--|------|----------|----------|------|-------|-----------------------------------|
| | Bombay | N,E | eP | 22 25 14 | | | |
| | | | e | 22 22 37 | | | |
| | | | M | 22 21 56 | | | |
| | Hyderabad | N | eS | 22 21 21 | | | $\mu = 3$ |
| | | | M | 22 22 44 | | | Per. = 15 secs. |
| 23 | Calcutta | E | e | 14 29 48 | | | $\mu = 5$ Slight, near tremor. |
| 24 | Poona | Z | 1P | 14 23 16 | 2630 | | Slight. |
| | | E | iS | 14 23 29 | | | |
| | | | LQ | 14 23 42 | | | |
| | | | SS | 14 23 19 | | | |
| | | | LR | 14 23 05 | | | |
| | | | i | 14 23 46 | | | |
| | Calcutta | E | M | 14 23 30 | | | |
| | | | i | 14 23 28 | | | Slight near tremor. |
| 25 | Calcutta | E | e | 19 23 17 | | | |
| | Bombay | N,E | e | 19 23 30 | | | Slight, near tremor. |
| | New Delhi | e | 10 23 22 | | | | |
| | New Delhi | N | e | 19 23 59 | | | |
| | | | i | 19 23 37 | | | |
| | | | e | 19 23 19 | | | |
| | Hyderabad | N | e | 19 23 45 | | | |
| | | | M | 19 23 29 | | | |
| | Poona | Z | 1P | 19 23 33 | 2500 | | Per. = 12 secs. |
| | | | eS? | 19 23 37 | | | $\mu = 2$ |
| | | | eM? | 19 23 10 | | | Feeble. |
| " | | | | | | | |
| 26 | Calcutta | E | e | 23 23 38 | | | Slight, near tremor. |
| | Poona | E | e | 23 23 20 | | | Feeble, tremor. |
| | | | e | 23 23 20 | | | |
| 27 | New Delhi | N | e | 10 23 35 | | | |
| | Poona | E | e | 10 23 34 | | | |
| | | | e | 10 23 30 | | | Feeble (Probably surface waves) |
| | Bombay | N,E | e | 10 23 33 | | | Feeble. |
| | | | e | 10 23 08 | | | |
| 28 | Epc:- 23.0° N, 121.0° E, 0 = 03h. 29m. 36s. (U.S.C.G.S.) | | | | | | |
| | Calcutta | E | eP | 03 23 44 | 3420 | | Slight. |
| | | | ePP | 03 23 41 | | | |
| | | | iS | 03 23 48 | | | |
| | | | eSS | 03 23 50 | | | |
| | New Delhi | N,E | eP | 03 23 26 | 4345 | | Moderate. |
| | | | PP | 03 23 27 | | | |
| | | | PPP | 03 23 15 | | | |
| | | | eS | 03 23 15 | | | |
| | | | PPS | 03 23 33 | | | |
| | | | SS | 03 23 03 | | | |
| | | | LQ | 03 23 11 | | | |
| | | | SSS | 03 23 23 | | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | | Km. | | |
|----------------|---|--------|--|----------|----|----|------|-----------------------------------|-----------|
| | | | | h. | m. | s. | | | |
| Sept. 1950. | | | | | | | | | |
| 29 (cont.) | Bombay (cont.) | E | eSS? M | 07 | 13 | 41 | | | |
| | | | | 07 | 53 | 18 | | Per. = 23 secs. $\mu = 11$ | |
| | | N | M | 08 | 01 | 32 | | Per. = 23 secs. $\mu = 9$ | |
| | Colombo | E | e L M | 06 | 54 | -- | | | |
| | | | | 07 | 43 | -- | | | |
| | | | | 08 | 09 | 19 | | Amp. 0.3 mm. | |
| 29 | Calcutta | E | e | 12 | 53 | 14 | | Slight, near tremor. | |
| 29 | Calcutta | E | e | 14 | 41 | 26 | | Slight near tremor. | |
| 29 | Calcutta | E | e | 22 | 39 | 03 | | Slight near tremor. | |
| 30 | Epc:- 28°5N, 94°0 E in Assam. 0 = 07h. 29m. 00s. (Poona). | | | | | | | | |
| | Felt at Shillong and Tezpur. | | | | | | | | |
| | Calcutta | E | iP iS iS* iS | 07 | 31 | 04 | 855 | Great | |
| | | | | 07 | 32 | 32 | | | |
| | | | | 07 | 33 | 01 | | | |
| | | | | 07 | 33 | 22 | | | |
| | New Delhi | N,E | eP | 07 | 32 | 24 | 1590 | Moderate. | |
| | | | PP | 07 | 32 | 38 | | | |
| | | N | PPP | 07 | 32 | 46 | | | |
| | | | LQ | 07 | 34 | 57 | | | |
| | | N,E | iS | 07 | 35 | 07 | | | |
| | | N | SSS | 07 | 35 | 15 | | | |
| | | N,E | SSS | 07 | 35 | 33 | | | |
| | | N | M | 07 | 36 | 52 | | | |
| | Dehra Dun | N | eP? eS M | 07 | 33 | 30 | | | |
| | | | | 07 | 35 | 54 | | | |
| | | | | 07 | 36 | 06 | | Per. = 12 secs. $\mu = 0.15''$ | |
| | Hyderabad | N | iP iS L M | 07 | 33 | 09 | 2160 | | |
| | | | | 07 | 36 | 43 | | | |
| | | | | 07 | 38 | 27 | | | |
| | | | | 07 | 40 | 11 | | Per. = 14 secs. $\mu = 36$ | |
| | Poona | E | iP iS LQ SS SSS LR M | 07 | 33 | 45 | 2310 | Moderate. | |
| | | | | 07 | 37 | 33 | | | |
| | | | | 07 | 37 | 48 | | | |
| | | | | 07 | 38 | 11 | | | |
| | | | | 07 | 38 | 25 | | | |
| | | | | 07 | 38 | 54 | | | |
| | | | | 07 | 40 | 30 | | | |
| | Bombay | N,E | iP iS | 07 | 33 | 51 | 2520 | Moderate. | |
| | | | | 07 | 37 | 51 | | | |
| | Kodaikanal | N,E | Record too faint to identify other phases. | | | | | 2710 | Moderate. |
| | | E | iP | 07 | 34 | 22 | | | |
| | | | S | 07 | 38 | 40 | | | |
| | | | LQ | 07 | 39 | 38 | | | |
| | | | LR | 07 | 40 | 53 | | | |
| | | | M | 07 | 43 | 00 | | Per. = 14 secs. $\mu = 7$ | |
| | Colombo | E | P S L M | 07 | 34 | 33 | 2830 | | |
| | | | | 07 | 38 | 59 | | | |
| | | | | 07 | 48 | 24 | | | |
| | | | | 07 | 48 | 54 | | Amp. 0.9 mm. | |

The following table contains a list of
by voluntary observers from various stations, during the quarter
July- September 1950.

| Place of at which felt | Date | G. M. T. of Earthquake | | Duration in seconds | Intensity R.F. Scale | No of shocks | Remarks. |
|-------------------------------|-----------|------------------------------|----|---------------------------|---------------------------------|-----------------|--|
| | | h. | m. | | | | |
| Kargil | 6-7-1950 | 11 | 58 | 05 | V | 1 | |
| Sonamarg | 9-7-50 | 16 | 07 | (1) 05 (2) 09 | V | 2 | Interval 20 secs. |
| Srinagar | 9-7-1950 | 16 | 10 | - | | | |
| Jammu | 9-7-1950. | 16 | 12 | 2 | V | 1 | |
| Dras | 9-7-1950 | 16 | 14 | 40 | VI | 3 | |
| Jammu | 9-7-1950 | 16 | 15 | - | V | 1 | |
| Patiala | 9-7-1950 | 16 | 15 | 60 | II | 2 | |
| Dalhousie | 9-7-1950 | 16 | 15 | 02 | III | 1 | |
| Srinagar | 9-7-1950 | 16 | 15 | $\frac{1}{2}$ | VIII | 2 | |
| Rajasanji (Dist. Amritsar) | 9-7-1950 | 16 | 20 | 52 | IV | 1 | |
| Sinla | 9-7-1950 | 16 | 21 | 02 | V | 2 | |
| Gulmarg | 9-7-1950 | 16 | 25 | 07 | VII | 6 | |
| Ferozepur | 9-7-1950 | 16 | 40 | 90 | V | 3 | |
| Tezpur | 10-8-1950 | 23 | 37 | $\frac{1}{2}$ | III | 1 | |
| Gulmarg | 12-8-1950 | 04 | 02 | 02 | VI | 2 | |
| Borholla Tea Estate | 15-8-1950 | 13 | 50 | 240 | V IX | | Followed by many shocks. Explosive sound. |
| Balimara T.E. | 15-8-1950 | 14 | 00 | 240 | X | | Drumming sound. |
| Tura | 15-8-1950 | 14 | 00 | 2 | Violent. Moderate Violent | 3 | |
| | 15-8-1950 | 14 | 15 | 1 | | | |
| | | 22 | 20 | $\frac{1}{2}$ | | | |
| Dibrugarh | 15-8-1950 | 14 | 05 | 540 | X | 1 | Followed by more than 24 shocks, till 23 30hrs.. G.M.T., of 15th |
| Tihu | 15-8-1950 | 14 | 05 | 150 | IVI | | About 4 after- shocks. |

| Place at which felt | Date | G. M. T. of Earthquake | Duration in Seconds | Intensity R.F. Scale. | No. of shocks | Remarks. |
|--------------------------|-----------|------------------------|---------------------|-----------------------|---------------|---|
| Dhubri | 15-8-1950 | h. m. | | | | |
| | | 14 05 | 120 | VI | 5 | |
| | | 14 07 | 150 | | | |
| | | 14 50 | 60 | | | |
| | | 15 00 | 60 | | | |
| 21 40 | 20 | | | | | |
| Mansynram | 15-8-1950 | 14 05 | - | VIII | 5 | |
| | | 14 50 | | | | |
| | | 21 55 | | | | |
| Kalinpong | 15-8-1950 | 14 05 | 55 | V | 2 | |
| | | 21 55 | 25 | | | |
| Tezpur | 15-8-1950 | 14 09 | 255 | IX | 9 | Rolling waves without sound at first. Then 6 cannon like sound at 14 30 hrs. G.M.T. |
| | | 14 25 | 2 | | | |
| | | 14 34 | 3 | | | |
| | | 14 50 | 1 | | | |
| | | 14 52 | 1 | | | |
| | | 14 58 | 1 | | | |
| | | 15 01 | 60 | | | |
| | | 15 25 | 1 | | | |
| 17 16 | 4 | | | | | |
| Dibrugarh | 15-8-1950 | 14 10 | 300 | X | 1 | Followed by many shocks accompanied by rumbling noise. |
| Naharkatiye | 15-8-1950 | 14 10 | 300 | X | 1 | Sounds of gun-fire after the shock. |
| Nalbari Dist. Kamrup | 15-8-1950 | 14 10 | 180 | VI | | Followed by tremors |
| Jorhat Dist. Sibsagar | 15-8-1950 | 14 10 | 330 | X | | Followed by after-shocks. |
| Mohanbari Air Fields | 15-8-1950 | 14 10 | 420 | VIII | 1 | Unusual sound followed by many shocks. |
| Dhanbad | 15-8-1950 | 14 10 | 60 | IV | | |
| | | 21 46 | 30 | | | |
| Gauhati Air Fields | 15-8-1950 | 14 11 | 240 | VII | 1 | Followed by several shocks. |
| Dilli-Colliery | 15-8-50 | 14 11 | 225 | X | | Followed by shocks. Sounds like anti-air craft fire. |
| Lhasa | 15-8-1950 | 14 12 | > 60 | V | 3 | |
| | 15-16- | 16 16 | | | | |
| | | 15 00 | | | | |
| Patna | 15-8-1950 | 14 13 | 5 | V | 1 | |

| Place at which felt. | Date | G. M. T. of Earthquake | Duration in Seconds | Intensity R.F. Scale. | No. of shocks | Remarks. |
|----------------------|------------|------------------------|---------------------|-----------------------|---------------|--|
| Gauhati | 15-8-1950 | h.m. 14 13 | 170 | VIII | 4 | Cannon like sounds |
| Moran Tea Company | 15-8-1950 | 14 13 | 180 | V IX | | Rumbling sound following the shock. |
| Bagdogra | 15-8-1950. | 14 13 | 175 | VI | | |
| Luding | 15-8-1950 | 14 14 | 300 | IX | | Sounds heard. |
| Dibrugarh | 15-8-1950 | 14 15 | 420 | IX | | 1 Followed by two other shocks. Milds shocks continued to occur at 2 to 3 minutes intervals till 0030 hrs.G.M.T. of 16-8-50. Cannon like sounds after the great shock. |
| Khowang T.T. | 15-8-1950 | 14 15 | 570 | X | | Sound like gun-fire after the shock. |
| Cinnatollah T.E. | 15-8-1950 | 14 15 | 300 | X | | Followed by innumerable shocks. |
| Attabarri T.E. | 15-8-1950 | 14 15 | 240 | IX | | Followed by several shocks. |
| Kamalpore | 15-8-1950 | 14 15 | 120 | V | | Followed by 8 shocks. booming sounds. |
| Silcher | 15-8-1950 | 14 15 15 10 | 300 60 | VIII VII | 2 | |
| Burdwan | 15-8-1950 | 14 15 | 75 | V | | Followed by seven. shocks |
| Krishnagar | 15-8-1950 | 14 15 | 1 | VI | | |
| Chob Coochbehar | 15-8-1950 | 14 15 | 10 to 15 | VIII | | |
| Malda | 15-8-1950 | 14 15 | 65 | VI | 3 | |
| Chapra | 15-8-1950 | 14 15 | 30 | VI | 1 | |
| Rohalganj | 15-8-1950 | 14 15 | 120 | VI | 3 | |
| Lucknow | 15-8-1950 | 14 15 | 20 | VI | 1 | |
| Gorakpur | 15-8-1950 | 14 15 | 3 | II | 1 | |

| Place at which felt | Date | G.M.T. of Earthquake | Duration in Seconds. | Intensity R.F. Scale | No. of Shocks | Remarks. |
|---------------------|-----------|--|------------------------------------|----------------------|---------------|--|
| Berhampur | 15-8-1950 | h. m. 14 15 21 45 | 240 } 60 | VI | | |
| Duma Duma | 15-8-1950 | 14 15 | 270 | X | | Followed by many shocks. |
| Purnea | 15-8-1950 | 14 20 | 30 | V | 2 | |
| Sabour | 15-8-1950 | 14 20 | 20 | - | 2 | |
| Begnakhali | 15-8-1950 | 14 25 | 1 | VI | 4 | |
| Kongon Village | 15-8-1950 | 14 30 | 300 | IX | | Followed by several shocks. |
| Tezpur | 15-8-1950 | 14 35 14 55 15 05 15 15 15 30 15 50 | 300 120 60 60 40 40 | VIII | | |
| Darjeeling | 15-8-1950 | 15 00 | 3 | VI | | 5 to 6 shocks. |
| Gauhati | 15-8-1950 | 15 02 15 27 | 40 } 50 | V | | |
| Langharajan T.E. | 15-8-1950 | 15 10 | 300 | X | | Sounds like explosion of bombs after the shock. |
| Tezpur | 15-8-1950 | 15 10 | 240 | IX | | Sounds like firing of cannons before and after the shocks. |
| Coochbehar | 15-8-1950 | 15 10 21 58 | - 5 | - VIII | 3 | |
| Gauhati | 15-8-1950 | 19 25 20 20 21 48 22 50 | 30 30 8 30 | V V | | |
| Tezpur | 15-8-1950 | 21 40 | 2 | V | | |
| Darjeeling | 15-8-1950 | 22 15 | 4 | V | | |
| Tezpur | 15-8-1950 | 21 44 22 00 23 45 23 57 | -6 } } | -VI | | Numerous shocks. |
| Malda | 15-8-1950 | 21 45 | 6 | VI | | |
| Bagdogra | 15-8-1950 | 21 45 | 10 | VI | 2 | |
| Darjeeling | 15-8-1950 | 21 47 | 25 | VI | | 20 to 25 shocks. |

| Place at which felt | Date | G.M.T. of Earthquake | Duration in Seconds | Intensity R.F. Scale. | No. of shocks | Remarks. |
|----------------------|-----------|--|------------------------------|-----------------------|---------------|----------|
| Pandu | 15-8-1950 | h. m. 21 48 22 20 | 20 10 | V | | |
| Silcher | 15-8-1950 | 21 55 | 30 | VII | | |
| Krishnagar | 15-8-1950 | 22 00 | 1 | VII | 2 | |
| Tezpur | 16-8-1950 | 00 23 | 5 | V | | |
| Gauhati | 16-8-1950 | 12 05 12 40 17 27 17 52 | 30) 30) 50) 30) | V | | |
| Tezpur | 16-8-1950 | 12 40 15 35 15 52 | 10 15 35 | V | | |
| Gauhati (Air Fields) | 16-8-1950 | 13 09 17 57 | 60 60 | VII | | |
| Dhubri | 16-8-1950 | 17 50 | 60 | VI | | |
| Mansynram | 16-8-1950 | 17 55 | - | VII | | |
| Silcher | 16-8-1950 | 17 55 | 30 | VII | | |
| Bagdogra | 16-8-1950 | 18 25 | 10 | VI | | |
| Gauhati (Air Fields) | 16-8-1950 | 21 45 | 60 | VII | | |
| Tezpur | 17-8-1950 | 01 55 | 60 | VI | 5 | |
| Gauhati | 17-8-1950 | 01 57 | 25 | V | 2 | |
| Tezpur | 17-8-1950 | 01 55 03 35 05 00 05 40 12 40 17 52 | 3 2 1 1 2 4 | V | | |
| Pandu | 17-8-1950 | 01 58 | 7 to 8 | IV | | |
| Tezpur | 17-8-1950 | 23 45 | 60 | VI | 5 | |
| Pandu | 18-8-1950 | 00 00 | 37 | VII | | |
| Gauhati | 18-8-1950 | 00 00 01 15 | 50 30 | V - | - | |
| Tezpur | 18-8-1950 | 01 05 | 1½ | | | |
| Silcher | 18-8-1950 | 01 10 | 20 | V | | |
| Tezpur | 18-8-1950 | 19 05 20 00 21 15 | 2 1 2 | VI | | |

| Place at which felt | Date | G.M.T. of Earthquake | Duration in Seconds | Intensity R.F. Scale. | No. of shocks | Remarks. |
|-----------------------|-----------|----------------------|---------------------|-----------------------|---------------|----------|
| Gauhati | 21-8-1950 | h. m. 23 00 | 25 | V | 1 | |
| Dibrugarh | 26-8-1950 | 06 35 | 120 | VI | 3 | |
| Gauhati | 26-8-1950 | 06 35 | 10 | V | 1 | |
| Tezpur | 26-8-1950 | 06 43 | 10 | V | | |
| Dibrugarh | 27-8-1950 | 11 05 | 60 | VI | 1 | |
| Dibrugarh | 29-8-1950 | 04 18 | 30 | VI | 1 | |
| Dibrugarh | 31-8-1950 | 01 30 | 10 | V | 1 | |
| Tezpur | 1-9-1950 | 20 30 | 10 | V | 1 | |
| Lhasa | 5-9-1950 | 20 20 | 5 | IV | 1 | |
| Dibrugarh | 8-9-1950 | 15 30 | 3 | V | 1 | |
| Dibrugarh | 9-9-1950 | 22 55 | 4 | V | 1 | |
| Dibrugarh | 10-9-1950 | 21 12 | 2 | - | 1 | |
| Dibrugarh | 11-9-1950 | 00 16 | 10 | IV | 1 | |
| | | 02 53 | 3 | IV | | |
| | | 03 10 | 15 | IV | 1 | |
| | | 09 44 | 3 | V | 1 | |
| Gauhati | 11-9-1950 | 09 35 | 10 | V | 1 | |
| Dibrugarh | 11-9-1950 | 23 36 | 2 | III | 1 | |
| Dibrugarh | 12-9-1950 | 20 40 | 6 | VI | 1 | |
| | | 21 45 | 6 | - | 1 | |
| Dibrugarh | 13-9-1950 | 00 08 | 2 | - | 1 | |
| | | 01 01 | 3 | III | 1 | |
| | | 02 07 | 2 | III | 1 | |
| | | 02 20 | 3 | III | 1 | |
| | | 06 10 | 2 | III | 1 | |
| Gauhati | 13-9-1950 | 11 09 | 35 | VII | 2 | |
| Dibrugarh | 13-9-1950 | 11 10 | - | V IX | Many shocks. | |
| Pandu | 13-9-1950 | 11 12 | 120 | V | 2 | |
| Tezpur | 13-9-1950 | 11 12 | 1 | V | 1 | |
| Mohanbari (A.F.) | 13-9-1950 | 11 30 | 90 | VII | 1 | |
| Tezpur | 13-9-1950 | 11 24 | 30 | V | 1 | |
| Mohanbari (Air Field) | 16-9-1950 | 20 30 | 12 | V | 1 | |
| Mohanbari (A.F.) | 17-9-1950 | 01 30 | - | - | 1 | |
| | | 04 00 | - | - | 1 | |

| D Place at which felt | Date | G.M.T. h.m. | Duration in Seconds | Intensity R.F. Scale | No. of shocks | Remarks. |
|-----------------------|------------|----------------|---------------------|----------------------|---------------|----------|
| Gauhati | 20-9-1950 | 12 03 | 15 | V | 1 | |
| Port Blair | 27-9-1950 | 14 42 | 1 | III | 1 | |
| Tezpur | 39-9-1950 | 07 25 | 10 | V | 1 | |
| Tezpur | 130-9-1950 | 07 30 | 4 | V | 1 | |
| Gauhati (A.F.) | 30-9-1950 | 07 32 | 20 | III | 1 | |
| Dibrugarh | 30-9-1950 | 07 35 | 60 | VI | 1 | |
| Gauhati | 30-9-1950 | 07 35 | 10 | V | 1 | |



OCT 12 1951

GOVERNMENT OF INDIA

METEOROLOGICAL DEPARTMENT

SEISMOLOGICAL BULLETIN

August, 1950

Published under the direction of

V.V. Sohoni, B.A.(Hons.), M.Sc.,
Director General of Observatories.

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 were being published in the form of the Quarterly Seismological Bulletin. From the month of January 1948, the data are being published in the present form of a Monthly Seismological Bulletin. With the kind co-operation of the Surveyor-General of India, the Director of the Nizamiah Observatory, Hyderabad and the Director, Colombo Observatory, it has been possible to incorporate in the Bulletin the seismic data of their respective observatories viz. Dehra Dun, Hyderabad, and Colombo. The instrumental and non-instrumental voluntary observations are collected and edited at the Meteorological Office, Poona.

TABLE I.
List of Seismograph Stations

| Station | Latitude North ° ' " | Longitude East ° ' " | Height above M.S.L. 'Metres' | Lithologic Foundation | Officer-in-charge of Observatory. |
|------------|----------------------------|----------------------------|---------------------------------------|--------------------------|---|
| Bombay | 18 54 | 72 49 | 6 | Deccan Trap | Director. |
| Calcutta | 22 32 | 88 22 | (i)7 (ii)6 | Alluvium | Director. |
| Colombo | 06 54 | 79 52 | 7 | Beach sand | Director. |
| Dehra Dun | 30 19 | 78 03 | 682 | Gravel | President. |
| Hyderabad | 17 26 | 78 27 | 528 | Granite | Director. |
| Kodaikanal | 10 14 | 77 28 | 2343 | Rock | Director. |
| New Delhi | 28 35 | 77 12 | 207 | Massive Quartzite | Dy. Director General of Observatories (I & S). |
| Poona | 18 32 | 73 51 | 560 | Deccan Trap | Dy. Director General of Observatories (C & G). |

(i) Milne-Shaw

(ii) Omori-Fwing.


TABLE II.
Instruments and their constants.

| Station | Instrument | Component | Period in secs. | Static magnifi- cation. | Damping Ratio. | Paper Speed mm/min. |
|------------|---------------|-----------|-----------------------|-------------------------------|-------------------|---------------------------|
| Bombay | Milne-Shaw | N | 12 | 250 | 21:1 | 8.0 |
| | Milne-Shaw | E | 12 | 350 | 21:1 | 8.0 |
| Calcutta | Milne-Shaw | E | 12 | 250 | 20:1 | 8.0 |
| | Omori-Fwing | N | 15 | 32 | - | 25.4 |
| | Omori-Fwing | E | 16 | 30 | - | 25.4 |
| Colombo | Wood-Anderson | N | 4 | 1000 | 5:1 | 60.0 |
| | Milne-Shaw | E | 12 | 250 | 20:1 | 8.0 |
| Dehra Dun | Omori | N | 30 | 12 | - | - |
| Hyderabad | Milne-Shaw | E | 12 | 245 | 20:1 | 8.0 |
| | Milne-Shaw | N | 12 | 268 | 20:1 | 8.0 |
| Kodaikanal | Milne-Shaw | E | 10 | 250 | 20:1 | 8.0 |
| New Delhi | Milne-Shaw | N | 12 | 299 | 20:1 | 8.0 |
| | Wood-Anderson | N | 4 | 1072 | 30:1 | 16.0 |
| | Wood-Anderson | E | 2 | 1474 | 30:1 | 60.0 |
| | Omori-Fwing | E | 30 | 30 | 1 | 12.0 |
| Poona | Milne-Shaw | N | 12 | 250 | 20:1 | 8.0 |
| | Wood-Anderson | E | 4 | 1000 | 20:1 | 16.0 |


2

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|---------------|---|----------|------------------------------------|--|----------|--|
| | | | | h. m. s. | Km. | |
| Aug. 1950. | | | | | | |
| 1 | Epc;- 42.5°N, 145.0°E, | | | 0 = 09h. 11m. 39s. (U.S.C.G.S.). | | |
| | New Delhi | N | eP iS PS LR M | 09 21 14 09 29 11 09 29 33 09 40 09 09 45 18 | 6335 | Slight. |
| | Poona | E | iP S | 09 22 20 09 30 54 | 6890 ? | Slight. Phases masked by strong micro-seisms. |
| | Bombay | N,E E | M eP e eS e | 09 51 -- 09 22 20 09 22 34 09 31 04 09 35 42 | 7310 | Slight. |
| | Kodaikanal | E | eS e | 09 31 40 10 34 04 | | Slight. Phases not clear. |
| 1 | New Delhi | N,E | iP? iS | 20 03 08 20 03 12 | 30 | Slight. |
| 2 | Epc:- 12.0°N, 143.0°E. (Mariana Islands region) | | | 0 = 10h. 15m. 07s. (U.S.C.G.S.). | | |
| | Kodaikanal | E | e? | 10 59 14 | | Per.= 15 secs. $\mu = 1.2$ |
| | Calcutta | E | eP eS | 10 59 20 11 06 43 | 5780 | Slight. |
| | Bombay | E | eP ePP eS LR M | 11 01 01 11 03 35 11 09 56 11 21 19 11 34 40 | 7390 | Slight. Micro-seisms in N record. |
| | Hyderabad | N | S M | 11 09 01 11 31 33 | | Per. = 17 secs. $\mu = 3.$ |
| | New Delhi | N | iPS i iSS? e | 11 09 11 11 10 32 11 12 54 11 23 31 | 6940 | Per.= 14 secs. $\mu = 3.$ Moderate. Very distant. Surface waves. |
| | Poona | N | iS M | 11 09 48 11 31 -- | | Slight. Record disturbed. |
| 2 | Epc:- 14.5°N, 40.0°E. 15.0°N, 38.0°E | | | 0 = 13h. 49m. 58s. (B.C.I.S.) 0 = 13h. 49m. 45s. (Poona) | | |
| | Kodaikanal | E | iP iPP PPP iS SSS M | 13 55 09 13 56 37 13 57 01 14 00 57 14 04 00 14 08 44 | 4145 | Moderate. Direction of P and PP towards East. Absolute times not correct. Per.=12 secs. $\mu = 4$ |

3.

| DATE | STATION | COMPT. | PHASE | G. M. T. |  | REMARKS. |
|---------------------|----------------------|--------|----------------|---------------------------------|---|--|
| <u>Aug.</u> 1950 | | | | h. m. s. | Km | |
| 2 (cont.) | | | | | | |
| | Bombay | E | iP | 13 56 22 | 3755 | Moderate from E record. |
| | | N | eP | | | |
| | | N,E | iPP | 13 57 34 | | |
| | | | iS | 14 01 46 | | |
| | | | L _R | 14 05 20 | | |
| | | N | M | 14 18 17 | | Per.= 13 secs. $\mu = 3$ |
| | | E | M | 14 18 38 | | Per.= 13 secs. $\mu = 3$ |
| | Poona | E | P | 13 56 33 | 3740 | Slight. |
| | | | PPP | 13 57 37 | | |
| | | N,E | PP | 13 58 02 | | |
| | | | PcP | 13 58 47 | | |
| | | | iS | 14 01 56 | | |
| | | | PcS | 14 02 35 | | |
| | | | SS | 14 04 10 | | |
| | | | SSS | 14 04 48 | | |
| | | | L _R | 14 05 49 | | |
| | | | M _R | 14 08 -- | | |
| | Hyderabad | E | iP | 13 57 10 | 4210 | |
| | | | PP | 13 58 29 | | |
| | | | S | 14 03 02 | | |
| | | N | S | 14 03 07 | | |
| | | | M | 14 09 46 | | Per.= 12 secs. $\mu = 6$ |
| | New Delhi | N | iP | 13 57 11 | 4290 | Moderate. Direction of first motion South. |
| | | | PP | 13 58 42 | | |
| | | | PcP | 13 59 43 | | |
| | | | iS | 14 03 09 | | |
| | | | PcS | 14 03 24 | | |
| | | | SS | 14 05 42 | | |
| | | | SSS | 14 06 12 | | |
| | | | L _R | 14 07 40 | | |
| | Colombo | E | M | 14 11 11 | | |
| | | | P | 13 57 35 | | |
| | | | S | 14 03 35 | | |
| | | | L | 14 13 23 | | |
| | Calcutta | E | M | 14 17 15 | | Amp.= 0.4mm. Slight. |
| | | | eP | 13 58 26 | 5255 | |
| | | | eS | 14 05 25 | | |
| | | | SS | 14 09 05 | | |
| 3 | New Delhi | E | eP | 19 12 40 | 1030 | Slight |
| | | | eS | 19 14 27 | | |
| 3 | Epc:- 10°N, 169°5W . | | | 0 = 22h. 18m. 18s. (U.S.C.G.S.) | | |
| | Bombay | E | e | 22 32 07 | | Slight, distant. Per.= 18 secs. $\mu = 4$. |
| | | N,E | i | 22 41 11 | | |
| | | E | M | 23 53 30 | | |
| | Kodaikanal | E | e | 22 36 28 | | Moderate, distant. Phases not clear |
| | Colombo | E | P | 22 38 01 | | |
| | | | M | 23 47 -- | | |
| | New Delhi | N | e | 22 39 47 | | Amp.=0.1mm. Moderate, very distant. |
| | | N,E | i | 22 40 56 | | |
| | | N | e | 22 43 16 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|--------------|------------------------|--------|---------------------------------|----------|----------|------------------------------|
| | | | | h. m. s. | Kn | |
| <u>Aug.</u> | | | | | | |
| <u>1950.</u> | | | | | | |
| 3 (cont.) | Poona | N | PPP | 22 40 10 | 15000 | Slight. |
| | | | PS | 22 49 30 | | Very distant. |
| | | | PPS | 22 51 02 | | |
| | | | SSP | 22 57 18 | | |
| | Hyderabad | N | M | 23 34 -- | | |
| | | | M | 23 49 32 | | Per.= 15 secs. $\mu = 5.$ |
| 4 | Calcutta | E | eP | 03 44 00 | 1665 | Slight. |
| | | | eS | 03 46 48 | | |
| | Bombay | N,E | e | 03 48 55 | | Feeble. |
| 5 | Epc:- 50.0 S, 164.0 E. | | O = 09h. 16m. 48s. (U.S.C.G.S.) | | | |
| | Colombo | E | P | 09 30 04 | 10335 | |
| | | | SKS ₁ | 09 40 34 | | |
| | | | L | 09 54 29 | | |
| | | | M | 10 04 17 | | |
| | Bombay | N,E | eP | 09 30 59 | 11665 | Amp.=0.5 mm. Moderate. |
| | | E | PP | 09 35 20 | | |
| | | | PPP | 09 37 36 | | |
| | | N | eSKS ₁ | 09 41 40 | | |
| | | E | iS | 09 42 52 | | |
| | | N | iPS | 09 44 33 | | |
| | | N,E | iPPS | 09 45 31 | | |
| | | E | iSS | 09 50 18 | | |
| | | N | eSS | | | |
| | | E | LQ | 10 00 10 | | |
| | | N | LQ | 10 00 17 | | |
| | | E | M | 10 15 31 | | Per.= 17 secs. $\mu = 4.$ |
| | | N | M | 10 27 17 | | Per.= 17 secs. $\mu = 6.$ |
| | Poona | N | iPP | 09 35 19 | 11600 | Moderate. |
| | | | SKS ₁ | 09 41 30 | | |
| | | | iS | 09 42 42 | | |
| | | | iPS | 09 44 19 | | |
| | | | iPPS | 09 45 19 | | |
| | | | SS | 09 50 07 | | |
| | | | SSP | 09 50 27 | | |
| | | | SSS | 09 54 00 | | |
| | | | LQ | 10 00 -- | | |
| | | | M | 10 12 -- | | Per.= 20 secs. $\mu = 12$ |
| | Kodaikanal | E | PPP | 09 36 37 | 10665 | Moderate. |
| | | | iSKS ₁ | 09 40 55 | | |
| | | | iS | 09 41 40 | | |
| | | | PS | 09 42 59 | | |
| | | | PPS | 09 43 38 | | |
| | | | SS | 09 48 09 | | |
| | | | SSP | 09 48 15 | | |
| | | | SSS | 09 51 55 | | |
| | | | LQ | 09 58 23 | | |
| | | | L _R | 10 03 22 | | |
| | | | M | 10 12 11 | | Per.= 18 secs. $\mu = 9.$ |
| | New Delhi | N,E | i | 09 43 22 | | Slight.Distant. |
| | | | SKKS | 09 43 28 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. |  | REMARKS. |
|--------------|--------------------|----------------------|--|--|---|---|
| | | | | h. m. s. | Km. | |
| Aug. 1950 | | | | | | |
| 5 (cont.) | Hyderabad | N | SS? L M | 09 43 39 09 48 35 10 04 49 | | Per.= 18 secs. $\mu = 14$ |
| 7 | Epc:- 6°N, 126°E . | | | 0 = 02h. 44m. 44s. (U.S.C.G.S.) | | |
| | Epc;- 6°N, 125.5°E | | | 0 = 02h. 45m. 17s. h = 150 Km. + (Poona). | | |
| | Calcutta | E | iP ipP ePP iS isS eSS iSSS | 02 52 27 02 53 11 02 54 02 02 58 19 02 59 37 03 01 04 03 01 45 | 4490 | Moderate. depth of focus 200 Km. |
| | Colombo | E | P S L M | 02 53 04 02 59 40 03 10 35 03 14 50 | 5000 | |
| | Hyderabad | E N | iP iS i SS L M | 02 53 24 03 00 06 03 01 09 03 03 26 03 07 14 03 11 10 | 5050 | Amp.= 0.7 mm. |
| | Kodaikanal | E | iP PP PPP PcS iS SS SSS L _R M | 02 53 29 02 55 21 02 56 03 02 59 03 03 00 07 03 03 23 03 04 27 03 06 18 03 10 04 | 4980 | Per.= 15 secs. $\mu = 12$. Moderate. Initial movement of P towards W. |
| | New Delhi | N,E N N,E N | iP pP PPP iS i SS SSS L _R M | 02 53 51 02 55 47 02 56 36 03 00 53 03 01 51 03 04 25 03 05 34 03 08 06 03 11 55 | 5410 | Per.= 18 secs. $\mu = 17$. Moderate. |
| | Poona | N | P pP sP PcP PP PPP PcS s S SS SSS | 02 54 02 02 54 34 02 54 50 02 55 23 02 55 37 02 56 58 02 59 15 03 01 03 03 01 53 03 04 22 03 05 52 | 5600 | Moderate. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|----------------------------|--|--------|----------------|----------|----------|---|
| | | | | h. m. s. | Km. | |
| Aug. 1950. 7 (cont.) | Bombay | E | iP | 02 54 07 | 5890 | Moderate. |
| | | N | eP | | | |
| | | E | iPP | 02 56 11 | | |
| | | N | PP? | 02 56 40 | | |
| | | N,E | iS | 03 01 24 | | |
| | | E | iSS | 03 05 16 | | |
| | | N | iSS | 03 05 32 | | |
| | | E | L _R | 03 09 16 | | |
| | | N | L _R | 03 09 27 | | |
| | | | M | 03 14 36 | | |
| | | E | M | 03 15 38 | | Per.= 10 secs. $\mu = 4.$ Per.= 17 secs. $\mu = 12.$ |
| 7 | Epc:- 1°N, 126°E. (Moluccas Passage) 0 = 15h. 47m. 23s. (U.S.C.G.S.) | | | | | |
| | Calcutta | E | eP | 15 55 25 | 4665 | Slight. |
| | | | eS | 16 01 45 | | |
| | Colombo | E | P? | 15 56 32 | 5170 | |
| | | | S | 16 02 40 | | |
| | | | L | 16 11 -- | | |
| | Kodaikanal | E | M | 16 16 32 | | Amp.=0.2 mm. |
| | | | e | 15 56 36 | | Slight. Phases not clear. |
| | Bombay | E | eP | 15 56 48 | 6110 | Slight. |
| | | N,E | eS | 16 04 29 | | |
| | New Delhi | N,E | eP | 15 56 52 | 5890 | Slight. |
| | | N | iS | 16 04 21 | | |
| | | | ScS | 16 06 38 | | |
| | | | M | 16 17 26 | | |
| | Poona | N,E | PPP | 16 00 07 | 6000 | Very feeble. |
| | | | iS | 16 04 18 | | Phases masked |
| | | | PS | 16 04 25 | | by microseisms. |
| | | | PPS | 16 04 33 | | |
| | | | SSS | 16 06 31 | | |
| | | | M | 16 18 -- | | |
| | Hyderabad | N | M | 16 19 36 | | Per.= 15 secs. $\mu = 3.$ |
| 12 | Epc:- Epicentral region Kashmir. Felt in Gulmarg and Srinagar (Kashmir). | | | | | |
| | New Delhi | N,E | eP | 04 00 23 | 420 | Slight. |
| | | | PP | 04 00 30 | | |
| | | | PPP | 04 00 37 | | |
| | | | L _Q | 04 00 56 | | |
| | | | iS | 04 01 09 | | |
| | | | SS | 04 01 20 | | |
| | Poona | E | eP | 04 02 49 | 1555 | Slight. A |
| | | | L _Q | 04 05 14 | | double shock |
| | | | S | 04 05 26 | | with second |
| | | | SS | 04 05 40 | | onset of P |
| | | | SSS | 04 05 54 | | masked by micro- |
| | | | M | 04 07 00 | | seisms and |
| | | | | | | other phase times |
| | | | | | | as follows |
| | | | | h. m. s. | | |
| | | | L _Q | 04 06 09 | | |
| | | | S | 04 06 21 | | |
| | | | SS | 04 06 34 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | | REMARKS. |
|------------|---|--------|--------------------|--------------------|----|-----|-------------------|
| | | | | h. | m. | s. | |
| | | | | | | Km. | |
| Aug. 1950. | | | | | | | |
| 12 (cont.) | | | | | | | |
| | Bombay | E | e | 04 | 04 | 58 | Feeble. |
| | | | e | 04 | 06 | 00 | Microseisms |
| | | N | e | 04 | 06 | 27 | throughout |
| | | | | | | | the record. |
| | Hyderabad | N | i | 04 | 07 | 16 | |
| | | | M | 04 | 10 | 31 | Per. = 5 secs. |
| | | | | | | | $\mu = 2.$ |
| | Colombo | E | e | 04 | 08 | 58 | Slight. Near. |
| | | | | | | | Phases not clear. |
| 12 | Calcutta | E | eP | 12 | 25 | 14 | 667 Slight. |
| | | | eP | 12 | 25 | 43 | |
| | | | eS | 12 | 26 | 24 | |
| | New Delhi | N,E | eP (?) | 12 | 26 | 57 | 1515 Slight. |
| | | E | eS | 12 | 29 | 34 | |
| 14 | New Delhi | N,E | eP | 04 | 27 | 11 | 540 Slight. |
| | | E | PP | 04 | 27 | 18 | |
| | | | P | 04 | 27 | 31 | |
| | | | eS | 04 | 28 | 09 | |
| | | | SS | 04 | 28 | 18 | |
| | | | M | 04 | 28 | 35 | |
| 14 | Epc:- 27°S, 62.5W. (Northern Argentina) | | | | | | |
| | | | | O = 22h. 51m. 28s. | | | h = 700 Km. + |
| | | | | (U.S.C.G.S.) | | | |
| | Bombay | N,E | e | 23 | 09 | 36 | 15550 Moderate. |
| | | | iPP | 23 | 12 | 22 | |
| | | | PKS ₂ | 23 | 13 | 22 | |
| | | E | iPKKP ₁ | 23 | 18 | 31 | |
| | | | PS | 23 | 22 | 47 | |
| | | | SKKS ₂ | 23 | 26 | 01 | |
| | | | SSS | 23 | 35 | 40 | |
| | Poona | N | PKP ₁ | 23 | 09 | 47 | 15450 Moderate |
| | | | PP ₁ | 23 | 12 | 35 | |
| | | | PKS ₁ | 23 | 13 | 04 | |
| | | | PKS ₂ | 23 | 13 | 18 | |
| | | | PPP | 23 | 15 | 37 | |
| | | | SKS ₂ | 23 | 16 | 39 | |
| | | | PS | 23 | 23 | 15 | |
| | | | PPS | 23 | 24 | 39 | |
| | | | SSP | 23 | 31 | 17 | |
| | | | SSS? | 23 | 36 | -- | |
| | | | LQ | 23 | 48 | -- | |
| | | | M | 24 | 10 | -- | |
| | Colombo | E | PKP ₁ | 23 | 09 | 47 | |
| | | | PKKP ₁ | 23 | 18 | 40 | |
| | Hyderabad | E | PKP ₁ | 23 | 09 | 47 | |
| | | N | PKP ₁ | 23 | 09 | 49 | |
| | | E | PKKP ₁ | 23 | 18 | 55 | |
| | | N | PKKP ₁ | 23 | 18 | 57 | |
| | | | SSS? ₁ | 23 | 36 | 51 | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | | △ | REMARKS. |
|-------------|------------|--------|-------------------|----------|----|----|-------|--------------|
| | | | | h. | m. | s. | Km. | |
| <u>AUG.</u> | | | | | | | | |
| 1950. | | | | | | | | |
| 14 (cont.) | | | | | | | | |
| | New Delhi | N,E | 1PKP ₁ | 23 | 09 | 55 | 16335 | Moderate. |
| | | N | PKP ₂ | 23 | 10 | 05 | | Direction of |
| | | N,E | PKP ₃ | 23 | 19 | 12 | | first motion |
| | | | PKKS ₁ | 23 | 22 | 57 | | N and E. |
| | | | SS | 23 | 32 | 57 | | |
| | | | SSP | 23 | 33 | 42 | | |
| | | | SSS | 23 | 39 | 20 | | |
| | Calcutta | E | PKP ₁ | 23 | 10 | 14 | 17335 | Slight. |
| | | | PKP ₂ | 23 | 10 | 45 | | |
| | | | PKKP ₁ | 23 | 20 | 00 | | |
| | | | SKKKS | 23 | 20 | 47 | | |
| | Kodaikanal | E | ePP | 23 | 32 | 32 | 15780 | Moderate. |
| | | | PKKP ₁ | 23 | 18 | 34 | | Distant. |
| | | | PS | 23 | 22 | 41 | | |
| | | | SS | 23 | 30 | 17 | | |
| | | | SSS | 23 | 35 | 24 | | |
| | | | M | 00 | 03 | 24 | | |

- 15 Epc:- 28°3N, 96°6 E. 0 = 14h. 09m. 32s. (Poona).
 28°5 N, 97°0 E. 0 = 14h. 09m. 30s. (U.S.C.G.S.).
 28°2 N, 97°2 E. 0 = 14h. 09m. 33s. (J.S.A.).
 28°6 N, 96°5 E. 0 = 14h. 09m. 30s. (B.C.I.S.).
 Magnitude 8.6 (Pasadena and Strasbourg)
 8.25 Berkeley.
 8.5 Praha .

Estimated area in North-East Assam over which extensive and heavy damage has occurred = 13000 Sq. miles.

Estimated area in Assam which has suffered minor damage = 39000 Sq. miles.

Estimated area in North-East India, Burma and Eastern Pakistan which has been strongly shaken = 220000 Sq. miles.

Estimated area in India, Burma and Eastern Pakistan over which the earthquake was felt = 650000 Sq. miles.

The areas worst hit by the earthquake were the Abor and Mishmi Hills districts and North sub-division of Upper Assam. Severe damage was reported from Lakhimpur District and Northern portion of Sibsagar District. Chasms and gaping fissures and subsidence of the ground has been a common feature over the central Brahmaputra Valley. Due to landslides in the hilly areas destruction of 70 villages and death of 156 people has been reported in the Abor hills. Landslides were responsible for formation of natural dams in the upper reaches of the rivers and almost every one of the tributaries of the Brahmaputra was thus affected. The dam across Subansiri burst after 8 days

| DATE | STATION | COMPT. | PHASE | G. M. T. | REMARKS. |
|---------------|---------|--------|-------|----------|----------|
| Aug. 1950. | | | | h. m. s. | Kn. |
| 15 (cont.) | | | | | |

of the earthquake and a wave of 20 feet rolled down its basin engulfing villages and causing 532 deaths. Many corpses of animals were swept down the river.

The effects of the earthquake at different places are given in Rossiforrel Scale below:-

Sadya, Passighat, Dum Duma, Dibrugarh, North Lakhimpur, Sibsagar X
 Digboi, Golaghat..... IX .
 Tezpur, Gauhati, Shillong VIII.
 Dacca, Calcutta, Dhubri, Darjeeling, Imphal, Bhamo (Burma), Shwegu (Burma) VI.
 At Yen (Shwebo District, Burma) and Monywa (Burma) the shock was not felt but big sounds like cannon fire were heard.

| | | | | | |
|------------|----------|--|----------------------|-------|---|
| Calcutta | E | iP | 14 11 50 | | Shock locally felt. Instruments went out of order. |
| New Delhi | N,E N | iP iS | 14 13 27 14 16 27 | 1790. | Very great Direction of first motion North and West. |
| Hyderabad | N | iP | 14 14 05 | | Very great, other phases in N S compt. not clear, coupler in East West compt. displaced. |
| Poona | N | iP | 14 14 36 | | Very great. First motion towards South. |
| | E | iP | 14 14 36 | | First motion towards West. E W component put out of order at the onset of S. |
| Bombay | N | iS Mn | 14 18 48 14 46 -- | | Per. = 18 secs. $\mu = 952.$ |
| Bombay | N,E | iP | 14 14 45 | | Very great. Speck went off the E record with the commencement of the shock. |
| Kodaikanal | N E | Movements extremely faint to identify any of the phases. iP iS | 14 15 03 14 19 33 | 2900 | Very great. No other phase is identifiable. Record of initial phases not visible due to large amplitudes and quick movements. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|------------------|---|--------|-------|----------|----------|--|
| | | | | h. m. s. | Km. | |
| Aug. 1950. | | | | | | |
| 15 (cont.) | Colombo | E | iP | 14 15 12 | | M trace faint, and gone out of paper. Times approximate. End merged into following shock |
| | | | S? | 14 19 30 | | |
| | | | M | 14 27 -- | | |
| Dehra Dun | | N | eP | 14 16 06 | 1691 | Very great. Per. = 6 secs. Ampl. = 4.7" Upto the stops. |
| | | | eS? | 14 18 48 | | |
| | | | M | 14 23 36 | | |
| 15 (after-shock) | Poona | E | iP | 15 43 43 | 2355 | Moderate. |
| | | | PPP | 15 44 28 | | |
| | | | PcP | 15 47 12 | | |
| | | | iS | 15 47 50 | | |
| | | | SS | 15 48 54 | | |
| | | | SSS | 15 49 07 | | |
| | | | PcS | 15 50 35 | | |
| | | | M | 15 51 30 | | |
| | | | ScS | 15 54 12 | | |
| 15 (After-shock) | Poona | E | P | 17 03 55 | 2510 | Moderate. |
| | | | S | 17 07 59 | | |
| 15 (After-shock) | New Delhi | E | PcP | 17 10 42 | | Slight. After-shock of preceding shock |
| | | | eP | 17 20 36 | | |
| | | | i | 17 23 15 | | |
| | | | i | 17 26 14 | | |
| 15 (After-shock) | New Delhi | E | eP | 17 42 59 | 1700 | Slight. |
| | | | LQ | 17 45 40 | | |
| | | | iS | 17 45 50 | | |
| | | | SSS | 17 46 18 | | |
| | | | M | 17 47 41 | | |
| 15 (After-shock) | Poona | E | P | 18 06 35 | 2500 | Moderate. |
| | | | PP | 18 07 09 | | |
| | | | S | 18 10 38 | | |
| | | | M | 18 14 -- | | |
| 15 | Epc:- 29.5° N, 95.0° E, 0 = 18h. 33m. 47s. (Poona). | | | | | |
| New Delhi | E | eP | | 18 42 24 | 1720 | Moderate. |
| | N | iS | | 18 45 18 | | |
| | E | i | | 18 45 28 | | |
| | N | SS | | 18 45 40 | | |
| | E | i | | 18 45 46 | | |
| | N | LR | | 18 46 13 | | |
| | | M | | 18 47 32 | | |
| | | Mn | | 18 48 18 | | |
| Hyderabad | N | iP | | 18 43 14 | 2120 | Per. = 11 secs $\mu = 91.$ |
| | | iS | | 18 46 44 | | |
| | | M | | 18 49 42 | | |
| | | | | | | Per. = 10 secs. $\mu = 31.$ |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|-----------------------------|-----------------------------------|-----------|--|--|----------|---|
| | | | | h. m. s. | Km. | |
| Aug. 1950. 15 (cont.) | | | | | | |
| | Poona | N | P PP PPP iS L _Q SS SSS M | 18 43 45 18 44 04 18 44 30 18 47 45 18 48 10 18 48 33 18 48 45 18 51 30 | 2470 | Moderate. Per.= 5 secs. $\mu = 36$ |
| | Bombay | N | iP iS | 18 43 54 18 48 01 | 2600 | Moderate. |
| | Kōdaikanal | E | Loss of record. | | | |
| | | E | iP iS M | 18 44 14 18 48 42 18 53 09 | 2380 | Moderate. Initial movements of P towards West. Per.= 6 secs. $\mu = 5$ |
| | Colombo | E | P S L M | 18 44 24 18 48 55 18 55 20 18 56 55 | | Amp.= 0.57 mm. |
| | Dehra Dun | N | e e M | 18 46 48 18 49 06 18 49 36 | | Per.= 12 secs. Amp = 0.1" |
| 15 (After-shock) | New Delhi | E | eP L _Q iS | 19 37 47 19 40 45 19 40 49 | 1820 | Slight. |
| 15 (After-shock) | Poona | E | P S M | 20 49 40 20 53 40 20 56 30 | 2470 | Slight. Per.= 4 secs. $\mu = 24$ mm. |
| 15 | Epc:- 28.5N, 97.0 E. New Delhi | N, E N | 0 = 2lh. 0ln. 2ls. (Poona). eP L _Q iS M | 21 05 29 21 08 31 21 08 36 21 10 49 | 1870 | Slight. |
| | Hyderabad | N | iP iS M | 21 08 58 21 09 38 21 14 38 | 2220 | Per.= 9 secs. $\mu = 9$ |
| | Poona | N | eP eS L _Q M | 21 06 34 21 10 45 21 11 35 21 14 -- | 2665 | Moderate |
| | Bombay | N | eP eS M | 21 06 47 21 11 05 21 14 25 | 2745 | Moderate. Per.= 7 secs. $\mu = 15$ |
| | | E | Loss of record | | | |



| DATE | STATION | COMPT. | PHASE | G. M. T. | | |
|--------------------------|--|--------|----------------|----------|------|-------------------------------------|
| | | | | h. m. s. | Kn. | |
| Aug. 1950. | | | | | | |
| 15 (cont.) | Kodaikanal | E | iP | 21 06 59 | 2900 | Slight. |
| | | | iS | 21 11 29 | | Initial movement of P towards East. |
| | | | M | 21 16 24 | | Per. = 6 secs. $\mu = 2.$ |
| 15 (After shock) | New Delhi | N, E | eP | 21 20 30 | 1820 | Slight. |
| | | | iS | 21 23 32 | | |
| 15 (After-shock) Felt at | Dhubri | | | | | |
| | Dehra Dun | N | eP | 21 42 24 | 1465 | |
| | | | eS | 21 44 42 | | |
| | | | e | 21 51 54 | | |
| | | | M | 21 53 00 | | Per. = 9 secs. Amp. = 0.05" |
| | Hyderabad | N | P | 21 44 50 | 2260 | |
| | | | i | 21 46 08 | | |
| | | | iS | 21 48 34 | | |
| 15 (After-shock) Felt at | Bagdogra, Berhampur, Dhanbad, Tezpur, Darjeeling, Gauhati, Malda, Pandu. | | | | | |
| | New Delhi | N, E | eP | 21 45 41 | 1500 | Moderate. |
| | | | L _Q | 21 48 06 | | |
| | | | iS | 21 48 13 | | |
| | | N | SS | 21 48 29 | | |
| | | | M | 21 49 52 | | |
| | Poona | N | P | 21 45 53 | 2410 | Moderate. |
| | | | iS | 21 49 50 | | |
| | | | L _Q | 21 50 10 | | |
| | | | SS | 21 50 33 | | |
| | | | SSS | 21 50 53 | | |
| | | | M | 21 53 30 | | |
| | Bombay | N | iP | 21 46 31 | 2490 | Moderate. |
| | | | iS | 21 50 29 | | |
| | | | M | 21 56 23 | | Per. = 8 secs. $\mu = 15$ |
| | Kodaikanal | E | | | | Loss of record |
| | | E | iP | 21 47 04 | 2345 | Moderate. |
| | | | iS | 21 50 55 | | Initial movement of P towards East. |
| | | | L _R | 21 52 05 | | |
| | | | M | 21 53 40 | | Per. = 7 secs. $\mu = 5.$ |
| 15 (After-shock) Felt at | Tezpur | | | | | |
| | New Delhi | N, E | eP | 22 14 07 | 1830 | Slight. |
| | | | L _Q | 22 17 05 | | |
| | | | iS | 22 17 10 | | |
| 15 (After-shock) | New Delhi | N, E | eP | 22 21 35 | 1490 | Slight. |
| | | | eS | 22 24 06 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | | Km. | REMARKS. |
|---------------|---|---------------|----------------------------|------------------|----|----|------|--|
| | | | | h. | m. | s. | | |
| Aug. 1950. | | | | | | | | |
| 15 | New Delhi | N,E | eP L ₀ eS | 23 | 44 | 41 | 1670 | Slight Super imposed by the succeeding one |
| 15 | Epc:- 29°5N, 95°E. 0 = 23h. 44m. 33s. (Poona). (Felt at Tezpur). | | | | | | | |
| | New Delhi | N | e? | 23 | 48 | 40 | 1710 | Slight super imposed by the preceding one |
| | | N,E | iS | 23 | 51 | 03 | | |
| | | N | M | 23 | 52 | 30 | | |
| | Hyderabad | N | eP S M | 23 | 49 | 06 | 2180 | Per. = 9secs. μ = 9 |
| | | | | 23 | 52 | 42 | | |
| | | | | 23 | 55 | 55 | | |
| | Poona | N | P iS M | 23 | 49 | 36 | 2500 | Slight. |
| | | | | 23 | 53 | 39 | | |
| | | | | 23 | 56 | 30 | | |
| | Bombay | N | eP iS M | 23 | 49 | 40 | 2555 | Moderate. |
| | | | | 23 | 53 | 47 | | |
| | | E | | Movements faint. | | | | |
| | | E | | Loss of record. | | | | |
| | Kodaikanal | E | eP eS M | 23 | 50 | 06 | 2945 | Slight. |
| | | | | 23 | 54 | 39 | | |
| | | | | 23 | 58 | 49 | | |
| | Dehra Dun | N | e e | 23 | 51 | 09 | | |
| | | | | 23 | 54 | 57 | | |
| 16 | Felt at Tezpur. | | | | | | | |
| | New Delhi | N,E | eP eS | 00 | 00 | 25 | 1730 | Slight. |
| | | | | 00 | 03 | 19 | | |
| 16 | Bombay | N,E | e i | 02 | 57 | 30 | | Feeble |
| | | | | 03 | 02 | 15 | | |
| 16 | Bombay | E N,E N | eP eS M | 03 | 37 | 46 | 2580 | Slight. |
| | | | | 03 | 41 | 51 | | |
| | | | | 03 | 44 | 45 | | Per. = 7 secs. μ = 3 |
| | | E | M | 23 | 46 | 25 | | Per. = 9 secs. μ = 3. |
| 16 | Kodaikanal | E | eP eS | 03 | 45 | 21 | 2945 | Feeble |
| | | | | 03 | 49 | 54 | | |
| 16 | Bombay | N E | i M | 04 | 08 | 09 | | Feeble. |
| | | | | 04 | 10 | 14 | | Per. = 12 secs. μ = 3 |
| 16 | New Delhi | N,E | eP eS M | 04 | 25 | 12 | 1790 | Slight. |
| | | | | 04 | 28 | 11 | | |
| | | | | 04 | 30 | 03 | | |
| | Bombay | E | e | 04 | 30 | 45 | | Feeble. |
| | | N | e | 04 | 31 | 07 | | |
| | | N | i | 04 | 33 | 47 | | |
| | Kodaikanal | E | e | 04 | 35 | 30 | | Feeble, phases not clear. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|---------------------|----------------------------------|-------------------------|--|--|----------|--|
| | | | | h. m. s. | Km | |
| Aug. 1950. 16 | Bombay | E N | e e | 04 54 00 04 54 17 | | Very feeble. |
| '16 | Epc:- 29°5N, 96°0 E. | | 0 = 05h. 33m. 07s. Poona. | | | |
| | New Delhi | N,E | eP iS SS | 05 36 58 05 40 00 05 40 15 | 1810 | Moderate. |
| | Hyderabad | N N,E E N E | M iP S iS M | 05 41 42 05 37 44 05 41 33 05 41 35 05 45 48 | 2340 | |
| | Poona | N | P iS LQ SS PcS | 05 38 15 05 42 23 05 42 32 05 43 23 05 45 17 | 2570 | Per.=8 secs. $\mu = 4$. Slight. |
| | Bombay | N,E N E | iP iS M M | 05 38 23 05 42 37 05 46 15 05 48 37 | 2700 | Moderate. Per.= 7 secs. $\mu = 14$. Per.= 9 secs. |
| | Kodaikanal | E | iP iS M | 05 38 40 05 43 08 05 47 23 | 2880 | $\mu = 6$ Slight. |
| | Colombo | E | e S L M | 05 39 00 05 43 28 05 47 20 05 40 50 | 3000 | Per.= 15 secs. $\mu = 5$. Amp. = 0.2 mm. |
| 16 | Epc:- 29°0 N, 95°0E. (Poona). | | 0 = 06h. 42m 00s. | | | |
| | New Delhi | N,E N N,E | iP PP LQ | 06 45 44 06 45 57 06 48 34 | 1730 | Moderate. Direction of first motion West. |
| | Hyderabad | N E,N N E | iS SS SSS M iP iS S M | 06 48 39 06 48 56 06 49 07 06 50 51 06 46 25 06 50 07 06 50 12 06 53 48 | 2240 | |
| | Poona | N | P iS M | 06 46 59 06 51 00 06 55 -- | 2480 | Per.= 11 secs. $\mu = 15$. Moderate. |
| | Bombay | N,E E | iP iS M | 06 47 07 06 56 16 06 56 18 | 2655 | Moderate. Per. = 11 secs. $\mu = 20$ |
| | Kodaikanal | N E | M iP iS M | 06 47 31 06 51 56 06 56 11 | 2900 | Movements very faint. Slight. Per.= 13 secs. $\mu = 11$. |

15

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|-------------|--------------------------|--------|------------------|----------|----------|--------------------------------|
| | | | | h. m. t. | | |
| <u>Aug.</u> | | | | | | |
| 1950. | | | | | | |
| 16 (cont.) | | | | | | |
| | Colombo | E | P | 06 47 40 | | |
| | | | S | 06 52 15 | | |
| | Dehra Dun | N | e | 06 48 50 | 1612 | |
| | | | eL | 06 53 26 | | |
| | | | M | 06 54 02 | | Per. = 12 secs. Anp. = 0.1" |
| 16 | New Delhi | N,E | eP | 07 50 36 | 1650 | Slight. |
| | | | eS | 07 53 23 | | |
| | Bombay | N | i | 07 58 56 | | Slight. |
| | | E | i | 07 59 15 | | |
| 16 | New Delhi | N,E | eP | 08 35 08 | 1150 | Slight. |
| | | | = L _Q | 08 36 58 | | |
| | | | iS | 08 37 06 | | |
| 16 | Kodaikanal | E | e | 11 10 41 | | Feeble. Phases not clear. |
| 16 | New Delhi | N,E | eP | 11 32 16 | 1720 | Slight. |
| | | | L _Q | 11 35 04 | | |
| | | | eS | 11 35 09 | | |
| | Bombay | N | M | 11 37 16 | | |
| | | N,E | eP | 11 33 37 | 2720 | Slight. |
| | | | eS | 11 37 53 | | |
| | | N | M | 11 40 53 | | Per. = 8 secs. $\mu = 9$ |
| | | E | M | 11 42 26 | | Per. = 11 secs. $\mu = 3$ |
| | Poona | N | eP | 11 36 30 | 2450 | Slight. |
| | | | iS | 11 40 30 | | |
| | | | L _Q | 11 40 45 | | |
| | | | SS | 11 41 30 | | |
| | | | M | 11 44 30 | | |
| | Hyderabad | N | S | 11 36 32 | | |
| | | | M | 11 39 55 | | Per. = 9 secs. $\mu = 3$. |
| | Kodaikanal | E | e | 11 38 23 | | Feeble. Phases not clear. |
| 16 | Bombay | N,E | eP | 12 14 00 | 2565 | Feeble. |
| | | N | iS | 12 18 04 | | |
| | | E | e | 12 18 09 | | |
| 16 | Felt at Gauhati, Tezpur. | | | | | |
| | New Delhi | N,E | eP | 12 41 34 | 1470 | Slight. |
| | | N | L _Q | 12 43 56 | | |
| | | | iS | 12 44 03 | | |
| | | | SS | 12 44 23 | | |
| | Bombay | N | e | 12 43 03 | | Slight. |
| | | E | e | 12 43 08 | | |
| | | N | e | 12 46 49 | | |
| | | | M | 12 49 03 | | Per. = 8 secs. $\mu = 6$ |
| | | E | M | 12 52 04 | | Per. = 11 secs. $\mu = 2$. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | | △ | REMARKS. | |
|--------------|------------|--------------------|---------|----------|----------------------------|----|------|-------------------------------|-----------------|
| | | | | h. | m. | s. | Kn | | |
| <u>Aug.</u> | | | | | | | | | |
| <u>1950.</u> | | | | | | | | | |
| 16 (cont.) | | | | | | | | | |
| | Kodaikanal | E | e | 12 | 47 | 32 | | Feeble. Phases not clear. | |
| 16 | New Delhi | N,E | e eS | 13 | 16 | 22 | | Slight. After-shock. | |
| 16 | Bombay | N,E | e | 13 | 47 | 37 | | Feeble. | |
| 16 | Bombay | E | e | 14 | 12 | 25 | | Slight. | |
| | | N | e | 14 | 12 | 30 | | | |
| | | E | M | 14 | 17 | 04 | | Per. = 11 secs. $\mu = 4.$ | |
| 16 | Bombay | E | e | 14 | 33 | 53 | | Feeble. | |
| | | N | e | 14 | 34 | 30 | | | |
| 16 | Bombay | N | e | 15 | 03 | 00 | | Feeble. | |
| | | E | e | 15 | 05 | 41 | | | |
| | | N | M | 15 | 09 | 39 | | Per. = 7secs $\mu = 3$ | |
| 16 | Bombay | N,E | e | 15 | 26 | 33 | | Very feeble. | |
| 16 | | Epc:- 30°ON, 94°E. | | | 0 = 15h. 29m. 21s. (Poona) | | | | Felt at Tezpur. |
| | New Delhi | N,E | eP | 15 | 53 | 00 | 1600 | Moderate. | |
| | | | i | 15 | 33 | 11 | | | |
| | | | LQ | 15 | 35 | 41 | | | |
| | | | iS | 15 | 35 | 46 | | | |
| | | | M | 15 | 37 | 50 | | | |
| | Hyderabad | E,N | iP | 15 | 33 | 53 | 2150 | | |
| | | | iS | 15 | 37 | 26 | | | |
| | | E | L | 15 | 39 | 20 | | | |
| | | | M | 15 | 41 | 00 | | Per. = 14 secs. $\mu = 6$ | |
| | Poona | N | eP | 15 | 34 | 20 | 2460 | Moderate. | |
| | | | S | 15 | 38 | 20 | | | |
| | | | LQ | 15 | 38 | 37 | | | |
| | | | MQ | 15 | 42 | -- | | | |
| | Bombay | N,E | iP | 15 | 34 | 30 | 2565 | Moderate. | |
| | | | iS | 15 | 38 | 34 | | | |
| | | N | M | 15 | 42 | 06 | | Per. = 7 secs. $\mu = 12.$ | |
| | | E | M | 15 | 43 | 15 | | Per. = 7 secs. $\mu = 12$ | |
| | Kodaikanal | E | iP | 15 | 34 | 48 | 2845 | Slight. | |
| | | | eS | 15 | 39 | 14 | | | |
| | | | M | 15 | 43 | 19 | | Per. = 13 secs. $\mu = 2$ | |
| | Dehra Dun | N | e | 15 | 38 | 54 | | | |
| | | | e | 15 | 40 | 42 | | | |
| | Colombo | E | S | 15 | 39 | 45 | 3010 | | |
| | | | e | 15 | 44 | 40 | | | |
| | | | L | 15 | 50 | 00 | | | |
| | | | M | 15 | 52 | 40 | | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|----------------------|--|------------------|---|--|----------|--|
| | | | | h. m. s. | Km. | |
| <u>Aug.</u> 1950. | | | | | | |
| 16 | Epc:- 29°0 N, | 93°5 E. | | 0 = 16h. 36m. 06s. (Poona). | | |
| | New Delhi | N,E | eP L _Q eS M | 16 39 36 16 42 11 16 42 17 16 44 18 | 1610 | Slight. |
| | Poona | N,E | P S | 16 40 54 16 44 48 | 2350 | Slight. |
| | Bombay | E | P | 16 41 02 | 2420 | Slight. |
| | | E E N N | iS eS M | 16 45 00 | | Per. = 9 secs. $\mu = 10$ |
| | | E | M | 16 50 45 | | |
| | Kodaikanal | E | eP eS | 16 41 31 16 45 51 | 2760 | Feeble. |
| | Hyderabad | N | S L M | 16 43 45 16 45 48 16 47 09 | | Per. = 10 secs. $\mu = 3.$ |
| 16 | Probable Epicentre | 28°3 N, 92°0 E. | | 0 = 17h. 51m. 32s. (Poona) 0 = 17h. 51m. 19s. (B.C.I.S.) 0 = 17h. 51m. 36s. (U.S.C.G.S.) | | |
| | Felt at Gauhati, Silcher, Dhubri and Tezpur. | | | | | |
| | New Delhi | N,E | eP iS M | 17 54 48 17 57 11 17 59 07 | 1400 | Moderate. Direction of first motion East. |
| | Hyderabad | E,N E N | P S M | 17 55 26 17 58 46 18 01 40 | 2010 | Per. = 10 secs. $\mu = 12.$ |
| | Poona | N | eP S L _Q L _R M ^R | 17 55 53 17 59 25 18 00 00 18 01 00 18 04 -- | 2390 | Moderate. |
| | Bombay | N,E N E | eP eS M | 17 56 00 18 00 01 18 03 05 | 2535 | Moderate. Per. = 6 secs. $\mu = 14.$ |
| | | E | M | 18 05 15 | | Per. = 11 secs. $\mu = 12.$ |
| | Kodaiakanal | E | eP eS M | 17 56 32 18 00 42 18 03 07 | 2600 | Feeble. Per. = 9 secs. $\mu = 4.$ |
| | Colonbo | E | P S L M | 17 56 50 18 01 15 18 03 -- 18 10 10 | | Amp. = 0.3 mm. |
| | Dehra Dun | N | eP | 17 59 39 | | |
| 16 | Epc:- 30°N, 96°E | | | 0 = 19h. 25m. 33s. (Poona). | | |
| | New Delhi | N,E | eP iS M | 19 29 22 19 32 10 19 32 46 | 1780 | +Slight. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | | Km. | REMARKS. |
|---------------|---|------------------|-------------------------|----------|----|----|------|-------------------------------|
| | | | | h. | m. | s. | | |
| Aug. 1950. | | | | | | | | |
| 16 (cont.) | | | | | | | | |
| | Hyderabad | E,N N E | P S M | 19 | 30 | 10 | 2130 | |
| | | | | 19 | 33 | 40 | | Per. = 9 secs. |
| | | | | 19 | 36 | 58 | | $\mu = 2.$ Slight. |
| | Poona | E | P | 19 | 30 | 40 | 2555 | |
| | | | S | 19 | 30 | 47 | | |
| | Bombay | N,E | eP | 19 | 30 | 45 | 2600 | Slight. |
| | | | eS | 19 | 34 | 56 | | |
| | | N | M | 19 | 38 | 15 | | Per. = 6 secs. |
| | | E | M | 19 | 39 | 57 | | $\mu = 8$ Per. = 13 secs. |
| | Kodaikanal | E | e | 19 | 35 | 38 | | $u = 3.$ Feeble. |
| 16 | Bombay | N E N E | e iP e iS M | 20 | 14 | 07 | 2790 | Slight. |
| | | | | 20 | 16 | 31 | | |
| | | | | 20 | 16 | 45 | | |
| | | | | 20 | 20 | 52 | | |
| | | | | 20 | 25 | 53 | | Per. = 9 secs. |
| | New Delhi | E | eP | 20 | 16 | 20 | 1810 | $\mu = 2.$ Slight. |
| | | N,E | iS | 20 | 18 | 23 | | |
| | Hyderabad | E,N | iP | 20 | 15 | 49 | 2260 | |
| | | N | S | 20 | 19 | 33 | | |
| | | E | M | 20 | 23 | 25 | | Per. = 9 secs. |
| | Kodaikanal | E | e | 20 | 16 | 01 | | $\mu = 2$ Feeble. |
| | Poona | N | P | 20 | 19 | 15 | 2665 | Slight. |
| | | | S | 20 | 23 | 30 | | |
| | | | L _Q | 20 | 23 | 50 | | |
| | | | L _R | 20 | 25 | 00 | | |
| | | | M | 20 | 27 | 00 | | |
| 16 | Felt at Gauhati Air Fields. | | | | | | | |
| | New Delhi | N,E | eP | 21 | 47 | 59 | 1660 | Slight. |
| | | | eS | 21 | 50 | 47 | | |
| | Bombay | E | eP | 21 | 49 | 30 | 2520 | Slight. |
| | | N,E | eS | 21 | 53 | 30 | | |
| | | N | M | 21 | 56 | 28 | | Per. = 7 secs. |
| | | E | M | 21 | 58 | 17 | | $\mu = 4.$ Per. = 12 secs. |
| | Kodaikanal | E | | 21 | 53 | 56 | | $\mu = 5.$ Feeble. |
| 16 | Epc:- 28° 8 N, 96° 5 E. 0 = 23h. 21m. 23s. (Poona). | | | | | | | |
| | New Delhi | N,E | eP | 23 | 25 | 20 | 1780 | Slight. |
| | | | eS | 23 | 28 | 29 | | |
| | Hyderabad | E,N | P | 23 | 25 | 59 | 2330 | |
| | | | S | 23 | 29 | 49 | | |
| | | N | M | 23 | 33 | 29 | | Per. = 9 secs. |
| | Poona | N | eP | 23 | 26 | 30 | 2555 | $\mu = 3.$ Slight. |
| | | | S | 23 | 30 | 37 | | |
| | | | M | 23 | 34 | -- | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|-------------------------|------------------------------------|----------|-------------------------|---|----------|--|
| | | | | h. m. s. | Kn. | |
| Aug. 1950. 16(cont.) | Bombay | N,E | eP eS | 23 26 35 23 30 49 | 2600 | Slight. |
| | | N | M | 23 34 35 | | Per. = 8 secs. $\mu = 6$ |
| | | E | M | 23 38 00 | | Per. = 11 secs. $\mu = 3$ |
| | Kodaikanal | E | e | 23 31 21 | | Feeble. |
| 17 | Bombay | N,E | e | 00 44 17 | | Very feeble. |
| 17 | Epc:- 29° N, 94° E. | | | 0 = 01h. 54m. 17s. (Poona). 0 = 01h. 54m. 17s. (U.S.C.G.S.). | | |
| | Felt at Gauhati, Tezpur and Pandu. | | | | | |
| | New Delhi | N,E | eP PP eS SS | 01 57 51 01 58 02 02 00 39 02 00 54 | 1665 | Moderate. |
| | Hyderabad | N N | M iP iS L M | 02 02 39 02 58 31? 02 02 01 02 04 02 02 05 27 | 2120 | Slight. |
| | Poona | N | P S LQ M | 01 59 10 02 03 04 02 03 20 02 07 -- | 2380 | Per. = 10 secs. $\mu = 16$. Moderate. |
| | Bombay | N,E | eP iS | 01 59 16 02 03 16 | 2555 | Moderate. |
| | | E N | LQ LR M | 02 03 45 02 04 44 02 06 34 | | Per. = 13 secs. $\mu = 77$ |
| | | E | M | 02 10 14 | | Per. = 8 secs. $\mu = 11$ |
| | Kodaikanal | E | iP iS M | 01 59 31 02 03 57 02 08 12 | 2845 | Slight. Initial movements of P towards East. Per. = 10 secs. $\mu = 3$. |
| | Colombo | E | P S L M | 01 59 51 02 04 21 02 08 06 02 11 01 | | Amp. = 0.5 mm. |
| | Dehra Dun | N | e e M | 02 01 34 02 02 46 02 03 10 | | Per. = 12 secs. Amp. = 0.07". |
| 17 | New Delhi | N,E | eP eS M | 03 27 50 03 29 07 03 29 43 | 730 | Slight. |
| | Bombay | N,E E | e M | 03 33 30 03 35 51 | | Slight. Per. = 11 secs. $\mu = 5$. |
| | | N | M | 03 36 28 | | Per. = 8 secs. $\mu = 6$. |
| | Hyderabad | N | M | 03 36 37 | | Per. = 11 secs. $\mu = 8$ |
| | Kodaikanal | E | e | 03 37 16 | | Feeble |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Km. | REMARKS. |
|-------------|----------------------|--------|----------------|--------------------|----------|--|
| <u>Aug.</u> | | | | | | |
| 1950. | | | | | | |
| 17 | Bombay | N,E | e | 03 55 25 | | Very feeble. |
| 17 | Bombay | N | e | 04 55 --- | | Very feeble. |
| | | E | e | 04 57 --- | | |
| 17 | Epc:- 30° N, 94° E . | | | 0 = 05h. 29m. 15s, | (Poona). | |
| | New Delhi | N,E | eP | 05 32 51 | 1550 | slight. |
| | | | PP | 05 33 03 | | |
| | | | eS | 05 35 40 | | |
| | | | SS | 05 35 55 | | |
| | | | SSS | 05 35 59 | | |
| | Hyderabad | E | M | 05 37 12 | 2240 | |
| | | | P | 05 33 41 | | |
| | | | S | 05 37 23 | | |
| | | | L | 05 39 20 | | |
| | | | M | 05 41 22 | | |
| | Poona | E | P | 05 34 16 | 2620 | Per. = 8 secs. $\mu = 5$. Slight. |
| | | | S | 05 38 18 | | |
| | Bombay | N | M | 05 42 --- | 2600 | Moderate. |
| | | E | eP | 05 34 19 | | |
| | | E | iP | 05 38 26 | | |
| | | E | iS | | | |
| | | N | eS | | | |
| | | N | L _R | 05 40 01 | | |
| | | | M | 05 41 34 | | |
| | Dehra Dun | N | M | 05 43 09 | | Per. = 7 secs. $\mu = 13$ Per. = 11 secs. $\mu = 8$. |
| | | | e | 05 34 30 | 1296. | |
| | | | e | 05 36 30 | | |
| | | | M | 05 37 09 | | |
| | Kodaikanal | E | e? | 05 35 18 | | Per. = 12 secs. Amplitude = 0.05" Feeble. Phases not clear. |
| 17 | New Delhi | E | eP | 08 08 47 | 1700 | Slight. |
| | Bombay | N,E | eS | 08 11 38 | | |
| | | N,E | e | 08 12 00 | | |
| | | N | M | 08 17 26 | | |
| 17 | Bombay | E | e | 10 27 --- | 1690 | Slight. Per. = 7 secs. $\mu = 6$ |
| | New Delhi | N,E | eP | 10 34 43 | | |
| | | | eS | 10 37 33 | | |
| 17 | New Delhi | E | eP | 14 48 02 | 1690 | Slight. |
| | | N | iS | 14 50 52 | | |
| | | N,E | SS | 14 51 08 | | |
| | Bombay | E | e | 14 49 23 | | Feeble. |
| | | N | e | 14 56 00 | | |
| 17 | Bombay | E | e | 16 28 00 | | Feeble. |
| | | N | e | 16 40 36 | | |
| 17 | Kodaikanal | E | e? | 16 39 08 | | Feeble. Phases not clear. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | △ | REMARKS. |
|---------------|------------|-------------------------|--|--|---------|---|
| | | | | h. m. s. | Km. | |
| Aug. 1950. | | | | | | |
| 17 | | | | | | Felt at Gauhati and Tezpur. |
| | New Delhi | N,E | eP PP | 23 59 44 23 59 54 | 1430 | Slight. |
| 18 | Bombay | N,E | eS | 00 02 10 | | |
| 18 | Epc:- | 29.5° N, 97.0° E. | | 0 = 01h. 07m. 52s. | (Poona) | |
| | | | | | | Felt at Tezpur, Gauhati and Silcher. |
| | New Delhi | N,E | eP N N,E | 01 11 40 01 12 08 01 14 27 | 1760 | Moderate. |
| | | | L _Q iS SS SSS M | 01 14 27 01 14 33 01 14 50 01 15 10 01 16 26 | | |
| | | N | Mn | 01 17 43 | | Per. = 4 secs. μ = 23. |
| | Dehra Dun | N | eP eS e M | 01 12 21 01 14 24 01 16 48 01 17 06 | 1353 | Per. = 9 secs. Amplitude = 0.2" |
| | Hyderabad | E,N | iP iS | 01 12 26 01 16 06 | 2220 | |
| | | N | L | 01 18 02 | | |
| | | E | M | 01 19 34 | | Per. = 8 secs. μ = 21. |
| | | N | M | 01 20 22 | | Per. = 10 secs. μ = 20 |
| | Poona | N,E | P S L _Q | 01 12 57 01 17 00 01 17 16 | 2500 | Moderate. |
| | | N | M | 01 20 -- | | Per. = 5 secs. μ = 76. |
| | Bombay | E N E N N,E | iP eP iS eS L _Q | 01 13 04 01 17 14 01 17 44 | 2645 | Moderate. |
| | | E | L _R | 01 18 28 | | |
| | | N | L _R M | 01 18 34 01 20 22 | | Per. = 8 secs. μ = 95. |
| | | E | M | 01 22 22 | | Per. = 13 secs. μ = 81. |
| | Kodaikanal | E | iP iS M | 01 13 23 01 17 51 01 22 06 | 2880 | Moderate. |
| | | | | | | Per. = 20 secs. μ = 32. |
| | Colombo | E | M | 01 31 36 | | Amplitude = 0.9mm. Earlier phases lost. Driving clock stopped. |
| 18 | Calcutta | E | e | 02 40 04 | | Tremor . Slight. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | | REMARKS. |
|------------------|-----------|-------------------------------------|--|----------|----|----|--|
| | | | | h. | m. | s | Kn. |
| Aug. 1950. | | | | | | | |
| 18 (After-shock) | | | | | | | |
| | Calcutta | E | eP eS eSS eSSS | 11 | 23 | 21 | 1345 Slight. |
| | New Delhi | N,E | eP | 11 | 24 | 06 | 1630 Slight. |
| | Bombay | E | eS eP | 11 | 25 | 21 | 2335 Feeble. |
| | Hyderabad | N,E E | eS M | 11 | 29 | 45 | |
| 18 | Calcutta | E | e | 14 | 09 | 19 | Per. = 11 secs. $\mu = 4$. Tremor, near. |
| 18 | Calcutta | E | Epc: - $30^{\circ}.3$ N, $96^{\circ}.0$ E. $0 = 16h. 58m. 49s.$ (Poona). | | | | |
| | | | iP ePPP S iSS eSSS Mn | 17 | 01 | 19 | 1110 Great. |
| | New Delhi | N,E | iP PP L Q iS SS M Mn | 17 | 02 | 46 | 1830 Per. = 9 secs. $\mu = 209$. Moderate. |
| | | | | 17 | 03 | 00 | |
| | | | | 17 | 05 | 44 | |
| | | | | 17 | 05 | 49 | |
| | | | | 17 | 06 | 06 | |
| | | | | 17 | 07 | 52 | |
| | | | | 17 | 08 | 25 | |
| | Hyderabad | E | iP iS L M | 17 | 03 | 32 | 2330 Per. = 15 secs. $\mu = 17$. |
| | | | | 17 | 07 | 22 | |
| | | | | 17 | 09 | 42 | |
| | | | | 17 | 10 | 56 | |
| | | | | 17 | 11 | 26 | |
| | Dehra Dun | N | e e e M | 17 | 03 | 33 | Per. = 14 secs. $\mu = 23$. Per. = 11 secs. $\mu = 15$. |
| | | | | 17 | 06 | 24 | |
| | | | | 17 | 08 | 36 | |
| | | | | 17 | 08 | 54 | |
| | Poona | N,E | P S LQ SS LR PcS M | 17 | 04 | 00 | 2600 Per. = 12 secs. Amp. = 0.1". Moderate. |
| | | | | 17 | 08 | 10 | |
| | | | | 17 | 08 | 53 | |
| | | | | 17 | 09 | 24 | |
| | | | | 17 | 10 | 05 | |
| | | | | 17 | 10 | 53 | |
| | | | | 17 | 12 | 30 | |
| | Bombay | N,E E N,E E N E N | iP PP iS SS LR LR M | 17 | 04 | 08 | 2900 Moderate. |
| | | | | 17 | 04 | 43 | |
| | | | | 17 | 08 | 25 | |
| | | | | 17 | 09 | 09 | |
| | | | | 17 | 10 | 19 | |
| | | | | 17 | 10 | 24 | |
| | | | | 17 | 11 | 44 | |
| | | | | 17 | 13 | 43 | |
| | Colombo | E | P S L | 17 | 04 | 40 | 3050 Per. = 7 secs. $\mu = 21$. Per. = 11 secs. $\mu = 24$. |
| | | | | 17 | 09 | 20 | |
| | | | | 17 | 10 | 30 | |

| Date | STATION | COMPT. | PHASE | G. M. T. | Km. | REMARKS |
|------------|--|------------------------------|--|--|------|--|
| Aug. 1950. | | | | | | |
| 19 (cont.) | | | | | | |
| | Bombay | N,E E | e e | 21 28 57 21 32 34 | | Very feeble. |
| 19 | New Delhi | N,E | iP PP PPP iS SS SSS | 22 44 46 22 44 54 22 45 01 22 46 10 22 46 25 22 46 33 | 810 | Slight. Direction of first motion South & East. |
| | Poona | E | c LQ | 22 50 08 22 52 00 | | Very feeble. |
| | Bombay | E | e | 22 51 20 | | Very feeble. |
| | Kodaikanal | E | e | 22 51 25 | | Slight. |
| | Calcutta | E | e | 22 52 32 | | Slight. Near tremor. |
| | Hyderabad | E | M | 22 53 48 | | Per. 8 secs. |
| | | N | M | 22 53 50 | | $\mu = 3$ Per. = 8 secs. $\mu = 2$ |
| 20 | Calcutta | F | e | 04 34 57 | | Slight, near tremor. |
| | Bombay | E N | e e | 04 38 05 04 39 33 | | Very feeble. |
| 20 | Epc:- 30° N, 95° E. 0 = 09h. 03m. 36s Poona. | | | | | |
| | Calcutta | E | eP iS | 09 05 55 09 07 40 | 1023 | Moderate. |
| | New Delhi | N,E | iP PP PPP LQ iS SS SSS | 09 07 17 09 07 29 09 07 41 09 09 55 09 10 06 09 10 23 09 10 35 | 1670 | Moderate. |
| | Hyderabad | E,N E | M iP S M | 09 11 51 09 08 06 09 11 42 09 15 10 | 2180 | Per. = 10 secs. $\mu = 12$. |
| | Dehra Dun | N | eP eS ? M | 09 08 30 09 10 24 ? 09 12 36 | | Per. = 12 secs. Anp. = 0.05" Moderate. |
| | Poona | N,E | P S LQ SS M | 09 08 37 09 12 38 09 13 04 09 13 26 09 15 30 | 2460 | Per. = 5 secs. $\mu = 12$. Moderate. |
| | Bombay | N,E E N F N E | iP eS iS LR M M | 09 08 45 09 12 50 09 15 03 09 15 36 09 17 39 | 2580 | Per. = 7 secs. $\mu = 16$ Per. = 11 secs. $\mu = 16$. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. | |
|------------|------------|--------|--------------------------|----------|--------------------|------------------------------|--|
| | | | | h. m. s. | Kn. | | |
| Aug. 1950. | | | | | | | |
| 20 (cont.) | | | | | | | |
| | Kodaikanal | E | iP | 09 09 08 | 2780 | Slight. | |
| | | | iS | 09 13 33 | | | |
| | | | LR | 09 15 23 | | | |
| | | | M | 09 17 33 | | Per. = 7 secs. $\mu = 3.$ | |
| | Colmbo | E | e | 09 09 30 | | | |
| | | | e | 09 12 02 | | | |
| | | | L | 09 21 20 | | | |
| | | | M | 09 23 40 | | Ampl. = 0.3 mm. | |
| 20 | | | | | | | |
| | Calcutta | E | eP | 10 40 40 | 1135 | Slight. | |
| | | | iS | 10 42 36 | | | |
| | | | eSS | 10 42 50 | | | |
| | Bombay | N | e | 10 46 33 | | Feeble. | |
| | | E | Record disturbed | | | | |
| 20 | Calcutta | E | e | 11 11 53 | | Slight. Near tremor. | |
| 20 | Calcutta | E | e | 12 34 03 | | Slight, near tremor. | |
| 20 | Calcutta | E | e | 20 00 54 | | Slight, near tremor. | |
| | | | e | 20 08 27 | | | |
| 20 | Calcutta | E | e | 20 55 52 | | Slight, near tremor. | |
| 21 | Calcutta | E | e | 00 34 40 | | Slight, near tremor. | |
| 21 | Calcutta | E | e | 03 32 17 | | Slight, near tremor. | |
| | | | e | 03 33 55 | | | |
| 21 | Calcutta | E | e | 05 19 03 | | Slight, near tremor. | |
| 21 | Poona | N,E | P | 05 26 42 | 2520 | Slight. | |
| | | | | 05 30 47 | | | |
| | | | M | 05 34 -- | | | |
| 21 | | | O = 05h. 51m 35s. Poona. | | | | |
| | Calcutta | E | eP | 05 53 51 | 1020 | Moderate. | |
| | | | S | 05 55 37 | | | |
| | | | i | 05 56 30 | | | |
| | New Delhi | N,E | eP | 05 05 34 | 1890 | Slight. | |
| | | | LQ | 05 58 34 | | | |
| | | | iS | 05 58 39 | | | |
| | Hyderabad | E | iP | 05 56 03 | 2290 | | |
| | | N | S | 05 59 49 | | | |
| | | E | L | 06 01 42 | | | |
| | | E | M | 06 02 36 | | | |
| | Poona | N,E | P | 05 56 36 | $\mu = 6,$ 2450 | Per. = 11 secs. Slight. | |
| | | | S | 06 00 36 | | | |
| | | | M | 06 04 -- | | | |



| DATE | STATION | COMPT. | PHASE | G. M. T. | | | |
|---|---|--------|----------------|----------|----|----|------|
| | | | | h. | m. | s. | Km. |
| <u>Aug.</u> | | | | | | | |
| <u>1950.</u> | | | | | | | |
| 21 (cont.) | | | | | | | |
| | Bombay | N,E | eP | 05 | 56 | 45 | 2680 |
| | | | eS | 06 | 00 | 58 | |
| | | E | M | 06 | 08 | 08 | |
| | | N | M | 06 | 05 | 00 | |
| | Kodaikanal | E | iP | 05 | 58 | 00 | 2855 |
| | | | iS | 06 | 02 | 27 | |
| | | | M | 06 | 06 | 41 | |
| Per. = 10 secs. $\mu = 4.$ Per. = 7 secs. $\mu = 7.$ Slight. Per. = 7 secs. $\mu = 1$ | | | | | | | |
| 21 | Epc:- 32°5N, 92°5F. O = 08h. 27m. 37s. (Poona). | | | | | | |
| | Calcutta | E | iP | 08 | 31 | 08 | 1130 |
| | | | i | 08 | 35 | 36 | |
| | New Delhi | N,E | eP | 08 | 32 | 51 | |
| | | N | i | 08 | 35 | 04 | |
| | | | iS | 08 | 35 | 31 | |
| | | | M | 08 | 36 | 31 | |
| | Dehra Dun | N | eP | 08 | 33 | 18 | 1781 |
| | | | eS | 08 | 35 | 48 | |
| | | | L | 08 | 38 | 21 | |
| | Hyderabad | E,N | iP | 08 | 34 | 13 | 2260 |
| | | E | eS | 08 | 37 | 57 | |
| | | | L | 08 | 40 | 11 | |
| | | | M | 08 | 41 | 23 | |
| | Poona | N,E | P | 08 | 34 | 33 | 2490 |
| | | | S | 08 | 38 | 35 | |
| | | | L ^Q | 08 | 39 | 00 | |
| | | | M | 08 | 42 | -- | |
| | Bombay | N,E | eP | 08 | 34 | 40 | 2520 |
| | | | eS | 08 | 34 | 40 | |
| | | E | M | 08 | 43 | 43 | |
| | | N | M | 08 | 44 | 24 | |
| | Kodaikanal | E | e | 08 | 36 | 21 | 2780 |
| | | | e | 08 | 40 | 43 | |
| | | | M | 08 | 44 | 58 | |
| | Colombo | E | eP | 08 | 42 | 21 | |
| | | | L | 08 | 50 | 11 | |
| | | | M | 08 | 51 | 51 | |
| Per. = 18 secs. Amp. = 0.25" Per. = 9 secs. $\mu = 13$ Moderate. Per. = 10 secs. $\mu = 17$ Per. = 8 secs. $\mu = 17.$ Slight. Per. = 6 secs. $\mu = 10$ Amp. = 0.5 mm. | | | | | | | |
| 21 | Calcutta | E | e | 09 | 58 | 27 | |
| | | | e | 09 | 59 | 21 | |
| Slight, near tremor. | | | | | | | |
| 21 | Bombay | E | e | 10 | 05 | 53 | |
| | | N | e | 10 | 06 | 20 | |
| Very feeble. | | | | | | | |
| 21 | Calcutta | E | e | 14 | 52 | 34 | |
| | | | e | 14 | 55 | 11 | |
| Slight, near tremor. | | | | | | | |

| DATE | STATION | CO | COMPT. | PHASE | G. M. T. | | | △ | REMARKS. |
|--------------|---|----|--------|-------|----------|----|----|------|------------------------------|
| | | | | | h. | m. | s. | Km. | |
| Aug. 1950 | | | | | | | | | |
| 21 | New Delhi | | E | eP | 16 | 06 | 13 | 1680 | Slight. |
| | | | | LQ | 16 | 09 | 57 | | |
| | Bombay | | E | e | 16 | 11 | 54 | | Feeble. |
| | | | N | e | 16 | 14 | 51 | | |
| | | | E | e | 16 | 15 | 47 | | |
| | Poona | | N | S | 16 | 14 | 30 | | Feeble. |
| | | | | LQ | 16 | 15 | 00 | | |
| | | | | SS | 16 | 15 | 22 | | |
| | | | | LR | 16 | 16 | 00 | | |
| | | | | M | 16 | 18 | -- | | |
| | Hyderabad | | N | M | 16 | 15 | 17 | | Per. = 9 secs. $\mu = 2$ |
| 21 | Epc:- 29 ^o .1 N, 94 ^o .2 E, 0 = 18h. 43m. 48s. (Poona). | | | | | | | | |
| | New Delhi | | N,E | eP | 18 | 47 | 25 | 1710 | Slight. |
| | | | | eS | 18 | 50 | 07 | | |
| | | | | SS | 18 | 50 | 24 | | |
| | | | | SSS | 18 | 50 | 35 | | |
| | | | N | M | 18 | 51 | 53 | | |
| | Poona | | N,E | P | 18 | 48 | 45 | 2346 | Feeble. |
| | | | | S | 18 | 52 | 36 | | |
| | Bombay | | E | eP | 18 | 48 | 51 | 2055 | Slight. |
| | | | N,E | eS | 18 | 52 | 56 | | |
| | Kodaikanal | | E | eP | 18 | 49 | 16 | 2780 | Slight. |
| | | | | eS | 18 | 53 | 40 | | |
| | Hyderabad | | E | eS | 18 | 51 | 40 | | |
| | | | | L | 18 | 53 | 48 | | |
| | | | | M | 18 | 56 | 07 | | Per. = 9 secs. $\mu = 3.$ |
| 21 | Epc:- 30 ^o .0 N, 93 ^o .0 E. 0 = 22h. 55m. 37s. (Poona) | | | | | | | | |
| | New Delhi | | E | eP | 22 | 59 | 08 | 1610 | Slight. |
| | | | | LQ | 23 | 01 | 46 | | |
| | | | N,E | iS | 23 | 01 | 50 | | Felt at Gauhati. |
| | | | N | SS | 23 | 02 | 07 | | |
| | | | N,E | SSS | 23 | 02 | 19 | | |
| | | | N | M | 23 | 03 | 39 | | |
| | Hyderabad | | E | eP | 22 | 59 | 52 | 2120 | |
| | | | | S | 23 | 03 | 22 | | |
| | Poona | | N,E | P | 23 | 00 | 33 | 2425 | Feeble. |
| | | | | S | 23 | 04 | 30 | | |
| | | | | LQ | 23 | 04 | 55 | | |
| | | | | LR | 23 | 06 | 00 | | |
| | | | | M | 23 | 08 | 00 | | |
| | Bombay | | N,E | eP | 23 | 00 | 37 | 2440 | Slight. |
| | | | | eS | 23 | 04 | 38 | | |
| | Kodaikanal | | E | eP | 23 | 00 | 56 | 2820 | Slight. |
| | | | | eS | | 05 | 21 | | |
| 22 | New Delhi | | N,E | eP | 02 | 01 | 28 | 1710 | Slight. |
| | | | | PP | 02 | 01 | 40 | | |
| | | | | eS | 02 | 04 | 20 | | |
| | | | | SS | 02 | 04 | 35 | | |
| | Calcutta | | E | eP | 02 | 01 | 29 | 633 | Slight. |
| | | | | iS | 02 | 02 | 36 | | |
| | | | | eS* | 02 | 02 | 56 | | |
| | | | | eS | 02 | 03 | 10 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | △ | REMARKS. |
|----------------------------|---|--------|----------|-------------------------|--|--|
| | | | | h. m. s. | Kn. | |
| Aug. 1950. 22 (cont) | Hyderabad | E | P | 02 01 57 | 2340 | Per. = 9 secs. μ = 2. Feeble. Slight. Per. = 7 secs. U = 5 Per. = 9 secs. μ = 2. Feeble. |
| | | N | S | 02 05 44 | | |
| | | E | S | 02 05 48 | | |
| | | | M | 02 10 01 | | |
| | Poona | N,E | P | 02 02 33 | | |
| | Bombay | N,E | S | 02 06 42 | 2645 | |
| | | | eP | 02 02 45 | | |
| | | | eS | 02 06 55 | | |
| | | N | M | 02 10 18 | | |
| | | E | M | 02 14 05 | | |
| Kodaikanal | E | ? | 02 07 20 | | | |
| 22 | Epc:- 30° ON, 94.5° E, 0 = 02h. 22m. 40s. (Poona) | | | | | |
| Calcutta | E | eP | 02 25 07 | 1000 | Moderate. | |
| | | i | 02 26 49 | | | |
| | | Mh | 02 30 09 | | | |
| | | e | 02 25 51 | | | |
| Dehra Durī | N | e | 02 32 54 | Per. = 8 secs. μ = 155. | | |
| | | M | 02 33 15 | | | |
| | | | | | | |
| | | | | | | |
| New Delhi | N,E | eP | 02 26 17 | 1680 | Per. = 18 secs. μ = .15" Moderate. | |
| | | PP | 02 26 23 | | | |
| | | PPP | 02 26 36 | | | |
| | | eS | 02 29 06 | | | |
| | | SS | 02 29 23 | | | |
| Hyderabad | N,E | M | 02 31 05 | 2220 | | |
| | | iP | 02 27 14 | | | |
| | | iS | 02 30 54 | | | |
| | | M | 02 34 34 | | | |
| Poona | N,E | P | 02 27 40 | 2510 | Per. = 11 secs. μ = 14. Moderate. | |
| | | PP | 02 28 07 | | | |
| | | S | 02 31 44 | | | |
| | | LQ | 02 32 08 | | | |
| | | SS | 02 32 28 | | | |
| | | SSS | 02 32 25 | | | |
| | | M | 02 35 -- | | | |
| | | eP | 02 27 46 | | | |
| Bombay | N,E | eS | 02 31 55 | 2635 | Moderate. Per. = 5 secs. μ = 16 | |
| | | M | 02 35 22 | | | |
| | | E | M | | | 02 36 54 |
| Kodaikanal | E | eP | 02 28 14 | 2890 | Per. = 9 secs. μ = 16. Slight. | |
| | | eS | 02 32 41 | | | |
| | | LQ | 02 33 44 | | | |
| Colombo | E | M | 02 37 28 | 2890 | Per. = 9 secs. μ = 2. Amp. = 0.4 mm. | |
| | | P | 02 28 51 | | | |
| | | S | 02 33 26 | | | |
| | | L | 02 40 36 | | | |
| | | M | 02 44 36 | | | |

| DATE | STATION | COMPT. | G. PHASE | G. M. T. | Km. | REMARKS. |
|---------------|--|--------|----------------|----------------------------|------|---|
| | | | | h. m. s. | | |
| Aug. 1950. | | | | | | |
| 22 | Kodaikanal | E | eP | 06 09 09 | 2710 | Moderate. |
| | | | eS | 06 11 27 | | |
| | | | L _R | 06 16 09 | | |
| | | | M | 06 18 05 | | |
| | Colombo | E | P | 06 07 11 | | Per.= 12 secs. $\mu = 10$. S, L, M unreadable owing to over lapping trace |
| | Hyderabad | E | eP | 06 07 49 | 2820 | |
| | | | S | 06 12 14 | | |
| | | N | SS | 06 13 17 | | |
| | | | L | 06 15 00 | | |
| | | | M | 06 17 00 | | Per.=14 secs. $\mu = 6$. |
| | Bombay | N,E | eP | 06 08 29 | 3490 | Moderate. |
| | | | eS | 06 13 37 | | |
| | | E | M | 06 23 19 | | Per.= 15 secs. $\mu = 6$. |
| | New Delhi | N | eP | 06 09 07 | 8920 | Moderate. |
| | | | PcP | 06 09 42 | | |
| | | | P | 06 11 23 | | |
| | | | eS | 06 17 33 | | |
| | | | PS | 06 17 50 | | |
| | | | PP | 06 18 01 | | |
| | Calcutta | E | i) | 06 09 32 | | Slight distant |
| | | | i) | 06 12 04 | | Per.= 15secs. |
| | | | Mn | 06 28 35 | | $\mu = 36$ Distant. |
| | Poona | N | M | 06 20 | | |
| 22 | Epc:- 29 ^o .5 N, 94 ^o .0 E . | | | 0 = 6h. 43m. 18s. (Poona). | | |
| | Calcutta | E | eP | 06 45 20 | 901 | Moderate. |
| | | | eS | 06 46 53 | | |
| | | | eS* | 06 47 24 | | |
| | New Delhi | N,E | iP | 06 46 44 | 1580 | Moderate |
| | | | PP | 06 46 54 | | |
| | | | L _Q | 06 49 18 | | |
| | | | iS | 06 44 23 | | |
| | | | SS | 06 49 41 | | |
| | | | M | 06 51 09 | | |
| | Hyderabad | E | iP | 06 47 30 | 2120 | |
| | | | iS | 06 51 00 | | |
| | | N | S | 06 51 04 | | |
| | | | M | 06 54 19 | | Per.= 12 secs. $\mu = 9$ |
| | | E | M | 06 54 29 | | Per.= 12 secs. $\mu = 15$. |
| | Poona | N | P | 06 48 04 | 2445 | Mixed up with the surface waves of the preceding shock. |
| | | | S | 06 51 59 | | |
| | | | L _Q | 06 52 20 | | |
| | | | L _R | 06 53 40 | | |
| | | | M | 06 54 45 | | Per. = 5 secs. |
| | Bombay | N,E | eP | 06 48 15 | 2455 | $\mu = 20$. Moderate |
| | | | eS | 06 52 10 | | |
| | | N | M | 06 55 15 | | Per= 6 secs. $\mu = 18$. |



| DATE | STATION | COMPT. | PHASE | G. M. T. | | |
|---------------|------------------------|--------|-----------------------------|--|------|---|
| | | | | h. m. s. | Km. | |
| Aug. 1950. | | | | | | |
| 22 (Cont.) | Kodaikanal | E | eP eS PcS M | 06 48 45 06 53 06 06 55 56 06 56 48 | 2810 | Slight. Per. 12 secs. $\mu = 2$ |
| | Dehra Dun | N | e e M | 06 51 42 06 53 48 07 02 54 | 1375 | Per. = 21 secs. Amp. = 0.1" |
| 22 | Hpc: - 30° 0', 97.0 E. | | O = 13h. 22m. 15s. (Poona). | | | |
| | Calcutta | E | eP iS MS Mn | 13 24 43 13 26 37 13 27 00 13 29 17 | 1010 | Moderate. Per. 10 secs. $\mu = 162$. |
| | New Delhi | N,E | iP PP PPP iS | 13 26 24 13 26 38 13 26 45 13 29 30 | 1850 | Moderate. Direction of first motion south and west |
| | Hyderabad | E | SS SSS' | 13 29 51 13 30 03 | 2210 | Per. = 13 secs. $\mu = 9$. |
| | | N,E | M | 13 31 10 | | |
| | | E | iP iS SS M | 13 26 55 13 30 34 13 30 48 13 34 03 | | |
| | Poona | N,E | P S LQ M | 13 27 29 13 31 41 13 32 00 13 35 00 | 2510 | |
| | Bombay | N,E | eP eS | 13 27 36 13 31 53 | 2735 | Moderate. |
| | | N | M | 13 35 12 | | Per. = 7 secs. $\mu = 27$ |
| | | E | M | 13 38 15 | | Per. = 11 secs. $\mu = 14$ |
| | Kodaikanal | E | eP iS | 13 28 00 13 32 37 | 3000 | Slight. Time marks absent |
| | | | M | 13 36 15 | | Per. = 7 secs. $\mu = 3$. |
| | Colombo | E | P S L M | 13 28 41 13 32 28 13 36 21 13 37 51 | | Amp. = 0.3 mm. |
| 22 | New Delhi | E | eP | 17 23 48 | 1710 | Slight. |
| | Calcutta | N,E | iS | 17 26 40 | 622 | Slight. |
| | | E | eP eS eS* | 17 24 16 17 25 21 17 25 41 | | |
| | Bombay | N,E | e | 17 29 32 | | Per. = 11 secs. $\mu = 3$. |
| | | E | M | 17 34 09 | | |
| | Hyderabad | E | M | 17 31 42 | | Per. = 8 secs. $\mu = 2$ |
| | Poona | N | i | 17 31 45 | | |
| | | | i | 17 32 00 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|--------------|--|--------|-------|------------|----------|---|
| | | | | h. m. s. | Km. | |
| Aug. 1950 | | | | | | |
| 23 | Calcutta | E | e | 01 20 21 | | Slight, near tremor. |
| | Bombay | N,E | e | 01 24 -- | | |
| 23 | Calcutta | E | e | 02 48 52 | | Slight, near tremor. |
| 23 | Epc:- 29 ⁰ .5 N, 95 ⁰ .0 E / 0 = 03h. 09m. 18s. (Poona). | | | | | |
| | Calcutta | E | eP | 03 11 26 | 978 | Great. Per. = 7 secs. $\mu = 233$ Moderate. |
| | | | iS | 03 13 06 | | |
| | | | SS? | 03 13 30 | | |
| | | | iS* | 03 13 54 | | |
| | | | Mn | 03 15 53 | | |
| | New Delhi | E | iP | 03 13 00 | 1610 | Moderate. |
| | | | PP | 03 13 13 | | |
| | | | PPP | 03 13 19 | | |
| | | | LQ | 03 15 48 | | |
| | | | S | 03 15 53 | | |
| | | | SS | 03 16 10 | | |
| | | | SSS | 03 16 21 | | |
| | Hyderabad | E | M | 03 17 29 | | Per. = 10 secs. $\mu = 19$ Moderate. |
| | | | iP | 03 13 45 | 2220 | |
| | | | iS | 03 17 25 | | |
| | | | M | 03 21 03 | | |
| | Poona | E | P | 03 14 18 | 2460 | Moderate. |
| | | | S | 03 18 20 | | |
| | | | M | 03 21 30 | | |
| | Bombay | N,E | eP | 03 14 27 | 2530 | Moderate. |
| | | | iS | 03 18 32 | | |
| | | N | M | 03 21 47 | | Per. = 7 secs. $\mu = 26$ Per. = 14 secs. $\mu = 32$ |
| | | E | M | 03 23 21 | | |
| | Kodaikanal | E | iP | 03 14 45 | 2935 | Moderate. Times inaccurate. Per. = 12 secs. $\mu = 3$ |
| | | | iS | 03 19 17 | | |
| | | | M | 03 23 27 | | |
| | Colombo | E | P | 03 15 10 | | Amp. = 0.5 mm. |
| | | | S | 03 19 35 | | |
| | | | L | 03 26 50 | | |
| | | | M | 03 30 02 | | |
| | Dehra Dun | N | e | 03 18 24 | 1353 | Per. = 9 secs. Amp. = .05" |
| | | | e | 03 20 27 | | |
| | | | M | 03 20 36 | | |
| 23 | Epc:- 27 ⁰ .2 N, 97 ⁰ .2 E / 0 = 15h. 33m. 55s. (Poona) | | | | | |
| | Calcutta | E | e | 15 36 51 | 1000 | Slight. |
| | | | iS | 15 37 52 | | |
| | | | * SSS | 15 38 40 * | | |
| | New Delhi | N,E | eP | 15 38 01 | 1950 | Slight. |
| | | | PP | 15 38 15 | | |
| | | | iS | 15 41 15 | | |
| *23 | Calcutta | E | M | 15 39 10 | * | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|---------------|--------------------|--------|-------|-------------------------------|----------|--|
| | | | | h. m. s. | Km. | |
| Aug. 1950. | | | | | | |
| 23 (cont.) | | | | | | |
| | Hyderabad | E | P | 15 38 28 | 2190 | |
| | | | S | 15 42 11 | | |
| | | N | S | 15 42 15 | | |
| | | | M | 15 45 40 | | Per. = 10 secs. $\mu = 3$ |
| | | E | M | 15 46 25 | | Per. = 9 secs. $\mu = 3$ |
| | Poona | E | P | 15 39 05 | 2580 | Slight. |
| | | N,E | S | 15 43 15 | | |
| | | | M | 15 47 -- | | |
| | Bombay | N,E | eP | 15 39 12 | 2665 | Slight. |
| | | | eS | 15 43 27 | | |
| | | E | M | 15 49 42 | | Per. = 10 secs. $\mu = 4$. |
| | Kodaikanal | E | eP | 15 39 29 | 2870 | Slight. |
| | | | eS | 15 43 58 | | |
| | | | M | 15 47 46 | | Per. = w 15 secs. $\mu = 2$ |
| 23 | Epc: 29°5N, 95°5 E | | | 0 = 18hs 3.47m. 02s. (Poona). | | |
| | Calcutta | E | eP | 18 49 21 | 1030 | Moderate. |
| | | | iS | 18 51 07 | | |
| | | | iS | 18 52 00 | | |
| | | | Mn | 18 56 14 | | Per. = 10 secs. $\mu = 162$. |
| | New Delhi | N,E | eP | 18 50 53 | 1800 | Moderate. |
| | | | PP | 18 51 06 | | |
| | | | LQ | 18 53 51 | | |
| | | | S | 18 53 55 | | |
| | | | SS | 18 54 13 | | |
| | | | SSS | 18 54 25 | | |
| | | | M | 18 55 36 | | |
| | Hyderabad | E,N | iP | 18 51 29 | 2200 | |
| | | | iS | 18 55 14 | | |
| | | E | L | 18 57 27 | | |
| | | | M | 18 59 18 | | Per. = 9 secs. $\mu = 5$. |
| | | N | M | 18 59 28 | | Per. = 9 secs. $\mu = 7$. |
| | Poona | N,E | P | 18 52 07 | 2525 | Slight. |
| | | | iS | 18 56 12 | | |
| | | | LQ | 18 56 35 | | |
| | | | SS | 18 56 50 | | |
| | | | M | 19 00 00 | | |
| | Bombay | N,E | eP | 18 52 14 | 2605 | Moderate. |
| | | | iS | 18 56 25 | | |
| | | N | LR | 18 58 14 | | |
| | | E | LR | 18 58 35 | | |
| | | | M | 19 01 30 | | Per. = 7 secs. $\mu = 6$ |
| | | N | M | 19 02 42 | | Per. = 7 secs. $\mu = 7$. |
| | Kodaikanal | E | iP | 18 52 31 | 2900 | Slight. Initial movement of P towards E. |
| | | | iS | 18 57 01 | | |
| | | | M | 19 01 28 | | Per. = 15 secs. $\mu = 4$. |

| DATE | STATION | COMPT. | PHASE | G. M.T. | Δ | REMARKS. | |
|------------|--|--------|-----------------|----------------------------|----------|-----------------------|--|
| | | | | h. m. s. | Km. | | |
| Aug. 1950. | | | | | | | |
| 23 (cont.) | | | | | | | |
| | Colombo | E | P | 18 52 40 | | | |
| | | | e e | 18 57 45 | | | |
| | | | L | 19 03 47 | | | |
| | | | M | 19 07 20 | | | |
| | Dehra Dun | N | e | 18 53 24 | | Amp. = 0.3 mm | |
| | | | e | 18 56 09 | | | |
| | | | M | 18 56 27 | | Per. = 9 secs. | |
| | | | | | | Amp. μ = 0.05" | |
| 23 | New Delhi | E | eP | 19 30 18 | 1650 | Slight. | |
| | | N,E | es | 19 33 04 | | | |
| | Calcutta | E | e | 19 31 29 | | Slight., near tremor. | |
| 23 | New Delhi | E | e | 22 15 00 | | Slight, near. | |
| | | | i | 22 15 27 | | | |
| 24 | Epc:- 29 ^o .8 N, 96 ^o .0 E | | | 0 = 01h. 27m 50s. (Poona). | | | |
| | Calcutta | E | eP | 01 30 16 | 878 | Moderate. | |
| | | | eS | 01 31 57 | | | |
| | | | eS* | 01 32 27 | | | |
| | | | eS | 01 32 50 | | | |
| | New Delhi | N,E | eP | 01 31 39 | 1750 | Moderate. | |
| | | N | iS | 01 34 36 | | | |
| | | E | iS | 01 34 39 | | | |
| | Hyderabad | E | eP | 01 32 28 | 2230 | | |
| | | | S | 01 36 09 | | | |
| | | | L | 01 38 33 | | | |
| | | | M | 01 40 05 | | Per. = 12 secs. | |
| | | | | | | μ = 7 | |
| | Poona | E | P | 01 32 56 | 2555 | Slight. | |
| | | | S | 01 37 02 | | | |
| | | | LQ | 01 37 37 | | | |
| | | | SSS | 01 38 06 | | | |
| | | | PcS | 01 39 56 | | | |
| | | | M | 01 40 30 | | | |
| | Bombay | E | ep | 01 33 08 | 2600 | Moderate. | |
| | | | eS | 01 37 15 | | | |
| | | | M | 01 42 58 | | Per. = 11 secs. | |
| | | | | | | μ = 4 | |
| | Kodaikanal | N | Loss of record. | | | | |
| | | E | eP | 01 33 19 | 2900 | Slight. | |
| | | | eS | 01 37 49 | | | |
| | | | M | 01 42 16 | | Per. = 15 secs. | |
| | | | | | | μ = 4. | |
| | Dehra Dun | N | e | 01 33 24 | | | |
| | | | e | 01 36 18 | | | |
| | Colombo | E | P | 01 38 05 | | | |
| | | | L | 01 51 - | | M not well defined | |
| 25 | Calcutta | E | e | 03 27 12 | | Slight, near tremor. | |
| | | | e | 03 28 01 | | | |
| | Bombay | N,E | e | 03 34 34 | | Feeble. | |
| 25 | Calcutta | E | e | 03 39 28 | | Slight, near tremor. | |
| | | | i | 03 41 34 | | | |

Aug.
1950.
25

Epc:- 29.8 N, 96.0 E 0 = 08h. 13m. 55s. (Poona).

| DATE | STATION | A COMPT. | PHASE | G. M. T. | h. m. s. | Remarks |
|----------|------------|----------|----------|----------|----------------|---|
| 25 | New Delhi | N,E | eP | 08 17 47 | 1810 | |
| | | | eS | 08 20 48 | | |
| | | | M | 08 22 43 | | |
| | Hyderabad | E | eP | 08 18 29 | 2230 | |
| | | | eS | 08 22 10 | | |
| | | | M | 08 25 27 | | Per. = 9 secs. $\mu = 4$ Slight. |
| | Poona | E | P | 08 19 01 | 2545 | |
| | Bombay | N,E | S | 08 23 07 | | |
| | | | M | 08 27 -- | | |
| | | | P | 08 19 07 | 2585 | Slight. |
| | | | eS | 08 23 18 | | |
| | | | LR | 08 25 41 | | |
| | Kodaikanal | E | LR | 08 26 55 | | |
| | | | M | 08 27 56 | | Per. = 11 secs. $\mu = 8$ Slight. |
| | | | eP | 08 19 30 | 2890 | |
| 25 | Calcutta | E | eS | 08 23 59 | | |
| | | | M | 08 27 59 | | |
| | | | e | 13 07 30 | | Slight, near tremor. |
| Bombay | E | e | 13 08 54 | | | |
| | | e | 13 12 48 | | Very feeble. | |
| | | e | 13 13 22 | | | |
| Poona | E | i | 13 15 01 | | Feeble tremor. | |
| | | i | 13 16 25 | | | |
| 25 | Calcutta | E | e | 13 28 08 | | Slight, near tremor. |
| 25 | New Delhi | N,E | eP | 17 01 29 | 1700 | Slight. |
| | | | eS | 17 04 20 | | |
| | | | eP | 17 01 43 | 633 | Slight. |
| | Bombay | E | iS | 17 02 49 | | |
| | | | eP | 17 02 48 | 2665 | Feeble. |
| | | | eS | 17 07 00 | | |
| | | | i | 17 09 33 | | |
| | Kodaikanal | E | e | 17 03 55 | | Feeble. |
| | | | iS? | 17 09 14 | | Feeble, tremor. |
| | | | SSS? | 17 10 24 | | |
| 26 | Bombay | N | e | 01 38 54 | | Feeble |
| | | | e | 01 39 33 | | |
| | | | i | 01 42 21 | | |
| 26 | New Delhi | N,E | eP | 03 51 59 | 1800 | Slight. |
| | | | eS | 03 54 59 | | |
| | | | i | 03 52 34 | | Slight, near tremor. |
| Bombay | E | e | 03 56 17 | | Feeble. | |
| | | e | 03 57 15 | | | |
| 26 | New Delhi | E | e | 04 50 22 | | Slight. Distant |
| | | | e | 04 51 15 | | |
| | | | e | 05 01 01 | | |
| 26 | Bombay | E | e | 05 02 27 | | Feeble. Distant. |
| | | | e | 05 02 57 | | |
| | | | e | 05 21 37 | | Slight, near tremor. |
| Calcutta | E | e | | | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | Δ | REMARKS. |
|---------------|---|--------|--|--|--|--|---|
| | | | | h.m. | s. | Km. | |
| Aug. 1950. | | | | | | | |
| 26 (cont.) | Hyderabad | E | M | 05 | 27 | 08 | Per.= 15 secs. $\mu = 7$ |
| 26 | Kodaikanal | E | e? | 06 | 03 | 20 | Slight, distant. Phases not clear |
| 26 | Epc:- 30.5 N, 94.5 E. 0 = 06h. 33m. 00s. (Poona). | | | | | | |
| | Calcutta | E | iP iS iS* iS Mn | 06 06 06 06 06 | 35 36 37 37 39 | 11 51 26 52 42 | 970 Great. Felt at Dibrugarh, Gauhati, Tezapore. Per.= 7 secs. $\mu = 392$ |
| | New Delhi | N,E | eP LQ iS SS SSS M Mn | 06 06 06 06 06 06 06 | 36 39 39 39 40 41 43 | 49 35 39 51 05 33 42 | 1690 Moderate. Per.= 13 secs. $\mu = 130.$ |
| | Hyderabad | E | iP S L M | 06 06 06 06 | 37 40 42 44 | 15 46 46 40 | 2130 Per.= 13 secs. $\mu = 33$ |
| | Poona | N,E | iP PP iS LR M | 06 06 06 06 06 | 37 38 41 43 45 | 56 24 54 21 -- | 2435 Moderate. |
| | Bombay | N,E | eP eS LR LR M | 06 06 06 06 06 | 38 42 44 44 47 | 02 02 32 41 10 | 2520 Moderate Per.= 11 secs. $\mu = 43$ Per.= 12 secs. $\mu = 28.$ |
| | Dehra Dun | N | e e M | 06 06 06 | 38 42 44 | 18 15 12 | 2593 Per.= 18 secs. App.= 0.3" |
| | Colombo | E | P S L M | 06 06 06 06 | 38 43 48 54 | 30 02 55 20 | |
| 26 | Kodaikanal | E | iP M | 07 07 | 38 46 | 24 52 | 2820 Moderate. Initial move- ment of P to- wards East. Per.= 16 secs. $\mu = 8$ |
| 26 | New Delhi | E | e | 10 | 46 | 15 | Slight. |
| | | N,E | eS | 10 | 49 | 57 | |
| | Poona | E | i | 10 | 55 | 11 | Feeble, tremor. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|---------------|----------------------|---------------|----------------------|--|----------|--|
| Aug. 1950. | | | | h. m. s. | Km. | |
| 26 (cont.) | Bombay | N,E | e | 10 55 27 | | Very feeble. |
| 26 | New Delhi | N,E | eP LQ eS SS | 13 27 59 13 40 42 13 40 48 13 41 03 | 1680 | Slight. |
| | Calcutta | E | eP iS | 13 39 24 13 41 02 | 955 | Slight. |
| | Bombay | N,E N E | e i M | 13 43 55 13 47 11 13 49 23 | | Slight. Per. = 10 secs. $\mu = 3.$ |
| | Poona Kodaikanal | E E | M? eP eS M | 13 48 30 14 43 24 14 47 56 14 51 44 | 2935 | Slight. Per. = 6 secs. $\mu = 1.$ |
| 27 | Epc:- 29°5 N, 94°5 E | | | 0 = 11h. 00m. 04s. (Poona). | | Felt at Dibrugarh. |
| | New Delhi | N,E | eP LQ eS M | 11 03 39 11 06 18 11 06 24 11 08 20 | 1650 | Slight. |
| | Calcutta | N E | eS i M | 11 03 42 11 03 56 11 04 52 | 980 | Slight. P lost in microseisms. |
| | Hyderabad | E | P S L M | 11 04 28 11 07 53 11 09 51 11 11 25 | 2060 | Per. = 11 secs. $\mu = 4.$ |
| | Poona | N,E | P S M | 11 05 00 11 08 58 11 30 00 | 2440 | Slight |
| | Kodaikanal | E | eP eS M | 11 05 33 11 09 57 11 13 57 | 2810 | Slight. |
| | Bombay | N,E N | eS e M | 11 09 04 11 11 16 11 12 04 | | Slight. Per. = 5 secs. $\mu = 7$ |
| 27 | New Delhi | N,E | eP eS | 16 41 02 16 44 03 | 1810 | Slight. |
| | Calcutta | E | e i | 16 41 22 16 42 29 | | Slight, near tremor. |
| | Bombay | N E N | e e e | 16 47 38 16 48 09 16 49 24 | | Very feeble. |
| 28 | New Delhi | N,E | eP eS | 17 34 10 17 35 52 | 9890 | Slight. |
| 29 | Bombay | E N | e e | 09 06 22 09 10 46 | | Feeble. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|------------|--|--------|--------|---|----------|-------------------------------|
| | | | | h. m. s. | Km. | |
| Aug. 1950 | | | | | | |
| 29 (cont.) | | | | | | |
| | New Delhi | E | eP | 09 08 42 | 1530 | Slight. |
| | | N | eS | 09 11 17 | | |
| 29 | Colombo | E | P | 17 47 06 | | |
| | | | S | 17 50 46 | | |
| | | | L | 17 54 51 | | |
| | | | M | 17 57 51 | | |
| | Kodaikanal | E | eP | 17 47 17 | 2820 | Amp. = 0.2 mm. Slight. |
| | | | eS | 17 51 42 | | |
| | | | M | 17 55 46 | | Per. = 15 secs $\mu = 5$ |
| | Calcutta | E | e | 17 51 53 | | Slight. Distant |
| | Bombay | E | e | 17 52 07 | | Feeble. |
| | | N | e | 17 53 50 | | |
| 29 | Colombo | E | P | 22 31 51 | | |
| | | | S | 22 35 46 | | |
| | | | L | 22 40 21 | | |
| | | | M | 22 43 16 | | |
| | Calcutta | E | eP | 22 32 00 | 3780 | Amp. = 0.3 mm. Slight. |
| | | | ePcP | 22 34 33 | | |
| | | | eS | 22 37 25 | | |
| | | | ePcS | 22 33 27 | | |
| | | | eSS | 22 39 29 | | |
| | | | eSSS | 22 39 54 | | |
| | Kodaikanal | E | eP | 22 32 22 | 2810 | Slight. |
| | | | eS | 22 36 46 | | |
| | | | M | 22 40 49 | | Per. = 13 secs. $\mu = 58$ |
| | Bombay | E | e | 22 35 07 | | Feeble. |
| | | N | e | 22 33 20 | | |
| | | E | M | 22 45 18 | | Per. = 20 secs $\mu = 4$ |
| | Poona | E | e | 22 40 30 | | Feeble, tremor. |
| | | | i | 22 41 18 | | |
| | | | e | 22 49 -- | | |
| | New Delhi | N,E | eP | 23 49 01 | 2010 | Slight. |
| | | | eS | 23 52 21 | | |
| 30 | Kodaikanal | E | eP | 04 35 31 | 2810 | Slight. |
| | | | eS | 04 29 55 | | |
| | | | M | 04 33 59 | | Per. = 18 secs. $\mu = 4$ |
| 30 | Calcutta | E | eP | 06 28 44 | 522 | Slight. |
| | | | iS | 06 29 40 | | |
| | | | eS* | 06 29 55 | | |
| | | | eS | 06 30 05 | | |
| | Bombay | N,E | e | 06 33 59 | | Feeble. |
| | | N | i | 06 36 34 | | |
| | | E | e | 06 36 41 | | |
| 30 | Epc:- $3^{\circ}5' S, 130^{\circ}5' E$ $4^{\circ}9' S, 130^{\circ}0' E$ $3^{\circ}5' S, 129^{\circ}0' E$ | | | O = 06h. 51m. 03s. (U.S.C.G.S.) C = 06h. 51m. 10s. (.J.S.A.), C = 03h. 51m. 07s. (Poona). | | |
| | Calcutta | E | eP | 06 59 48 | 5445 | Slight. |
| | | | ePP | 07 01 45 | | |
| | | | eS | 07 06 52 | | |
| | | | eSS(?) | 07 10 38 | | |
| | | | eSSS | 07 11 50 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|---------------|------------|------------------------------|---------------------------------------|--|----------|---|
| | | | | h. m. s. | Km. | |
| Aug. 1950. | | | | | | |
| 30 (cont.) | Kodaikanal | E | iP iS LR M | 07 00 27 07 07 57 07 15 30 07 20 01 | 5910 | Distant. Slight. Per.= 19 secs. $\mu = 7$ |
| | Hyderabad | E | P S SS L M | 07 00 31 07 08 05 07 11 58 07 17 26 07 23 07 | 5990 | Per.= 12 secs. $\mu = 2$. Slight. |
| | Poona | E | P PcP PP S PS PPS | 07 01 04 07 01 50 07 03 16 07 09 04 07 09 13 07 09 31 | 6415 | |
| | New Delhi | N,E N | eP iS Scs | 07 01 08 07 09 13 07 10 55 | 6450 | Moderate. |
| | Bombay | N,E N E N E E | eP eS LQ LQ LR LR M | 07 01 11 07 09 13 07 13 07 07 13 31 07 19 14 07 19 20 07 28 12 | 6465 | Slight Per.= 17 secs. $\mu = 4$. |
| 31 | Calcutta | E | eP eS iS* iS | 01 29 53 01 30 44 01 31 04 01 31 16 | 522 | Slight. Felt at Dibrugarh. |
| | New Delhi | N,E | eP eS | 01 30 13 01 33 07 | 1730 | Slight. |
| | Kodaikanal | E | eP eS M | 01 31 25 01 35 49 01 39 53 | 2810 | + Slight. Per.= 13 secs. $\mu = 2$. Feeble. |
| | Bombay | N,E | e i | 01 35 36 01 38 10 | | |
| | Hyderabad | E | e M | 01 36 19 01 38 58 | | Per.= 10 se $\mu = 2$ Slight, tremor. |
| | Poona | E | e i i | 01 37 34 01 37 56 01 39 00 | | |
| 31 | Epc:- | 6.5° N, 125.5° E | | 0 = 07h. 05m. 44s. (Poona). | | |
| | Dehra Dun | 6.0° N, 126.0° E N | | 0 = 07h. 05m. 35s (U.S.C.G.S.) | 6762 | Per.= 18 secs. Amp. = .02" |
| | | | e e M | 07 12 57 07 21 09 07 22 57 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|-------------|---------------------------------------|--------|-------|--------------------------------|----------|---|
| | | | | h. m. s. | | |
| <u>Aug.</u> | | | | | | |
| 1950 | | | | | | |
| 31 (cont.) | | | | | | |
| | Calcutta | E | eP | 07 13 09 | 4420 | Moderate Lines over- lapping. |
| | | | iS | 07 19 07 | | |
| | | | i | 07 20 10 | | |
| | | | iSSS | 07 22 35 | | |
| | Colombo | E | P | 07 14 05 | | Amp. = 0.5 mm. |
| | | | S | 07 20 40 | | |
| | | | L | 07 28 20 | | |
| | | | M | 07 32 50 | | |
| | | | iP | 07 14 15 | 5150 | |
| | Hyderabad | E | PP | 07 16 09 | | Per. = 15 secs. $\mu = 9$ Per. = 15 secs. $\mu = 6$. Distant. Moderate. |
| | | | iS | 07 21 03 | | |
| | | N | i | 07 21 56 | | |
| | | | SS | 07 24 43 | | |
| | | | L | 07 28 19 | | |
| | | | M | 07 31 03 | | |
| | | E | M | 07 32 35 | | |
| | Kodaikanal | E | iP | 07 14 25 | 5320 | Per. = 16 secs. $\mu = 3$. Moderate. |
| | | | PP | 07 16 15 | | |
| | | | iS | 07 21 21 | | |
| | | | LQ | 07 25 06 | | |
| | | | LR | 07 27 17 | | |
| | New Delhi | N,E | M | 07 31 16 | | Per. = 16 secs. $\mu = 3$. Moderate. |
| | | | eP | 07 14 44 | 5580 | |
| | | | iS | 07 21 56 | | |
| | | N | i | 07 22 16 | | |
| | | | SS | 07 25 24 | | |
| | | | i | 07 26 12 | | |
| | | | LR | 07 29 04 | | |
| | Poona | N,E | M | 07 33 31 | | Moderate. |
| | | | P | 07 14 52 | 5555 | |
| | | | PcP | 07 15 04 | | |
| | | | PP | 07 16 45 | | |
| | | | iS | 07 22 11 | | |
| | | | ScS | 07 24 20 | | |
| | | E | SS | 07 25 26 | | |
| | | | SSS | 07 27 00 | | |
| | | | LR | 07 29 -- | | |
| | | | M | 07 33 -- | | |
| | Bombay | N,E | ip | 07 15 03 | 5665 | Moderate. |
| | | | iS | 07 22 20 | | |
| | | E | SS | 07 26 47 | | |
| 31 | Calcutta | E | e | 18 01 52 | | Slight. Near tremor. |
| 31 | Epc:- 29° 0' N, 95° 5' E New Delhi | N,E | eP | 0 = 19h. 52m. 32s. 19 50 16 | 1750 | |
| | | | LQ | 19 59 07 | | |
| | | | iS | 19 59 11 | | |
| | | | SS | 19 59 28 | | |
| | | | M | 20 01 06 | | |
| | Calcutta | E | eS | 19 56 20 | 920 | Slight. |
| | | | i | 19 57 28 | | |
| | Hyderabad | E | eP? | 19 56 56 | 2150 | |
| | | | S | 20 00 36 | | |
| | | | M | 20 03 53 | | Per. = 7 secs. $\mu = 2$ |

40

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|---------------|-----------|--------|-------|----------|----------|------------------------------|
| | | | | h. m. s. | Km. | |
| Aug. 1950. | | | | | | |
| 31 (cont.) | Poona | E | P | 19 57 32 | 2510 | Slight. |
| | | | S | 20 01 36 | | |
| | Bombay | N,E | M | 20 05 -- | | |
| | | | eP | 19 57 40 | 2620 | Slight. |
| | | | eS | 20 01 48 | | |
| | | | LR | 20 04 18 | | |
| | | | M | 20 06 36 | | |
| | Dehra Dun | N | e | 20 00 12 | | Per.= 11 secs. $\mu = 7.$ |

M.L.P.
29-6-51.

GOVERNMENT OF INDIA



From the ISC collection scanned by SISMOS

Meteorological Department

SEISMOLOGICAL BULLETIN

July 1950.

Published under the direction of
V .V. SOHONI, B.A. (Hons.), M.Sc.,
Director General of Observatories

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 were being published in the form of the Quarterly Seismological Bulletin. From the month of January 1948, the data are being published in the present form of a Monthly Seismological Bulletin. With the kind co-operation of the Surveyor-General of India, the Director of the Nizamiah Observatory, Hyderabad and of the Director, Colombo Observatory, it has been possible to incorporate in the Bulletin the seismic data of their respective observatories viz. Dehra Dun, Hyderabad, and Colombo. The instrumental and non-instrumental voluntary observations are collected and edited at the Meteorological Office, Poona.

TABLE I.
List of Seismograph Stations.

| Station | Latitude | Longitude | Height above M.S.L. 'meters' | Lithologic Foundation | Officer-in- Charge of Observatory. |
|------------|------------|------------|---------------------------------------|--------------------------|--|
| Bombay | 18° .54' N | 72° .49' E | 6 | Deccan Trap | Director. |
| Calcutta | 22° .32' N | 88° .22' E | (i) 7 (ii) 6 | Alluvium | Director. |
| Colombo | 06° .54' N | 79° .52' E | 7 | Beach sand | Director. |
| Dehra Dun | 30° .19' N | 78° .03' E | 682 | Gravel | President. |
| Hyderabad | 17° .26' N | 78° .27' E | 528 | Granite | Director. |
| Kodaikanal | 10° .14' N | 77° .28' E | 2343 | Rock | Director. |
| New Delhi | 28° .35' N | 77° .12' E | 207 | Massive Quartzite | Dy. Director General of Observatories (I & S) |
| Poona | 18° .32' N | 73° .51' E | 560 | Deccan Trap | Dy. Director General of Observatories (C & G). |

(i) Milne-Shaw

(ii)

Omori-O Ewing

TABLE II
Instruments and their constants.

| Station | Instrument | Compt. | Period in secs. | Static Magni- fication | Damping Ratio | Paper Speed mm/min |
|-----------|---------------|--------|-----------------------|------------------------------|------------------|--------------------------|
| Bombay | Milne-Shaw | N | 12 | 250 | 20:1 | 8.0 |
| | Milne-Shaw | E | 12 | 350 | 20:1 | 8.0 |
| Calcutta | Milne-Shaw | E | 12 | 250 | 20:1 | 8.0 |
| | Omori-Ewing | N | 15 | 32 | 20:1 | 25.4 |
| | Omori-Ewing | E | 16 | 30 | -- | 25.4 |
| Colombo | Wood-Anderson | N | 4 | 1000 | 5:1 | 60.0 |
| | Milne-Shaw | E | 12 | 250 | 20:1 | 8.0 |
| | Omori | N | 30 | 12 | 250 | --- |
| | Milne-Shaw | E | 10 | 250 | 20:1 | 8.0 |
| New Delhi | Milne-Shaw | N | 12 | 299 | 20:1 | 8.0 |
| | Wood-Anderson | N | 4 | 1072 | 30:1 | 16.0 |
| | Wood-Anderson | E | 2 | 1474 | 30:1 | 60.0 |
| | Omori-Ewing | E | 30 | 30 | 1 | 12.0 |
| Poona | Milne-Shaw | N | 12 | 250 | 20:1 | 8.0 |
| | Wood-Anderson | E | 4 | 1000 | 20:1 | 16.0 |

h. m. s. km.

July
1950.

3 Epicentre 8.0°N, 141.5°E, Caroline Islands Region
0 = 10h. 03m. 36s.

(U.S.C.G.S.).

| STATION | COMPT. | PHASE | h. | m. | s. | km. | Remarks | |
|------------|--------|------------------|------------------|-----|----|------|-----------|------------------------|
| Kodaikanal | E | 1P | 10 | 14 | 07 | 7000 | Moderate. | |
| | | PcP | 10 | 14 | 52 | | | |
| | | PP | 10 | 16 | 32 | | | |
| | | PPP | 10 | 17 | 59 | | | |
| | | iS | 10 | 22 | 37 | | | |
| | | PS | 10 | 22 | 58 | | | |
| | | PPS | 10 | 23 | 07 | | | |
| | | ScS | 10 | 23 | 52 | | | |
| | | SS | 10 | 26 | 45 | | | |
| | | LR | 10 | 32 | 32 | | | |
| | | M | 10 | 37 | 57 | | | |
| | | Dehra Dun | N | eP? | 10 | 13 | 54 | Per. = 17s. $\mu = 6.$ |
| | | Colombo | E | P | 10 | 13 | 54 | |
| S | 10 | | | 22 | 19 | | | |
| New Delhi | E | L | 10 | 34 | 09 | | | |
| | | M | Not well defined | | | | | |
| | | eP | 10 | 14 | 11 | 7050 | Moderate | |
| | | iS | 10 | 22 | 44 | | | |
| | | iPS | 10 | 22 | 57 | | | |
| | | iScS | 10 | 23 | 55 | | | |
| | | SS | 10 | 26 | 39 | | | |
| | | i | 10 | 27 | 36 | | | |
| | | LQ | 10 | 29 | 29 | | | |
| | | M | 10 | 34 | 49 | | | |
| Poona | N | eP | 10 | 14 | 21 | 7335 | Moderate. | |
| | | iS | 10 | 23 | 08 | | | |
| | | PS | 10 | 23 | 31 | | | |
| | | PPS | 10 | 23 | 43 | | | |
| | | SKS ₁ | 10 | 24 | 34 | | | |
| | | SS | 10 | 27 | 17 | | | |
| | | SSS | 10 | 30 | 03 | | | |
| | | LR | 10 | 34 | 30 | | | |
| | | M | 10 | 39 | -- | | | |
| | | Bombay | E | eP | 10 | 14 | 26 | 7385 |
| | | DP | 10 | 16 | 51 | | | |
| | | eS | 10 | 23 | 16 | | | |
| | | i | 10 | 24 | 34 | | | |
| | | SS | 10 | 27 | 27 | | | |
| | | M | Loss of record. | | | | | |

| | | | | | | | | | |
|----------|-----------|---|------|-----|----|----|---------|---------|--|
| 6 | New Delhi | N | eP | 07 | 06 | 01 | 1320 | Slight. | |
| | | | PP | 07 | 06 | 11 | | | |
| | | | i | 07 | 06 | 34 | | | |
| | | | N, E | eS | 07 | 08 | 16 | | |
| | | | N | SSS | 07 | 08 | 49 | | |
| Calcutta | E | M | 07 | 10 | 25 | | | | |
| | | e | 07 | 12 | 21 | | Slight. | | |

1950

3

| DATE | STATION | COMPT. | PHASE | G. M. T. | △ | REMARKS. |
|-------------|--|--------|---|----------|------|--|
| | | | | h. m. s. | Km. | |
| <u>July</u> | | | | | | |
| 1950. | | | | | | |
| 7 | Epicentre 11.0°S, 163.5°E, Solomon Islands Region. | | | | | |
| | Bombay | E | e | 17 01 36 | | 0 = 16h. 46m. 55s. (U.S.C.G.S.). Slight. |
| | | | e | 17 11 28 | | |
| | | | i | 17 37 05 | | |
| | | | e | 18 00 35 | | |
| | | | M | 18 11 13 | | Per. = 17s. μ = 3. |
| | | N | Pronounced microseisms throughout the record. | | | |
| | Calcutta | E | e | 17 07 54 | | Slight, distant. |
| | New Delhi | N | e | 17 10 58 | | |
| | | | i | 17 11 13 | | |
| | | | e | 17 18 17 | | |
| | | | e | 17 23 41 | | |
| | Kodaikanal | E | eP | 17 41 13 | | |
| | Poona | N | M | 17 55 -- | | |
| 8 | New Delhi | E | iP | 19 52 11 | 950 | Slight. |
| | | | iS | 19 53 50 | | |
| 9 | Epicentre 27.5°N, 63.0°E, in Baluchistan | | | | | |
| | | | | | | 0 = 00h. 28m. 20s (Poona) |
| | Bombay | N | eP | 00 31 16 | 1345 | Slight. |
| | | | eS | 00 33 33 | | Pronounced |
| | | | L | 00 35 05 | | microseisms in |
| | | | M | 00 37 59 | | N & E records. |
| | | | | | | Per. = 15s. μ = 17. |
| | New Delhi | E | iP | 00 31 24 | 1400 | Slight. Direction |
| | | | LQ | 00 33 35 | | of first motion |
| | | | S | 00 33 47 | | West. |
| | | | SSS | 00 34 13 | | |
| | | | M | 00 35 19 | | |
| | Poona | E | eP | 00 31 29 | 1445 | Slight. |
| | | | PP | 00 31 29 | | |
| | | | iS | 00 33 56 | | |
| | | | SS | 00 34 06 | | |
| | | | SSS(LR) | 00 34 20 | | |
| | | | M | 00 35 16 | | |
| | Kodaikanal | E | P | 00 33 18 | 2445 | Slight. |
| | | | i | 00 34 00 | | |
| | | | S | 00 37 17 | | |
| | | | LQ | 00 38 30 | | |
| | | | LR | 00 39 30 | | |
| | | | M | 00 41 -- | | Per. = 11s. μ = 7. |
| | Calcutta | E | iP | 00 33 35 | 2600 | Slight. First |
| | | | ePP | 00 34 12 | | movement west. |
| | | | iS | 00 37 51 | | |
| | | | iSS | 00 38 36 | | |
| | Colombo | E | eP | 00 33 56 | 2830 | |
| | | | S | 00 38 12 | | |
| | | | L | 00 41 22 | | |
| | | | M | Not well | | defined. |
| | Hyderabad | N | M | 00 38 20 | | Per. = 16s. μ = 12. |
| 9. | New Delhi | N | e | 02 05 11 | | Slight. Distant. |
| | | | e | 03 06 21 | | |
| | Bombay | E | e | 00 25 -- | | Surface waves. |
| | | N | e | 02 59 -- | | |



July 1950.

h. m. s

9 Epicentre 8.5°S, 71.0°W, (Western Brazil) 0 = 04h. 39m. 57s.
h = 600 Km. (U.S.C.G.S.)

| STATION | COMPT. | PHASE | G. M. T | MAGNITUDE | REMARKS |
|------------|-----------------|--------------------|----------|-----------|-----------|
| Bombay | N,E | 1PKP ₁ | 04 58 30 | 16350 | Moderate. |
| | | 1PPP ₁ | 05 04 42 | | |
| | | 1PKKP ₁ | 05 07 36 | | |
| | | ePKP ₁ | 04 58 32 | | |
| | | i | 05 04 08 | | |
| | | i | 05 04 42 | | |
| | | 1PKKP ₁ | 05 07 41 | | |
| | | i | 05 08 34 | | |
| | | i | 05 10 57 | | |
| | | i | 05 14 21 | | |
| New Delhi | N,E N N,E | i | 05 04 08 | 16350 | Moderate. |
| | | i | 05 04 42 | | |
| | | 1PKKP ₁ | 05 07 41 | | |
| | | i | 05 08 34 | | |
| | | i | 05 10 57 | | |
| | | i | 05 14 21 | | |
| | | i | 05 21 04 | | |
| | | i | 05 24 01 | | |
| | | i | 05 25 55 | | |
| | | i | 05 25 55 | | |
| Poona | N | PKP ₁ | 04 58 40 | 16400 | Moderate |
| | | 1PKP ₂ | 04 58 50 | | |
| | | PPP | 05 05 22 | | |
| | | PKKP ₁ | 05 07 22 | | |
| | | SKKS ₁ | 05 09 01 | | |
| | | SKKKS | 05 16 00 | | |
| | | i | 05 19 53 | | |
| | | SS | 05 20 52 | | |
| | | PKP ₁ | 04 58 43 | | |
| | | PP | 05 02 38 | | |
| Kodaikanal | E | PPP | 05 06 08 | 16665 | Moderate. |
| | | PKKP ₁ | 05 07 28 | | |
| | | SKKS ₁ | 05 09 49 | | |
| | | SKKKS | 05 10 24 | | |
| | | SKSP | 05 13 09 | | |
| | | PKP ₁ | 04 58 52 | | |
| | | e | 05 01 12 | | |
| | | e | 05 08 22 | | |
| | | ePKP ₁ | 04 58 58 | | |
| | | PP | 05 02 43 | | |
| Colombo | E | PPP | 05 06 13 | 17550 | Moderate. |
| | | PKKP ₁ | 05 07 48 | | |
| | | i | 05 08 38 | | |
| | | SKKS ₁ | 05 09 33 | | |
| | | SKKKS | 05 10 18 | | |
| | | SKSP | 05 13 11 | | |
| | | PPS | 05 15 42 | | |
| | | SS | 05 22 03 | | |
| | | PKP ₁ | 05 01 12 | | |
| | | SKS ₁ | 05 08 10 | | |
| Hyderabad | N | SS | 05 20 41 | | |
| | | PKP ₁ | 05 01 12 | | |
| | | SKS ₁ | 05 08 10 | | |

Probably beginning of another shock.

9 New Delhi N,E eP 10 03 34 Slight, local

9 Epicentre 37.0°N, 70.0°E, in Hindukush. h = 200 Km. ±
0 = 16h. 10m. 14s. (Poona) Felt at Srinagar, Rawalpindi, Kabul and Patiala. (Press report).

| | | | | | |
|-----------|----------|-----|----------|------|---|
| New Delhi | N,E N | 1P | 16 12 31 | 1010 | Moderate. Direction of first motion S and E. |
| | | P* | 16 12 59 | | |
| | | P | 16 13 57 | | |
| | | iS | 16 14 15 | | |
| Dehra Dun | N | eP? | 16 12 57 | 1344 | |
| | | eS? | 16 14 30 | | |
| | | M | 16 16 03 | | |

Per. = 9s. Amp. = 0.15"

| DATE | STATION | COMPT. | PHASE | G. | M. | T. | Δ | REMARKS. |
|------------|------------|------------------|----------------------------------|----|----|----|------------------------|-----------------------|
| July | | | | h. | m. | s. | Km. | |
| 1950. | | | | | | | | |
| 9 (contd.) | | | | | | | | |
| | Bombay | N,E | eP | 16 | 14 | 17 | 1900 | Moderate. |
| | | E | iS | 16 | 17 | 23 | | |
| | Poona | N,E | eP | 16 | 14 | 20 | 1970 | Moderate. |
| | | N | sP | 16 | 15 | 21 | | |
| | | | PP | 16 | 14 | 35 | | |
| | | | PPP | 16 | 14 | 52 | | |
| | | | sP | 16 | 15 | 21 | | |
| | | | iS | 16 | 17 | 36 | | |
| | | | SS | 16 | 17 | 56 | | |
| | | N | sS | 16 | 18 | 44 | | |
| | | | iPcP | 16 | 18 | 52 | | |
| | Hyderabad | N E | M iP | 16 | 14 | 42 | 2100 | |
| | | | iS | 16 | 15 | 43 | | |
| | | | iS | 16 | 18 | 10 | | |
| | | | L | 16 | 19 | 50 | | |
| | | | M | 16 | 20 | 51 | | |
| | Calcutta | E | iP | 16 | 14 | 45 | Per. = 6s. μ = 24. | |
| | | | iP | 16 | 15 | 10 | 2245 | Moderate. |
| | | | iS | 16 | 18 | 20 | | |
| | | | iS | 16 | 19 | 00 | | |
| | Kodaikanal | E | eP | 16 | 16 | 10 | 3080 | Slight. |
| | | | iS | 16 | 20 | 52 | | |
| | | | M | 16 | 25 | 00 | | |
| | Colombo | E | P? | 16 | 17 | 22 | Per. = 7s. μ = 5. | |
| | | | S? | 16 | 22 | 14 | | |
| | | | L | 16 | 26 | 22 | | |
| | | | M | 16 | 26 | 49 | | |
| 10 | | | | | | | | |
| | Bombay | N | e | 05 | 37 | 21 | | Slight. |
| | | N,E | eP | 05 | 46 | 07 | | |
| | Kodaikanal | E | eP | 05 | 39 | 47 | | |
| | New Delhi | N | e | 05 | 41 | 57 | | Slight, Distant. |
| | | | e | 05 | 45 | 28 | | |
| | | | i | 05 | 48 | 31 | | |
| | | | e | 05 | 51 | 57 | | |
| | | | M | 05 | 55 | 41 | | |
| | Colombo | E | M | 05 | 45 | 30 | | Amp. = 0.6 mm. |
| | Poona | N | i | 05 | 46 | 00 | | Feeble. Distant. |
| | | | M | 05 | 52 | -- | | |
| 12 | | | | | | | | |
| | Epicentre | 56.0°N, 166.0°W, | 0 = 11h. 09m. 15s. (U.S.C.G.S.). | | | | | |
| | New Delhi | N | eP | 11 | 21 | 31 | | |
| | | | ScS | 11 | 31 | 37 | | |
| | | | PS | 11 | 31 | 50 | | |
| | | | PPS | 11 | 32 | 10 | | |
| | | | SSS | 11 | 39 | 15 | | |
| | Bombay | E | i) | 11 | 33 | 37 | | Slight. Pronounced |
| | | N | e) | | | | | microseisms |
| | | E | e | 11 | 56 | 47 | | throughout records. |
| | Kodaikanal | E | e | 11 | 53 | 42 | | |
| 12 | | | | | | | | |
| | Bombay | E | e | 16 | 26 | - | | Feeble surface waves. |

DATE STATION COMPT. PHASE G.M.T.



From the ISC collection scanned by SISMOS

July
1950.

h. m. s. Km.

| DATE | STATION | COMPT. | PHASE | G.M.T. | Km. | |
|------|------------|------------------|-------------------|---------------------------------|-------|---|
| 13 | Epicentre | 27.5°N, 139.5°E, | | 0 = 04h. 03m. 50s. (U.S.C.G.S.) | | |
| | New Delhi | N | 1P | 04 12 35 | 6000 | Slight, Deep focus. |
| | | | pP | 04 14 26 | | |
| | | | iS | 04 19 33 | | |
| | | | ScS? | 04 21 26 | | |
| | | | sS | 04 22 25 | | |
| | | | iSS | 04 23 25 | | |
| | | | iSSS | 04 24 52 | | |
| | Kodaikanal | E | eP? | 04 13 09 | 6555 | Slight, deep focus. |
| | | | PcP | 04 13 27 | | |
| | | | pP | 04 14 51 | | |
| | | | sP | 04 15 42 | | |
| | | | iS | 04 20 30 | | |
| | | | iScS | 04 22 12 | | |
| | | | sS | 04 23 30 | | |
| | | | LQ | 04 31 45 | | |
| | | | LR | 04 37 05 | | |
| | | | M | 04 41 50 | | |
| | Bombay | N,E | 1P | 04 13 22 | 6890 | Slight, deep focus |
| | | | pP | 04 15 07 | | |
| | | | sP | 04 15 43 | | |
| | | E | iS | 04 21 07 | | |
| | | | ScS | 04 22 25 | | |
| | | N | N sS | 04 24 10 | | |
| 20 | Epicentre | 17.0°S, 174.0°E | | 0 = 09h. 30m. 48s. (U.S.C.G.S.) | | |
| | Bombay | E | PP | 09 49 30 | 11665 | Slight,Distant. Microseisms throughout N & E records |
| | | | PPP | 09 51 58 | | |
| | | | iSKS ₁ | 09 55 47 | | |
| | | N,E | iS | 09 57 00 | | |
| | | | PPS | 09 59 30 | | |
| | New Delhi | N | e | 09 48 00 | 11555 | Moderate. |
| | | | e | 09 48 21 | | |
| | | | SKS ₁ | 09 55 28 | | |
| | | | SKS ₂ | 09 56 13 | | |
| | | | ScS | 09 56 43 | | |
| | | | PS? | 09 58 23 | | |
| | | | SS | 10 04 10 | | |
| | | | SSS | 10 08 40 | | |
| | | | i | 10 11 36 | | |
| | | | LR | 10 20 -- | | |
| | | | M | 10 27 -- | | |
| | Colombo | E | e | 09 54 -- | | Strong microseisms. |
| | | | L | 10 21 20 | | |
| | | | M | 10 25 30 | | |
| | Calcutta | E | e | 09 54 40 | | Amp. = 0.2 mm. Slight,Distant. |
| | Poona | N | e | 09 56 52 | | Very feeble. Distant. |
| | | | e | 10 37 00 | | Surface waves |
| | Hyderabad | N | M | 10 26 26 | | Per. = 21s. $\mu = 9$ |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|--------------|------------|-----------------|-------|---------------------------------|----------|--|
| | | | | h. m. s. | Km. | |
| <u>July</u> | | | | | | |
| <u>1950.</u> | | | | | | |
| 20 | Calcutta | E | e | 17 16 32 | | Slight, near |
| 21 | Epicentre | 15.5°S, 168.5°E | | 0 = 20h. 32m. 01s. (U.S.C.G.S.) | | |
| | Calcutta | E | eP | 20 44 50 | 9145 | Moderate |
| | | | ePP | 20 48 21 | | |
| | | | iS | 20 55 20 | | |
| | | | SS | 20 02 15 | | |
| | Colombo | E | P | 20 45 05 | 10050 | |
| | | | S | 20 55 37 | | |
| | | | L | 21 17 20 | | |
| | | | M | 21 23 30 | | |
| | Kodaikanal | E | ePP | 20 49 06 | 10390 | Amp. = 0.5 mm. Slight, record faint. |
| | | | PS | 20 57 51 | | |
| | | | PPS | 20 58 29 | | |
| | | | SSP | 21 02 00 | | |
| | | | M | 21 23 00 | | |
| | New Delhi | E | iSKS | 20 56 19 | 10940 | Moderate. |
| | | | S | 20 57 16 | | |
| | | | PS | 20 58 40 | | |
| | | | PPS | 20 59 26 | | |
| | | | SS | 21 04 00 | | |
| | | | SSS | 21 07 38 | | |
| | | | LR | 21 18 41 | | |
| | | | M | 21 26 -- | | |
| | Poona | N | i | 20 45 22 | 11000 | Slight. Distant |
| | | | i | 22 46 16 | | Phases masked |
| | | E | iSKS | 20 56 25 | | by microseisms. |
| | | | iS | 20 57 13 | | |
| | | | M | 21 30 -- | | |
| | Bombay | E | e | 20 48 34 | | Slight, Distant. |
| | | | i | 20 56 28 | | Pronounced microseisms |
| | | N | i | 20 56 32 | | throughout N & E |
| | | E | M | 21 30 27 | | records. Times approxi- |
| | | | | | | mate marks due to |
| | | | | | | Per. = 17s. $\mu=7$ minute remarks. |
| H | Hyderabad | E | PP | 20 49 10 | 10445 | |
| | | | SKS | 20 55 57 | | |
| | | N | SKS | 20 55 59 | | |
| | | | SS | 21 02 49 | | |
| | | | L | 21 15 22 | | |
| | | | M | 21 22 55 | | Per. = 20s. $\mu = 11$. |
| | | E | M | 21 23 30 | | Per. = 22s. $\mu = 11$. |
| 26 | New Delhi | N,E | eP | 07 28 17 | 610 | Slight. |
| | | N | iS | 07 29 21 | | |
| | | | SS | 07 29 33 | | |
| | | | SSS | 07 29 41 | | |
| | | N,E | M | 07 29 52 | | |
| 28 | Bombay | E | e | 07 16 33 | | Feeble surface waves, pronounced microseisms throughout N & NE record. |
| 29. | Epicentre | 2.5°N, 127.5°E | | 0 = 16h. 45m. 53s. (U.S.C.G.S) | | |
| | | 3.5°N, 126.0°E | | 0 = 16h 46m. 10s. (Poona) | | |
| | Colombo | E | P | 16 54 32 | | |
| | | | S | 17 01 15 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|-------------|-----------------|----------------|-------|----------------------------------|----------|---|
| | | | | h. m. s. | Km. | |
| <u>July</u> | | | | | | |
| 1950. | | | | | | |
| 29 (contd.) | | | | | | |
| | Colombo (contd) | E | L | 17 12 50 | | |
| | Hyderabad | E | M | 17 16 50 | | Amp. = '6 mm. |
| | | | P | 16 54 52 | 5410 | |
| | | | S | 17 01 54 | | |
| | | | SS | 17 05 41 | | |
| | | | L | 17 10 29 | | |
| | New Delhi | N,E | M | 17 13 24 | | Per. = 24s. μ = 21. |
| | | N | eP | 16 55 22 | 5810 | Moderate. |
| | | | PPP | 16 58 27 | | |
| | | | e | 16 58 59 | | |
| | | N,E | iS | 17 02 47 | | |
| | | N | PPS | 17 03 05 | | |
| | | | i | 17 03 42 | | |
| | | | iScS | 17 05 01 | | |
| | | | SS | 17 06 18 | | |
| | | | i | 17 07 02 | | |
| | | | i | 17 07 22 | | |
| | Poona | N | SSS | 17 08 11 | | |
| | | E | eP | 16 55 25 | 6150 | Slight. |
| | | | iP | 16 55 25 | | |
| | | | PcP | 16 55 26 | | |
| | | | PPP | 16 58 14 | | |
| | | | PcS | 17 00 04 | | |
| | | | iS | 17 02 50 | | |
| | | | ScS | 17 04 57 | | |
| | | | iSS | 17 06 40 | | |
| | Bombay | N,E | eP | 16 55 35 | | 5965 Moderate |
| | | E | e | 16 58 00 | | Microseisms throughout |
| | | N,E | iS | 17 03 09 | | N & E record. |
| | | E | SS | 17 07 00 | | |
| | | N | SS | 17 07 02 | | |
| | Dehra Dun | N | eP | 17 01 30 | | |
| 30 | Epicentre | 6.0°S, 155.0°E | | 0 = 23h. 48m. 58s. (U.S.C.G.S.). | | |
| | Colombo | E | P | 00 00 50 | | |
| | | | S | 00 10 30 | | |
| | | | L | 00 29 20 | | |
| | | | M | 00 32 20 | | |
| | New Delhi | N,E | eP | 00 01 22 | 9000 | Amp. = 0.2 mm. Moderate. |
| | | | iS | 00 11 31 | | |
| | | N | iPS | 00 12 06 | | |
| | | | SS | 00 16 40 | | |
| | | | LQ | 00 23 07 | | |
| | Poona | N,E | P | 00 01 25 | 9220 | |
| | | | PP | 00 04 31 | | |
| | | | iS | 00 11 42 | | |
| | | | ScS | 00 11 58 | | |
| | | | Lr | 00 27 -- | | |
| | Bombay | N,E | eP | 00 01 33 | 9300 | Moderate. |
| | | E | iS) | 00 11 54 | | |
| | | N | eS) | | | |
| | | E | SS | 00 17 36 | | |
| | | | LQ | 00 24 00 | | |
| | | | M | 00 34 52 | | |
| | Dehra Dun | N | eP | 00 07 57 | | Per. = 28. μ = 14 |
| | Hyderabad | | | | | A moderate shock at 00h G.M.T. Time marks absent. |

M.L.P.
1-2-1951.

GOVERNMENT OF INDIA
METEOROLOGICAL DEPARTMENT

SEISMOLOGICAL BULLETIN

June 1950.

Published under the direction of
V.V. SOHONI, B.A. (Hons.), M.Sc.
Director General of Observatories.

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 were being published in the form of the Quarterly Seismological Bulletin. From the month of January 1948, the data are being published in the present form of a Monthly Seismological Bulletin. With the kind co-operation of the Surveyor-General of India, the Director of the Nizamiah Observatory, Hyderabad and of the Director, Colombo Observatory, it has been possible to incorporate in the Bulletin the seismic data of their respective observatories viz. Dehra Dun, Hyderabad, and Colombo. The instrumental and non-instrumental voluntary observations are collected and edited at the Meteorological Office, Poona.

TABLE I
List of Seismograph Stations.

| Station | Latitude | Longitude | Height above M.S.L. 'meters' | Lithologic Foundation | Officer-in- Charge of Observatory. |
|------------|------------|------------|---------------------------------------|--------------------------|---|
| Bombay | 18° .54' N | 72° .49' E | 6 | Deccan Trap | Director |
| Calcutta | 22° .32' N | 88° .22' E | (i) 7 (ii) 6 | Alluvium | Director. |
| Colombo | 06° .54' N | 79° .52' E | 7 | Beach sand | Director, |
| Dehra Dun | 30 .19' N | 78° .03' E | 682 | Gravel | President. |
| Hyderabad | 17° .26' N | 78° .27' E | 528 | Granite | Director. |
| Kodaikanal | 10° .14' N | 77° .28' E | 2343 | Rock | Director. |
| New Delhi | 28° .35' N | 77° .12' E | 297 | Massive Quartzite | Dy. Director, General of Observatories (I & S). |
| Poona | 18° .32' N | 73° .51' E | 560 | Deccan Trap | Dy. Director General of Observatories (C & G). |

(i) Milne-Shaw

Omori-Ewing.

TABLE II
Instruments and their constants.

| Station | Instrument | Component | Period in secs. | Static Magnifi- cation | Damping Ratio | Paper Speed mm/min |
|------------|---------------|-----------|-----------------------|------------------------------|------------------|--------------------------|
| Bombay | Milne-Shaw | N | 12 | 250 | 20:1 | 8.0 |
| | Milne-Shaw | E | 12 | 350 | 21:1 | 8.0 |
| Calcutta | Milne-Shaw | E | 12 | 250 | 20:1 | 8.0 |
| | Omori-Ewing | N | 15 | 32 | - | 25.4 |
| | Omori-Ewing | E | 16 | 30 | - | 25.4 |
| | Wood-Anderson | N | 4 | 1000 | 5:1 | 60.0 |
| Colombo | Milne-Shaw | E | 12 | 250 | 20:1 | 8.0 |
| Dehra Dun | Omori | N | 30 | 12 | - | - |
| Kodaikanal | Milne-Shaw | E | 10 | 250 | 20:1 | 8.0 |
| New Delhi | Milne-Shaw | N | 12 | 299 | 20:1 | 8.0 |
| | Wood-Anderson | N | 4 | 1072 | 30:1 | 16.0 |
| | Wood-Anderson | E | 2 | 1474 | 30:1 | 60.0 |
| | Omori-Ewing | E | 30 | 30 | 1 | 12.0 |
| Poona | Milne-Shaw | N | 12 | 250 | 20:1 | 8.0 |
| | Wood-Anderson | E | 4 | 1000 | 20:1 | 16.0 |

| DATE | STATION | COMPT. | PHASE | G.M.T. | Δ | REMARKS. | | | | |
|------------|---------------------------|----------|------------------------------------|----------------------------------|-----------------------|---|------|----------|-------|--|
| June 1950. | | | | h. m. s. | Km. | | | | | |
| 3 | Poona | E | P | 03 03 57 | 2240 | Slight | | | | |
| | | | iS | 03 07 40 | | | | | | |
| | | | LQ | 03 07 57 | | | | | | |
| | | | SS | 03 08 16 | | | | | | |
| | Bombay | N,E | SSS | 03 08 27 | 2555 ? | Feeble. Record masked with microseisms. | | | | |
| | | | eP? | 03 04 03 | | | | | | |
| | New Delhi | N,E | iS | 03 08 03 | 2350 | Slight. | | | | |
| | | | eS | | | | | | | |
| | | N | eP | 03 04 19 | | | | | | |
| | | | PP | 03 04 40 | | | | | | |
| | | N | eS | 03 08 11 | | | | | | |
| | | | i | 03 08 16 | | | | | | |
| | | | SS | 03 08 46 | | | | | | |
| N,E | M | 03 19 20 | | | | | | | | |
| 4 | Bombay | E | e | 07 35 33 | Slight. | | | | | |
| | | N | Microseisms throughout the record. | | | | | | | |
| 5 | Bombay | E | e | 11 48 -- | Feeble surface waves. | | | | | |
| | | E N | Record mixed up with microseisms. | | | | | | | |
| 7 | New Delhi | N,E | iP | 17 12 04 | 5860 | Slight, direction of first motion S-E. | | | | |
| | | | PP | 17 14 13 | | | | | | |
| | | | PPP | 17 15 18 | | | | | | |
| | | | eS | 17 19 31 | | | | | | |
| | Poona | N,E | iSS | 17 23 01 | 10280 | Very feeble. | | | | |
| | | | P | 17 12 07 | | | | | | |
| | Bombay | N,E | S | 17 23 10 | Slight, very distant. | | | | | |
| | | | iP? | 17 12 09 | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| 8 | Epicentre 45.5° S, 15° W. | | | 0 = 16h. 07m. 33s. (U.S.C.G.S.). | | | | | | |
| | Poona | N | eP | 16 21 47 | 10890 | Moderate. | | | | |
| | | | eS | 16 34 40 | | | | | | |
| | | | * SS | 16 39 50 | | | * | | | |
| | | | LQ | 16 49 50 | | | | | | |
| | | | LR | 16 54 50 | | | | | | |
| | | | M | 17 01 -- | | | | | | |
| | Kodaikanal | E | PP | 16 25 21 | 7465 | Moderate. | | | | |
| | | | PPP | 16 27 30 | | | | | | |
| | | | iSKSS | 16 31 57 | | | | | | |
| | | | S | 16 32 55 | | | | | | |
| | | | SS | 16 39 35 | | | | | | |
| | | | SSP | 16 39 50 | | | | | | |
| | | | LQ | 16 47 42 | | | | | | |
| | | | LR | 16 52 00 | | | | | | |
| | | | M | 16 57 00 | | | | | | |
| | | | Bombay | N,E | | | ePP | 16 25 42 | 11200 | Moderate Δ from SS - PP of the E compt. |
| | | | | | | | eSKS | 16 32 10 | | |
| | | | | | | | S | 16 33 13 | | |
| | SS | 16 40 20 | | | | | | | | |
| | M | 17 00 58 | | | | | | | | |
| | M | 17 05 00 | | | | | | | | |
| | Poona | | * SSS | 16 43 50 | | | | | | |
| | | | | | | | | | | |

Per. = 21s. $\mu = 13$
Per. = 21s. $\mu = 6$

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|------------|---|--------|-------|----------|----------|------------------|
| June 1950. | | | | h. m. s. | Km. | |
| 8 (cont.) | | | | | | |
| | New Delhi | N | PP | 16 27 49 | 12450 | Moderate. |
| | | | ePPP | 16 29 30 | | |
| | | | PS | 16 36 10 | | |
| | | | iPPS | 16 37 35 | | |
| | | | SS | 16 42 23 | | |
| | | | SSP | 16 42 38 | | |
| | | | LQ | 16 54 30 | | |
| | | | LR | 17 00 -- | | |
| | | | M | 17 06 00 | | |
| | Colombo | E | SKS | 16 32 -- | | Amp = 0.5 mm |
| | | | M | 16 57 20 | | |
| | Dehra Dun | N | Mn | 17 03 35 | | |
| | | | LQ | 16 58 00 | | |
| | | | e | 17 05 57 | | |
| | | | e | 17 43 42 | | |
| | | | M | 17 44 43 | | |
| 11 | New Delhi | N | e | 03 50 56 | | Slight. Distant. |
| | | | i | 04 01 37 | | |
| 11 | Kodaikanal | E | e | 22 34 00 | | Tremor. |
| | Poona | N | e | 22 35 16 | | Strong |
| | | | e | 22 43 07 | | microseisms |
| | | | M | 22 59 -- | | in E record. |
| | Bombay | N,E | eP | 22 35 22 | 6610 | Slight. |
| | | N | ePP | 22 37 05 | | |
| | | | S | 22 43 32 | | |
| | | | M | 23 00 59 | | Per. = 20 s. |
| | | | | | | $\mu = 6.$ |
| | | E | M | 23 01 35 | | Per. = 19 s. |
| | | | | | | $\mu = 4.$ |
| 14 | Epicentre 24°N, 71.2°E to the east of Runn of Kutch 0 = 04h. 24m. 40s Poona Felt t slightly at Bhuj the capital of Kutch. | | | | | |
| | Bombay | N,E | P | 04 26 00 | 555 | Moderate. |
| | | | S | 04 26 59 | | |
| | | | M | 04 27 30 | | |
| | Poona | E | P | 04 26 10 | 660 | Moderate |
| | | | Pg | 04 26 36 | | |
| | | | LQ | 04 27 13 | | |
| | | | S | 04 27 20 | | |
| | | | S* | 04 27 38 | | |
| | | | Sg | 04 27 55 | | |
| | | E | Mn | 04 28 30 | | Per. = 4 s. |
| | | | | | | $\mu = 29$ |
| | | N | M | 04 28 30 | | Per. = 4 s. |
| | | | | | | $\mu = 16$ |
| | New Delhi | N,E | eP | 04 26 24 | 790 | Moderate. |
| | | | iS | 04 27 46 | | |
| | | | S* | 04 28 10 | | |
| | | E | S | 04 28 31 | | |
| | | N,E | i | 04 28 42 | | |
| | Calcutta | E | iP | 04 28 20 | 1700 | Moderate. |
| | | | iS | 04 31 12 | | |

| DATE | STATION | COMPT. | PHASE | G.M.M. T. | △ | REMARKS. |
|------------|--|--------|---------------------------------------|-----------|------|----------------------------|
| June 1950 | | | | h. m. s. | Km. | |
| 14 (cont.) | Kodaikanal | E | SS | 04 31 20 | 1665 | Slight. |
| | | | M | 04 32 40 | | |
| | Colombo | E | S? | 04 32 32 | | |
| | | | M | 04 35 54 | | Amp. = 1.1 mm. |
| 14 | New Delhi | E | eP | 07 43 38 | 780 | |
| | | N,E | S | 07 44 59 | | |
| | | | S* | 07 45 24 | | |
| | | | S | 07 45 45 | | |
| 17 | Bombay | E | e | 22 56 34 | | Feeble |
| | | N | M | 23 17 25 | | Per. = 15s. $\mu = 2$. |
| | | | Pronounced microseisms in the record. | | | |
| 18 | New Delhi | N,E | eP | 12 51 00 | 2200 | Slight |
| | | N | iS | 12 54 38 | | |
| | | N | M | 12 57 30 | | |
| | Bombay | E | e | 12 56 48 | | Slight. |
| | | N | M | 13 04 40 | | Per. = 7 s. $\mu = 2$. |
| | | E | M | 13 04 49 | | Per. = 9s. $\mu = 3$. |
| | Poona | N | M | 13 04 00 | | Slight. |
| 19 | Epicentre $0.3^{\circ}S$, $112^{\circ}E$. (Eastern Java) $0 = 12h. 36m. 58s.$ (U.S.C.G.S.) Reported in Press as destructive in Java. Several killed. | | | | | |
| | Colombo | E | PP | 12 44 26 | | |
| | | | S | 12 49 36 | | |
| | | | L | 12 53 21 | | |
| | | | M | 13 04 16 | | |
| | Kodaikanal | E | eP | 12 44 23 | 3300 | Amp. = 2.2mm, Moderate. |
| | | | iS | 12 50 20 | | |
| | | | L | 12 53 58 | | |
| | | | M | 13 02 03 | | Per. = 19.5s. $\mu = 62.5$ |
| | Poona | N,E | P | 12 45 17 | 3080 | Moderate. |
| | | | PP | 12 47 15 | | |
| | | | PPP? | 12 48 00 | | |
| | | | iS | 12 51 58 | | |
| | | | PS | 12 52 10 | | |
| | | | PPS | 12 52 22 | | |
| | | | SS | 12 55 22 | | |
| | | | LQ | 12 55 46 | | |
| | | | SSS | 12 56 17 | | |
| | | | LR | 12 58 -- | | |
| | | | M | 13 01 -- | | |
| | Bombay | N | Mn | 13 08 -- | | Per. = 15s. $\mu = 13$ |
| | | N,E | eP | 12 45 22 | 5200 | Moderate. |
| | | E | eS | 12 52 12 | | |
| | | N | iS | | | |
| | | N | SS | 12 55 06 | | |
| | | | LR | 12 58 11 | | |
| | | E | M | 13 09 11 | | Per. = 15s. $\mu = 18$. |
| | | N | M | 13 13 35 | | Per. = 13s. $\mu = 11$. |
| | New Delhi | N,E | iP | 12 45 41 | 5480 | Moderate. |
| | | | PP | 12 47 37 | | |
| | | | PPP | 12 48 25 | | |
| | | | iS | 12 52 47 | | |
| | | | SS | 12 56 05 | | |
| | | | SSS | 12 57 08 | | |
| | | | LR | 12 59 29 | | |
| | | | M | 13 03 32 | | |

| DATE | STATION | COMPT. | PHASE | G.M.T. | Δ | REMARKS. |
|------------|-----------------------|--------|---------------------------------|----------|----------|---------------------------|
| June 1950 | | | | h. m. s. | Km. | |
| 19 (cont.) | Dehra Dun | N | eP | 12 53 42 | 5631 | |
| | | | e | 12 56 45 | | |
| | | | eS | 12 58 33 | | |
| | | | e | 13 05 03 | | |
| | | | L | 13 08 45 | | |
| | | | M | 13 11 09 | | Per. = 18s. $\mu = 0.1''$ |
| 21 | Epicentre 21°S, 169°E | | 0 = 06h. 55m. 39s. (U.S.C.G.S.) | | | |
| | Calcutta | E | eP | 07 08 42 | 10000 | Moderate. |
| | | | iSKS ₁ | 07 19 12 | | |
| | | | S | 07 19 34 | | |
| | | | M | 07 45 -- | | |
| | Kodaikanal | E | eP | 07 09 05 | 10555 | Moderate. |
| | | | PP | 07 12 56 | | |
| | | | PPP | 07 15 01 | | |
| | | | S | 07 20 18 | | |
| | | | PS | 07 21 39 | | |
| | | | PPS | 07 22 16 | | |
| | | | SS | 07 26 46 | | |
| | | | SSS | 07 30 28 | | |
| | | | LQ | 07 39 35 | | |
| | | | LR | 07 44 35 | | |
| | | | M | 07 53 30 | | Per. = 20s. $\mu = 33.$ |
| | Colombo | E | e | 07 09 20 | | |
| | | | L | 07 43 -- | | |
| | | | M | 07 51 20 | | Amp. = 0.5mm. |
| | New Delhi | N | SKS | 07 20 08 | 11445 | Moderate. |
| | | | iS | 07 21 11 | | |
| | | | PS | 07 22 15 | | |
| | | | PPS | 07 23 35 | | |
| | | | PKKS ₁ | 07 28 38 | | |
| | | | i | 07 29 57 | | |
| | | | SKKS ₂ | 07 32 32 | | |
| | | | i | 07 32 57 | | |
| | | | LQ | 07 38 16 | | |
| | | | LR | 07 44 -- | | |
| | | | M | 07 55 -- | | |
| | Bombay | N,E | eP | 07 09 36 | 11480 | Moderate. |
| | | E | PP | 07 13 55 | | |
| | | N | PP | 07 13 58 | | |
| | | N,E | iSKS | 07 20 17 | | |
| | | N,E | eS | 07 21 29 | | |
| | | | iPPS | 07 23 59 | | |
| | | E | SS | 07 28 17 | | |
| | | N | SSP | 07 28 38 | | |
| | | E | LQ | 07 39 36 | | |
| | | | M | 08 01 14 | | Per. = 17s. $\mu = 15.$ |
| | | N | MC | 08 08 26 | | Per. = 17s $\mu = 9$ |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|------------|------------|-----------------|------------------|---------------------------------|----------|-----------------------------------|
| June 1950. | | | | h. m. s. | Km. | |
| 21 (cont.) | Poona | N | eP? | 07 09 37 | 11665 | Moderate. |
| | | | PP | 07 04 03 | | |
| | | | PPP | 07 16 07 | | |
| | | | SKS ₁ | 07 20 07 | | |
| | | | SKS ₂ | 07 21 00 | | |
| | | | PS | 07 23 00 | | |
| | | | PPS | 07 23 50 | | |
| | | | SS | 07 28 03 | | |
| | | | SSS | 07 32 33 | | |
| | | | LQ | 07 39 30 | | |
| | | | LR | 07 45 -- | | |
| | | | M | 07 52 -- | | |
| | Dehra Dun | N | Mn | 08 01 -- | | Per. = 18s. μ = 14. |
| | | | e | 07 20 24 | | |
| | | | e | 07 59 27 | | |
| | | | e | 08 05 54 | | |
| | | | e | 08 08 06 | | |
| | | | M | 08 10 32 | | Per. = 15s. μ = 0.05" |
| 21 | Bombay | E | eP | 10 07 50 | 8045 | Slight. |
| | | N | P | Masked by microseisms. | | |
| | | E | PP | 10 10 21 | | |
| | | N,E | S | 10 17 15 | | |
| | | E | SS | 10 22 15 | | |
| | Kodaikanal | E | LR | 10 28 35 | | |
| | | | e | 10 14 30 | | |
| 24 | Epicentre | 19.5°S, 168.5°E | | 0 = 22h. 25m. 31s. (U.S.C.G.S.) | | |
| | Calcutta | E | eP | 22 38 29 | 9780 | Moderate. |
| | | | ePP | 22 42 22 | | |
| | | | eSKS | 22 48 57 | | |
| | | | iS | 22 49 11 | | |
| | | | SSS | 22 58 33 | | |
| | | | L | 23 06 30 | | |
| | | | LR | 23 16 -- | | |
| | Colombo | E | P | 22 38 39 | | |
| | | | S | 22 49 14 | | |
| | | | L | 23 11 49 | | |
| | | | M | 23 21 09 | | |
| | Kodaikanal | E | eP | 22 38 52 | 10445 | Amp. = 1.0mm Moderate. |
| | | | SKS ₁ | 22 49 25 | | |
| | | | SKS ₂ | 22 49 40 | | |
| | | | iS | 22 50 01 | | |
| | | | PS | 22 51 30 | | |
| | | | PPS | 22 52 05 | | |
| | | | LQ | 23 02 38 | | |
| | | | LR | 23 07 00 | | |
| | | | M | 23 14 32 | | |
| | New Delhi | N,E | eP | 22 39 23 | 11340 | Per. 20s. μ = 49. Moderate |
| | | N | PP | 22 43 21 | | |
| | | | iSKS | 22 50 00 | | |
| | | | iS | 22 51 03 | | |
| | | | iPS | 22 52 38 | | |
| | | | SSS | 23 02 23 | | |
| | | | LQ | 23 08 06 | | |
| | | | LR | 23 14 08 | | |
| | | | M | 23 22 04 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | REMARKS. |
|------------|--------------------------|--------|-------------------|----------------------------|--------------------------|
| | | | | h. m. s. | |
| June 1950 | | | | | |
| 24 (cont.) | Poona | E | eP | | Masked with microseisms |
| | | | PP | 22 43 30 | 11110 Moderate. |
| | | | PPP | 22 45 40 | |
| | | | SKS ₁ | 22 49 58 | |
| | | | S | 22 50 51 | |
| | | | PPS | 22 53 30 | |
| | | | SS | 22 57 38 | |
| | | | iSSP | 22 58 00 | |
| | | | SSS? | 23 02 00 | |
| | | | LQ | 23 08 15 | |
| | | | L _R | 23 13 -- | |
| | | | M | 23 19 -- | |
| | | | M _n | 23 28 -- | |
| | Bombay | N,E | eP | 22 39 30 | Per. = 18s. μ = 56. |
| | | | PP | 22 43 48 | 11160 Moderate. |
| | | | iSKS ₁ | 22 50 09 | |
| | | | iSKS ₂ | 22 50 24 | |
| | | | S | 22 51 07 | |
| | | | PS | 22 52 45 | |
| | | N | iPPS | 22 53 09 | |
| | | E | SSP | 22 58 06 | |
| | | | SSS | 23 02 47 | |
| | | N | LQ | 23 07 25 | |
| | | E | LQ | 23 07 39 | |
| | | N,E | L _R | 23 15 09 | |
| | | E | M | 23 31 05 | Per. = 17 s. μ = 22. |
| | | N | M | 23 35 13 | Per. = 16 s. μ = 12 |
| | Dehra Dun | N | e | 22 45 54 | |
| | | | e | 22 58 39 | |
| | | | e | 23 13 21 | |
| | | | L? | 23 23 30 | |
| | | | M | 23 40 44 | Amp. = .05" |
| 25 | Epicentre 6.5°N, 126.5°E | | | 0 = 11h. 06m. 00s. (Poona) | |
| | Calcutta | E | P | 11 13 38 | 4910 Slight. |
| | | | PPP | 11 15 42 | |
| | | | iS | 11 19 43 | |
| | | | PS | 11 19 58 | |
| | | | SSS | 11 23 16 | |
| | | | L _R | 11 24 20 | |
| | | | M | 11 28 -- | |
| | Colombo | E | P? | 11 13 49 | |
| | | | S? | 11 24 09 | |
| | | | L | 11 30 19 | |
| | | | M | 11 31 04 | |
| | Kodaikanal | E | eP | 11 14 40 | 5420 Amp. = 0.2 mm. |
| | | | S | 11 21 40 | Moderate. |
| | | | L _R | 11 28 03 | |
| | | | M | 11 31 55 | |
| | New Delhi | N,E | eP | 11 15 07 | Per. = 20s μ = 16 |
| | | | iS | 11 22 23 | 5650 Moderate. |
| | | | iSS | 11 22 54 | |
| | | | iScS | 11 24 49 | |
| | | N | SS | 11 25 20 | |
| | | | i | 11 27 40 | |
| | | | L _R | 11 29 19 | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|------------------------|-----------|----------------|--|--|----------|--|
| | | | | h. m. s. | Km. | |
| June 1950 25(cont.) | Poona | E | iP PcP PP PPP ScP S PS PPS ScS SS SSS LQ LR M | 11 15 15 11 15 21 11 17 29 11 18 23 11 20 00 11 22 39 11 22 54 11 23 09 11 24 16 11 25 56 11 28 01 11 28 16 11 30 46 11 34 07 | 5810 | Moderate. |
| | Bombay | N,E | eP iS LR | 11 15 22 11 22 50 11 30 31 | 5865 | Moderate. |
| | Dehra Dun | N | LR e e M | 11 30 38 11 19 02 11 22 48 11 25 00 | | |
| 26 | New Delhi | N,E | eP | 12 13 13 | 1040 | Slight. |
| | Dehra Dun | N | iS | 12 15 12 | | |
| | Dehra Dun | N | eP | 12 14 12 | | |
| 27 | Epicentre | 45.5°N, 140°E. | | 0 = 15h. 41m. | 54s. | (U.S.C.G.S) and (B.C.I.S.) |
| | Calcutta | E | eP PcP PP PPP PoS S LQ LR M | 15 50 30 15 52 12 15 52 24 15 53 10 15 56 00 15 57 22 16 00 49 16 02 00 16 08 -- | 5220 | Slight. |
| | New Delhi | N,E | eP PP | 15 50 47 15 52 48 | 5610 | Moderate. Beginning may be earlier upto 4 seconds due to time marks. |
| | | N | eS SS LQ LR M | 15 58 01 16 01 41 16 01 57 16 04 18 16 09 09 | | |
| | Bombay | N,E | P PP | 15 51 48 15 55 48 | 6755 | Slight. |
| | | E | S | Loss of record at the time. | | |
| | | N | eS | 16 00 06 | | |
| | | E | SS LR M | 16 04 04 16 09 40 16 21 14 | | |
| | Poona | E | P PcP PP PPP PcP S PS PPS ScS | 15 51 52 15 52 18 15 54 05 15 55 35 15 56 13 16 00 08 16 00 27 16 00 42 16 01 31. | 6780 | Per. = 12s. $\mu = 5$. Moderate. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | REMARKS. |
|-------------|-----------|--------|-----------------|----------|-------|--------------------|
| | | | | h. m. s. | Km | |
| <u>June</u> | | | | | | |
| 1950 | | | | | | |
| 27(cont.) | | | | | | |
| | Poona | E | SS | 16 04 13 | | |
| | | | SSS | 16 07 04 | | |
| | | | LQ | 16 07 52 | | |
| | | | LR | 16 10 52 | | |
| | | | M | 16 16 53 | | |
| | Kodaikanl | E | e | 15 52 00 | | |
| 28 | Bombay | E | e | 16 33 45 | | Feeble |
| | | N | e | 16 38 04 | | |
| | | | Loss of record. | | | |
| 30 | Bombay | E | eP? | 07 21 58 | 2765? | Slight. |
| | | N | e | 07 22 55 | | |
| | | | i | 07 26 15 | | |
| | | E | iS? | 07 26 17 | | |
| | | | M | 07 30 20 | | Per. = 7 s. u = 1. |
| | | N | M | 07 30 36 | | Per. = 7 s. u = 2. |
| | New Delhi | N,E | e | 07 25 11 | | Slight, near. |
| | | | e | 07 26 39 | | |
| | | N | i | 07 27 05 | | |
| | | E | i | 07 27 05 | | |
| | | N,E | i | 07 27 15 | | |

M.L.P

18-1-51.

Earthquake Reports from Voluntary Observers

| Place at which felt | Date | G.M.T. of earthquake | Duration Sec. | Intensity R.F. | No. of shocks | Remarks |
|---------------------|---------|----------------------|---------------|----------------|---------------|---------|
| | | H. M. | | | | |
| | | | | scale | | |
| Gurez | 20-5-50 | 06 50 | | VI | 1 | - |
| Srinagar | 20-5-50 | 06 55 | 3 | VII | 2 | - |

GOVERNMENT OF INDIA
METEOROLOGICAL DEPARTMENT

SEISMOLOGICAL BULLETIN

May 1950.

Published under the direction of
V.V. SOHONI, B.A. (Hons), M.Sc.,
Director General of Observatories.

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 were being published in the form of the Quarterly Seismological Bulletin. From the month of January 1948, the data are being published in the present form of a Monthly Seismological Bulletin. With the kind co-operation of the Surveyor-General of India, the Director of the Nizamiah Observatory, Hyderabad and of the Director, Colombo Observatory, it has been possible to incorporate in the Bulletin the seismic data of their respective observatories viz. Dehra Dun, Hyderabad and Colombo. The instrumental and non-instrumental voluntary observations are collected and edited at the Meteorological Office, Poona.

TABLE I.
List of Seismograph Stations.

| Station | Latitude | Longitude | Height above M.S.L. 'meters' | Lithologic Foundation | Officer-in- charge of Observatory. |
|------------|-------------|------------|---------------------------------------|--------------------------|---|
| Bombay | 18° .54' N. | 72° .49' E | 6 | Deccan Trap | Director |
| Calcutta | 22° .32' N. | 88° .22' E | (i) 7 (ii) 6 | Alluvium | Director. |
| Colombo | 06° .54' N. | 79° .52' E | 7 | Beach sand | Director. |
| Dehra Dun | 30° .19' N. | 78° .03' E | 682 | Gravel | President. |
| Hyderabad | 17° .26' N. | 78° .27' E | 528 | Granite | Director, Nizamiah Observatory. |
| Kodaikanal | 10° .14' N. | 77° .28' E | 2343 | Rock | Director. |
| New Delhi | 28° .35' N. | 77° .12' E | 207 | Massive Quartzites | Dy. Director, General of Observ- atories (I & S). |
| Poona | 18° .32' N. | 73° .51' E | 560 | Deccan Trap | Dy. Director, General of Observatories (C & G) |

(i) Milne-Shaw


(ii) Omori-Ewing

TABLE II.

Instruments and their constants.

| Station | Instrument | Compo- nent | Period in secs. | Static Magnifi- cation | Damping Ratio | Paper Speed mm/min. |
|---|---------------|----------------|-----------------------|------------------------------|------------------|------------------------|
| Bombay | Milne-Shaw | N | 12 | 250 | 21:1 | 8.0 |
| | Milne-Shaw | E | 12 | 350 | 20:1 | 8.0 |
| Calcutta | Milne-Shaw | E | 12 | 250 | 20:1 | 8.0 |
| | Omori-Ewing | N | 15 | 32 | - | 25.4 |
| | Omori-Ewing | E | 16 | 30 | - | 25.4 |
| | Wood-Anderson | N | 4 | 1000 | 5:1 | 60.0 |
| Colombo | Milne-Shaw | E | 12 | 250 | 20:1 | 8.0 |
| Dehra-Dun | Omori | N | | | | |
| Hyderabad | Milne-Shaw | N | 12 | 250 | 20:1 | 8.0 |
| | | E | 12 | 250 | 20:1 | 8.0 |
| The seismographs not in operation from 13th May 1950. | | | | | | |
| Kodaikanal | Milne-Shaw | E | 10 | 250 | 20:1 | 8.0 |
| New Delhi | Milne-Shaw | N | 12 | 299 | 20:1 | 8.0 |
| | Wood-Anderson | N | 4 | 1072 | 30:1 | 16.0 |
| | Wood-Anderson | E | 2 | 1474 | 30:1 | 16.0 |
| | Omori-Ewing | E | 30 | 30 | 1 | 12.0 |
| Poona | Milne-Shaw | N | 12 | 250 | 20:1 | 8.0 |
| | Wood-Anderson | E | 4 | 1000 | 20:1 | 16.0 |

3-11-1950.

DATE STATION COMPT. PHASE G.M.T. 

May
1950.

h. m. s. Km.

| DATE | STATION | COMPT. | PHASE | G.M.T. | Km. | |
|------|--|--------|-------|----------|------|--|
| 1. | Epicentre 4.5° S, 105° E Near Southern-East of Sumatra | | | | | |
| | O = 13h. 21m. 03s. (Poona). | | | | | |
| | Colombo | E | P | 13 26 55 | | |
| | | | S | 13 31 45 | 3220 | |
| | Kodaikanal | E | eP | 13 27 28 | 3510 | Slight. |
| | | | iS | 13 32 38 | | |
| | | | LR | 13 36 01 | | |
| | | | M | 13 38 29 | | |
| | Poona | N,E | eP | 13 28 27 | 4253 | Per. = 15secs. μ = 3. Slight. h = 75 km = ± |
| | | | pP | 13 28 53 | | |
| | | | sP | 13 29 03 | | |
| | | | PP | 13 30 03 | | |
| | | | PPP | 13 30 36 | | |
| | | | eS | 13 34 22 | | |
| | | | sS | 13 35 01 | | |
| | | | SSS | 13 37 58 | | |
| | | | LR | 13 38 31 | | |
| | Bombay | N,E | eP | 13 28 40 | 4410 | Feeble. |
| | | | eS | 13 34 43 | | |
| | | | e | 13 38 10 | | |
| | New Delhi | N,E | eP | 13 29 05 | 4650 | Slight. |
| | | E | PP | 13 30 46 | | |
| | | | PPP | 13 31 17 | | |
| | | N,E | iS | 13 35 24 | | |
| 2. | New Delhi | N,E | eP | 16 47 14 | 2210 | Slight. |
| | | N | eS | 16 50 53 | | |
| | Poona | E | e | 16 49 17 | | Feeble. |
| | | | e | 16 57 12 | | |
| | Bombay | N,E | e | 16 51 09 | | Feeble. |
| | | N | e | 16 55 48 | | |
| 3. | Bombay | N,E | e | 02 19 29 | | Feeble. |
| | Kodaikanal | E | iP | 02 19 32 | 2120 | Slight, near. |
| | | | eS | 02 23 02 | | Direction of |
| | | | LR | 02 23 50 | | first movement |
| | | | M | 02 25 26 | | of P towards E. |
| | | | | | | Per. = 9 secs. |
| | Poona | E | eP | 02 19 32 | 2110 | μ = 2. Feeble. |
| | | | eS? | 02 23 06 | | Surface waves. |
| | | | e | 02 24 17 | | |
| 6. | New Delhi | E | e | 16 19 30 | | Slight, near. |
| | | | i | 16 20 38 | | |
| 7. | Bombay | N | e | 06 57 15 | | Slight. |
| | | N,E | e | 07 00 20 | | |
| | | N | M | 07 28 49 | | Per. = 20 secs. |
| | Kodaikanal | E | e | 06 59 26 | | μ = 5. Slight. Phases |
| | | | | | | not clear. Distant. |
| | Poona | N | e | 07 00 12 | | Feeble. Distant. |
| | | | e | 07 00 57 | | |
| | | | e | 07 07 23 | | |
| | | | M | 07 23 - | | |
| | Hyderabad | N | M | 07 26 27 | | Per. = 16 secs. μ = 4. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|--------------|---|-------------------------|--|--|----------|--|
| | | | | h. m. s. | Km. | |
| May 1950. | | | | | | |
| 9. | Epicentre near 12°N , 47°EE in the Gulf of Aden 0 = 06h. 10m. 35s. (Poona). | | | | | |
| | Bombay | E N N,E N E | eP e eS LR LR | 06 16 01 06 16 06 06 20 35 06 22 24 06 22 31 | 2965 | Slight. |
| | Poona | E E | iP PP PPP S LR M | 06 16 11 06 16 52 06 17 04 06 20 40 06 23 50 06 26 - | 2890 | |
| | Kodaikanal | E | eP eS LR M | 06 16 39 06 21 34 06 23 53 06 26 14 | 3260 | Slight. Per. = 15 secs $\mu = 4.$ |
| | New Delhi | N | eP iS i iSS? | 06 17 04 06 22 20 06 22 51 06 24 36 | 3640 | Slight. |
| 9. | Epicentre 41°N , 58°E Turkmen . 0= 11h. 17m. 10s. (U.S.C.G.S.) (The shock appears to be complicated) | | | | | |
| | New Delhi | N,E N | iP PPP iS SS SSS M Mn | 11 21 13 11 21 35 11 24 25 11 24 47 11 24 58 11 26 26 11 27 32 | 1920 | Moderate. Per. = 11 secs. $\mu = 34.$ |
| | Poona | E | P PP S M | 11 21 15 11 21 51 11 25 42 11 29 -- | 2890 | |
| | Bombay | E | eP eS M | 11 21 38 11 26 14 11 32 18 | 3000 | Moderate. Per. = 14 secs. $\mu = 7.$ |
| | Dehra Dun | N N | Record extremely faint, probably lost. eP eS L M | 11 21 50 11 25 18 11 27 18 11 29 06 | 1802 | Moderate. Per. = 12 se c. μ Amp. = 0.15" |
| | Calcutta | E | eP eS Mn | 11 29 55 11 28 27 11 35 50 | 3390 | Moderate Per. = 16 secs. $\mu = 77.$ |
| | Kodaikanal | E | eP eS LR M | 11 23 31 11 28 46 11 32 11 11 34 59 | 3610 | Moderate.Distant. Per. = 10 secs. $\mu = 7.$ |

| DATE | STATION | COMPT. | PHASE | G.M.T. | Δ | REMARKS. |
|--------------|--|--------|-------|-----------|----------|-----------------------------|
| May 1950. | | | | h.m.s. | Km. | |
| 10 | Epicenter 15°S , 43°E near Northern coast of Madagascar 0 = 23h. 39m. 25s. (U.S.C.G.S.) | | | | | |
| | Kodaikanal | E | eP | 23 47 30 | 4745 | Moderate |
| | | | iS | 23 53 54 | | |
| | | | SS | 23 56 58 | | |
| | | | LQ | 23 57 25 | | |
| | | | SSS | 23 57 48 | | |
| | | | LR | 23 59 40 | | |
| | | | Mn | 00 03 06 | | Per. = 14secs. |
| | Poona | N,E | eP | 23 47 55 | 5110 | $\mu = 10.$ Moderate. |
| | | | PP | 23 49 44 | | |
| | | | PPP | 23 50 31 | | |
| | | | IS | 23 54 40 | | |
| | | | PS | 23 54 50 | | |
| | | | PPS | 23 55 00 | | |
| | | | SS | 23 57 56 | | |
| | | | LQ | 23 58 02 | | |
| | | | SSS | 23 58 16 | | |
| | | | LR | 00 00 07 | | |
| | | | M | 00 04 -- | | Per. = 19 secs |
| | Bombay | N,E | eP | 23 47 58 | 5020 | $\mu = 16$ Moderate |
| | | N | eS | 23 54 38 | | |
| | | E | iS | | | |
| | | N | SS | 23 57 44 | | |
| | | E | SSS | 23 58 41 | | |
| | | | LR | 00 00 35 | | |
| | | N | LR | 00 01 15 | | |
| | | | M | 00 05 27 | | Per. = 18 secs. |
| | | E | M | 00 06 21 | | $\mu = 11$ Per. 17 secs. |
| | New Delhi | N,E | eP | 23 49 05 | 6220 | $\mu = 6.$ Moderate |
| | | N | iS | 23 56 23 | | |
| | | | SSS | 00 02 30 | | |
| | Calcutta | E | LR | 00 06 02 | | |
| | | | eP | 23 49 32 | 6580 | Moderate |
| | | | ePcP | 23 50 16 | | |
| | | | ePcS | 23 54 12 | | |
| | | | eS | 23 57 39 | | |
| | | | Mn | 00 14 08 | | Per. = 17 secs. |
| | Dehra Dun | N | eP | 23 58 48 | | $\mu = 52$ |
| | | | e? | 00 09 00 | | |
| | | | e? | 00 23 06? | | |
| | | | M? | 00 23 38 | | |
| 15. | New Delhi | N,E | iP | 15 57 16 | | Slight, near |
| 16. | Epic:- 6°South , 151°East New Britan Region 0 = 17h. 21m. 45s. (U.S.C.G.S.) | | | | | |
| | Kodaikanal | E | eP | 17 33 46 | 8535 | Slight |
| | | | iS | 17 43 33 | | |
| | | | PPS | 17 44 27 | | |
| | | | SS | 17 48 30 | | |
| | | | LR | 17 57 42 | | |
| | | | M | 18 04 12 | | |

| DATE | STATION | COMPT. | PHASE | G.M.T. | Δ Km. | REMARKS. |
|---------------|--|--------|----------------|--|-----------------|---|
| 333 111 | | | | | | |
| May 1950. | | | | | | |
| 16 (cont.) | New Delhi | N,E | eP | 17 34 02 | 8830 | Slight. |
| | | N | iS | 17 44 04 | | |
| | Poona | E | PS | 17 44 52 | | |
| | | | iP | 17 34 08 | 9010 | Feeble |
| | | | iS | 17 44 18 | | |
| | Bombay | N,E | eP | 17 34 18 | 9220 | Feeble. |
| | | N | iS | 17 44 34 | | |
| | | E | eS | | | |
| 17, | Epc:- 39°N, 130.5 E | | | h= 600Km ± 0 = 11h. 46m. 46s. (U.S.C.G.S.). | | |
| | Calcutta | E | eP | 11 53 33 | 4270 | Moderate, deep focus. |
| | | | pP | 11 55 15 | | |
| | | | iS | 11 59 00 | | |
| | | | sS | 12 02 05 | | |
| | | | SS? | 12 02 20 | | |
| | | | ScS? | 12 02 50 | | |
| | New Delhi | N | iP | 11 54 15 | 4890 | Slight, deep focus |
| | | | pP | 11 55 59 | | |
| | | | iS | 12 00 12 | | |
| | | | iScS | 12 03 09 | | |
| | | | sS? | 12 03 32 | | |
| | | | SS | 12 04 05 | | |
| | | | SSS | 12 04 30 | | |
| | Poona | E | iP | 11 55 11 | | Phases lost due to the failure of electricity |
| | | | i | 11 56 10 | | |
| | | | ipP? | 11 57 20 | | |
| | | | i | 11 58 49 | | |
| | Bombay | N,E | iP | 11 55 17 | 5830 | Slight, deep focus |
| | | | pP | 11 57 12 | | |
| | | | iS | 12 02 08 | | |
| | | | iScS | 12 04 08 | | |
| | | | sS | 12 05 33 | | |
| | Kodaikanal | E | iP | 11 55 32 | 6110 | Slight, deep focus, h=600kms. |
| | | | pP | 11 57 24 | | |
| | | | PP | 11 57 47 | | |
| | | | iS | 12 02 40 | | |
| | | | iScS | 12 04 25 | | |
| | | | SS | 12 06 07 | | |
| | | | SS | 12 06 55 | | |
| | Colombo | E | P | 11 55 35 | | |
| | | | S | 12 02 40 | | |
| | | | L | 12 12 -- | | |
| | | | M | 12 14 55 | | |
| 17. | Epc:- 20°S, 169°E (New Hebrides Island Region) | | | 0 = 18h. 13m 13s (U.S.C.G.S.) | | |
| | Calcutta | E | eP | 18 26 05 | 11190 | Moderate |
| | | | ePP | 18 30 16 | | |
| | | | ePPP | 18 32 22 | | |
| | | | eSKS | 18 36 42 | | |
| | | | iPS | 18 39 10 | | |
| | Colombo | 18 | P | 18 26 20 | 10555 | |
| | | | SKS | 18 37 00 | | |
| | | | L | 18 55 20 | | |
| | | | M ₁ | 19 03 50 | | |
| | | | M ₂ | 19 08 20 | | |

| DATE | STATION | COMPT. | PHASE | G.M.T. | Δ | REMARKS. |
|------------|------------------------|------------------------------|--|--|----------|--|
| 1950. | | | | h,m,s. | Km. | |
| 17 (cont.) | Kodaikanal | E | eP iSKS iS PS SS SSS LQ LR M | 18 26 42 18 27 21 18 38 27 18 40 12 18 45 27 18 49 30 18 54 49 18 59 49 19 04 - | 11445 | Moderate. No minute marks Per. = 18 secs. μ = 16. Moderate |
| | New Delhi | N | eP(?) iSKS i SKKS iS iPS PPS SS SSS | 18 27 01 18 37 38 18 38 00 18 38 15 18 38 42 18 40 35 18 41 29 18 45 44 18 49 49 | 11550 | Moderate |
| | Poona | E | eP? P i PP? PPP SKS ₁ SKKS ₁ iS PPS M | 18 27 37 18 30 07 18 31 19 18 33 26 18 37 42 18 38 00 18 38 34 18 40 45 19 04 -- | 11200 | Moderate doubtful due to strong microseisms |
| | Bombay | N,E N E N E N | eP e SKS S SS LQ LR M M | 18 27 13 18 31 28 18 37 50 18 38 59 18 46 08 18 49 55 18 56 25 19 18 16 19 22 13 | 11665 | Per. = 130secs. μ = 37 Moderate Per. = 23 secs. μ = 8 Per. = 19 secs. μ = 5. |
| 17. | New Delhi | N,E | iP iS | 19 32 51 19 34 30 | 960 | Slight. |
| 19. | Epc:- 20.° 5 S, 169° E | | | | | |
| | Calcutta | E | eP ePP ePPP iSKKS | 02 51 08 02 54 47 02 56 48 03 01 43 | 10110 | Moderate. (U.S.C.G.S.) |
| | Colombo | E | P SKS L M | 02 51 16 03 01 53 03 08 48 03 34 33 | 10450 | |



| DATE | STATION | COMPT. | PHASE | G.M.T. | | REMARKS. |
|-------------|--------------------|--------|----------------------|----------|--------------------|---|
| | | | | h.m.s. | Km. | |
| <u>May</u> | | | | | | |
| 1950. | | | | | | |
| 19 (cont.). | | | | | | |
| | Kodaikanal | E | eP | 02 51 52 | 11450 | Moderate. Time marks absent. |
| | | | iSKS | 03 02 51 | | |
| | | | S | 03 02 45 | | |
| | | | PS | 03 04 30 | | |
| | | | SS | 03 09 45 | | |
| | | | SSS | 03 13 45 | | |
| | | | Mn | 03 34 - | | Per. = 16 secs. |
| | New Delhi | N | eP | 02 52 06 | 11390 | $\mu = 8.$ Moderate |
| | | | iSKS | 03 02 45 | | |
| | | | SKKS | 03 03 08 | | |
| | | | iS | 03 03 47 | | |
| | | | PPS | 03 06 18 | | |
| | | | iSS? | 03 11 06 | | |
| | | | i | 03 11 31 | | |
| | | | SSS | 03 15 02 | | |
| | | | LQ | 03 20 47 | | |
| | | | LR | 03 27 03 | | |
| | Bombay | E | e | 02 52 25 | | Slight. Times approximate as time marks are absent Per. = 19 secs. $\mu = 5.$ Per. = 10 secs. $\mu = 4$ |
| | | N | e | 02 55 59 | | |
| | | N,E | i | 03 02 58 | | |
| | | E | M | 03 43 48 | | |
| | | N | M | 03 47 44 | | |
| | Poona | N | iSKS ₁ | 03 02 38 | 11250 | Moderate. Record disturbed. |
| | | | iS | 03 03 38 | | |
| | | | SS | 03 10 37 | | |
| | | | M | 03 36 -- | | |
| 19. | Epc:- 20°5N, 160°E | | New Hebrides Islands | | 0 = 07h. 05m. 31s. | |
| | | | | 0 = 05h | (U.S.C.G.S.) | |
| | Bombay | E | e | 07 19 45 | | Feeble. |
| | | N | e | 07 23 00 | | |
| | | N,E | e | 07 30 10 | | |
| | Kodaikanal | E | eP? | 07 19 48 | 11450 | Slight. |
| | | | SKS | 07 29 11 | | |
| | | | S | 07 29 43 | | |
| | | | PS | 07 31 16 | | |
| | | | SS | 07 36 50 | | |
| | | | SSS | 07 40 46 | | |
| | | | M | 07 56 -- | | |
| | Colombo | E | SKS | 07 29 18 | | Per. = 18 secs. $\mu = 5.$ |
| | | | L | 07 52 28 | | |
| | | | M | 08 07 23 | | |
| | Poona | N | iSKS ₁ | 07 30 00 | 11250 | Amp. = 0.4mm Moderate Record disturbed |
| | | | iS | 07 31 01 | | |
| | | | SS | 07 37 45 | | |
| | | | SSP | 07 38 15 | | |
| | | | M | 08 04 -- | | |
| | | | Mn | 08 10 -- | | |
| | | | | | | Per. = 20 secs $\mu = 6.$ |

| DATE | STATION | COMPT. | PHASE | G.M.T. | Δ | REMARKS. |
|---------------------|-----------------------------------|-------------|--|---|----------|---|
| <u>May</u> 1950. | | | | h,m,s. | Km. | |
| 19 (cont.) | New Delhi | N | e e | 07 30 03 07 32 52 | | Moderate.Distant. |
| 20. | New Delhi | N,E | eP iS | 18 56 07 18 57 48 | 980 | Slight. |
| | Dehra Dun | N | eP? e M | 18 57 16 13 58 01 18 58 16 | | Per. = 6seconds Amp. = 0.02" Slight. |
| | Bombay | N | eP iPPP | 18 58 00 18 58 28 | 2020 | |
| | Poona | N E E | iS) eS) eS) | 19 01 17 19 01 15 | 2220 | P lost in microseisms Moderate, felt in Srinagar |
| | | | LQ SS LR M | 19 01 26 19 01 44 19 02 30 19 04 -- | | |
| 23. | New Delhi | N,E | eP iS | 16 14 01 16 15 42 | 980 | Slight |
| 25. | Epc:- 13°N, 142° ⁰ .5E | | | O = 18h. 35m. 00s. G.M.T. (U.S.C.G.S.). | | |
| | Calcutta | E | iP iS Mn | 18 44 41 18 51 39 19 04 48 | 5335 | Moderate. Per. = 18secs. $\mu = 67$. |
| | Dehra Dun | N | eP eS L? M | 18 45 24 18 53 06 18 59 29? 19 05 56 | 6355 | Moderate. Per. = 15 secs. Amp. = 0.1" Moderate. |
| | New Delhi | N,E N | eP iS PS PP ScS i SS LQ LR M | 18 45 27 18 53 46 18 54 08 18 54 20 18 55 05 18 55 51 18 58 24 19 01 14 19 04 11 19 09 11 | 6790 | |
| | Poona | E | iP PcP PP PPP PcS iS PS PPS ScS SS SSS LQ LR | 18 45 49 18 46 15 18 48 16 18 49 50 18 50 13 18 54 26 18 54 51 18 55 - 18 55 27 18 58 31 19 01 25 19 02 23 19 05 38 | 7240 | Moderate. |

| DATE | STATION | COMPT. | PHASE | G.M.T. | Km | REMARKS. | |
|-----------|-------------------|--------|--|----------|-------|--------------------------------------|--|
| | | | | h.m.s. | | | |
| May 1950. | | | | | | | |
| 25(cont.) | | | | | | | |
| | Colombo | E | P | 18 45 51 | 6335 | | |
| | | | S | 18 53 46 | | | |
| | | | M | 19 07 01 | | | |
| | Kodaikanal | E | eP | 18 45 58 | 6810 | Amp. = 0.4m.m. Moderate, distant. | |
| | | | PP | 18 48 13 | | | |
| | | | iS | 18 54 18 | | | |
| | | | SS | 18 58 08 | | | |
| | | | LR | 19 03 52 | | | |
| | | | M | 19 08 48 | | Per. = 17 secs. $\mu = 4.$ | |
| | Bombay | N | eP | 18 45 30 | 7445 | Moderate. | |
| | | | e | 18 46 31 | | | |
| | | | eS | 18 54 46 | | | |
| | | | PS | 18 55 26 | | | |
| | | | LQ | 19 03 17 | | | |
| | | | M | 19 11 47 | | Per. = 17 secs. $\mu = 6.$ | |
| | | E | Record very faint | | | | |
| 26. | Epc:- 20°S, 169°E | | New Hebrides Islands Region | | | | |
| | | | O = 0h. 17m. 14s. G.M.T. (U.S.C.G.S.) | | | | |
| | Calcutta | E | iP | 01 13 26 | 10000 | Moderate | |
| | | | iSKS | 01 21 00 | | | |
| | Colombo | E | P | 01 33 30 | 10450 | | |
| | | | SKS | 01 41 03 | | | |
| | | | L | 01 58 21 | | | |
| | | | M | 02 20 31 | | Amp. = 1.0 m.m. | |
| | Kodaikanal | E | iP | 01 30 47 | | Moderate | |
| | | | Other phases not identifiable due to lines being faint and superposed. | | | | |
| | Poona | E | P | 01 30 57 | 11780 | Moderate | |
| | | | PP | 01 34 07 | | | |
| | | | SKS ₁ | 01 41 54 | | | |
| | | | eS | 01 42 54 | | | |
| | | | PS | 01 44 32 | | | |
| | | | SS | 01 49 26 | | | |
| | | | Mn | 02 24 -- | | Per. = 15 secs. $\mu = 38$ | |
| | New Delhi | N,E | e | 01 31 11 | | | |
| | | | iSKS | 01 32 48 | 11460 | Moderate. | |
| | | | iSKS | 01 41 46 | | | |
| | | | SKKS | 01 42 22 | | | |
| | | | iS | 01 42 51 | | | |
| | | | PS | 01 44 30 | | | |
| | | | PPS | 01 45 32 | | | |
| | | | i | 01 48 52 | | | |
| | | | SS | 01 50 03 | | | |
| | | | i | 01 50 55 | | | |
| | | | SSS | 01 54 17 | | | |
| | | | LQ | 02 01 12 | | | |
| | Delhra Dun | N | LR | 02 06 25 | | * | |
| | | | e? | 01 40 11 | | Moderate | |
| | | | e? | 01 48 16 | | | |
| | | | e? | 02 17 28 | | | |
| | | | M ₁ | 02 30 56 | | Per. = 24 secs. $\mu = .05''$ | |
| | | | M ₂ | 02 35 56 | | Per. = 24 secs. Amp. = 0.05'' | |
| | | | M ₃ | 02 42 46 | | Per. = 21 secs. Amp. = 0.05'' | |
| | * New Delhi | N,E | M | 02 16 36 | | * | |

| DATE | STATION | COMPT. | PHASE | G.M.T. | Δ | REMARKS. |
|----------------------------|------------|--------|-------|-------------|----------|--|
| | | | | h.m.s. | Km. | |
| May 1950. 26 (cont.) | Bombay | N | P | Lost due to | | congestion of lines E, record very faint Moderate. |
| | | E | SS | 01 50 02 | | |
| | | N | SS | 01 50 08 | | |
| | | | SSS | 01 54 06 | | |
| | | | LQ | 02 01 35 | | |
| | | E | LQ | 02 01 48 | | |
| | | | LR | 02 07 04 | | |
| | | | M | 02 22 -- | | |
| | | N | M | 02 23 41 | | Per. = 18 secs. $\mu = 19$. Per. = 21 secs. $\mu = 14$ |
| 26. | New Delhi | N,E | eP | 14 43 35 | 6210 | Slight. |
| | | | iS | 14 51 22 | | |
| | | | i | 14 52 02 | | |
| 27. | Bombay | N | e | 12 52 32 | | Slight, N record masked with micro-seisms. |
| | | E | e | 12 56 43 | | |
| | Kodaikanal | E | e? | 13 03 17 | | Slight, Probably long distance earthquake. Phases not clear. |
| 28. | Kodaikanal | E | eP? | 02 00 42 | | Probably distant slight, Phases not clear. |
| | New Delhi | N | i | 02 01 17 | | Slight, Distant. |
| | | | i | 02 02 16 | | |
| | | | i | 02 04 04 | | |
| | Bombay | N,E | e | 02 01 23 | | Slight |
| | | E | M | 02 37 32 | | Per. = 17 secs. $\mu = 2$. |
| 28. | New Delhi | E | eP | 08 45 05 | 1130 | Slight. |
| | | | iS | 08 47 01 | | |
| 29. | New Delhi | E | e | 05 25 24 | | Slight, near. |
| | | | e | 05 27 00 | | |
| | | | i | 05 27 33 | | |
| 30. | Kodaikanal | E | e? | 15 34 00 | | Distant, slight. Phases not clear. |
| 31. | New Delhi | E | eP | 13 21 34 | | Slight, Distant. |
| | | N | e | 13 28 39 | | |
| | | | e | 13 36 47 | | |
| | Bombay | E | e | 13 30 23 | | Slight |
| | | N | e | 13 30 29 | | |
| | | E | M | 13 49 40 | | Per. = 17 secs. $\mu = 3$. |
| | Kodaikanal | E | e | 13 31 30 | | Distant, slight. Phases not clear. |

[The main body of the document contains extremely faint and illegible text, likely bleed-through from the reverse side of the page. The text is too light to be transcribed accurately.]

GOVERNMENT OF INDIA
METEOROLOGICAL DEPARTMENT.

S E I S M O L O G I C A L B U L L E T I N

April 1950.

Published under the direction of

V.V. SOHONI, B.A. (Hons), M.Sc.

Director General of Observatories.

Till the end of 1937, the seismic data from the the India Meteorological Department were being published annually as Part D of the Annual Summary of the India Weather Review. Since 1938, the data were being published in the form of the Quarterly Seismological Bulletin. From the month of January 1948, the data are being published in the present form of a Monthly Seismological Bulletin. With the kind co-operation of the Surveyor-General of India, the Curator of the Nizamiah Observatory, Hyderabad, and of the Director, Colombo Observatory, it has been possible to incorporate in the Bulletin the seismic data of their respective observatories viz. Dehra Dun, Hyderabad and Colombo. The instrumental and non-instrumental voluntary observations are collected and edited at the Meteorological Office, Poona.

TABLE I.

List of Seismograph Stations.

| Station | Latitude | Longitude | Height above M.S.L. 'meters' | Lithologic Foundation | Officer-incharge of Observatory. |
|------------|----------|-----------|---------------------------------------|--------------------------|--|
| Bombay | 18°.54'N | 72°.49'E | 6 | Deccan Trap | Director. |
| Calcutta | 22°.32'N | 88°.22'E | (i)7 (ii)6 | Alluvium | Director. |
| Colombo | 06°.54'N | 79°.52'E | 7 | Beach sand | Director. |
| Dehra Dun | 30°.19'N | 78°.03'E | 622 | Gravel | President. |
| Hyderabad | 17°.26'N | 78°.27'E | 228 | Granite | Curator, Nizamiah Observatory. |
| Kodaikanal | 10°.14'N | 77°.28'E | 2343 | Rock | Director. |
| New Delhi | 28°.35'N | 77°.12'E | 207 | Massive Quartzites | Dy. Director, General of Observatories (I & S). |
| Poona | 18°.32'N | 73°.51'E | 560 | Deccan Trap | Dy. Director General of Observa- tories (C & G). |

(i) Milne-Shaw

(ii) Omori-Ewing.

TABLE II.

The Instruments and their Constants.

| Station | Instrument | Compo- nent | Period in secs. | Static Magnifi- cation | Damping Ratio | Paper Speed mm/min. |
|------------|---------------|----------------|-----------------------|------------------------------|------------------|------------------------|
| Bombay | Milne-Shaw | N | 12 | 250 | 21 : 1 | 8.0 |
| | Milne-Shaw | E | 12 | 350 | 20 : 1 | 8.0 |
| Calcutta | Milne-Shaw | E | 12 | 250 | 20 : 1 | 8.0 |
| | Omori-WEwing | N | 15 | 32 | - | 25.4 |
| | Omori-Ewing | E | 16 | 30 | - | 25.4 |
| | Wood-Anderson | N | 4 | 1000 | 5 : 1 | 30.0 |
| Colombo | Milne-Shaw | E | 12 | 250 | 20 : 1 | 8.0 |
| Dehra Dun | Omori | N | 30 | 12 | - | - |
| Hyderabad | Milne-Shaw | N | 12 | 250 | 20 : 1 | 8.0 |
| | Milne-Shaw | E | 12 | 250 | 20 : 1 | 8.0 |
| Kodaikanal | Milne-Shaw | E | 10 | 250 | 20 : 1 | 8.0 |
| New Delhi | Milne-Shaw | N | 12 | 299 | 20 : 1 | 8.0 |
| | Wood-Anderson | N | 4 | 1072 | 30 : 1 | 16.0 |
| | Wood-Anderson | E | 2 | 1474 | 30 : 1 | 60.0 |
| | Omori-Ewing | E | 30 | 30 | - | 12.0 |
| Poona | Milne-Shaw | N | 12 | 250 | 20 : 1 | 8.0 |
| | Wood-Anderson | E | 4 | 1000 | 20 : 1 | 16.0 |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | | Δ | REMARKS. |
|--------------------|--|--------|--|---|----|-----|----------|--|
| | | | | h. | m. | s. | Km. | |
| <u>April 1950.</u> | | | | | | | | |
| 1. | Bombay | N | e | 02 | 35 | 35 | | Very feeble. Per. = 15 secs. $\mu = 2$. |
| | Hyderabad | E | e | 02 | 37 | 15 | | |
| | | N | M | 02 | 48 | 29 | | |
| 1. | Bombay | N,E | e | 03 | 19 | -- | | Feeble tremors. Per. = 15 secs. $\mu = 3$. |
| | Hyderabad | N | e | 03 | 30 | 00 | | |
| | | N | M | 03 | 29 | 29 | | |
| 2 | Poona | E | i | 07 | 50 | 24 | | Tremor. |
| | New Delhi | N,E | i | 07 | 54 | 25 | | |
| | | E | eP | 07 | 50 | 32 | 2400 | Slight. |
| | | N | eS | 07 | 54 | 27 | | |
| | Bombay | N,E | e | 07 | 54 | 34 | | |
| | | | e | 07 | 54 | 40 | | Feeble. |
| 2. | Bombay | N | e | 11 | 43 | 40 | | Feeble. |
| | | | e | 11 | 51 | 33 | | |
| | | | i | 11 | 56 | 20 | | |
| | | E | Movements not clear due to thickness of trace. | | | | | |
| 4. | Bombay | N | e | 03 | 58 | - | | Feeble surface waves. |
| | | E | e | 04 | 06 | - | | |
| 4. | Epicentre 51°N , 102°E 52°N , 101°E | | | To the West of Lake of Baikal in U.S.S.R. 0 = 18h. 44m. 10s. (Poona). 0 = 18h. 44m. 10s (U.S.C.G.S.). | | | | |
| | New Delhi | N,E | P | 18 | 50 | 15 | 3240 | Moderate. Per. = 16 secs. $\mu = 70$. Great. |
| | | | PP | 18 | 51 | 07 | | |
| | | N | PcP | 18 | 53 | 08 | | |
| | | | iS | 18 | 55 | 08 | | |
| | | | SSS | 18 | 57 | 22 | | |
| | | | LR | 18 | 58 | 19 | | |
| | | | M | 19 | 00 | 20 | | |
| | | | Mn | 19 | 00 | 39 | | |
| | Calcutta | E | eP | 18 | 50 | 39 | 3400 | Per. 14 secs. $\mu = 400$ Moderate. |
| | | | iS | 18 | 55 | 41 | | |
| | | | eSS | 18 | 57 | 24 | | |
| | | | Mn | 19 | 02 | 05 | | |
| | Poona | N | iP | 18 | 51 | 45 | 2760 | Per. = 13 secs. $\mu = 35$. Moderate. |
| | | | PP | 18 | 53 | 18 | | |
| | | | iS | 18 | 57 | 48 | | |
| | | | SS | 19 | 00 | 38 | | |
| | | | SSS | 19 | 01 | 15 | | |
| | | | LR | 19 | 03 | - | | |
| | | | M | 18 | 06 | - | | |
| | Bombay | N | iP | 18 | 51 | 47 | 4545 | |
| | | E | eP | | | | | |
| | | N | iPP | 18 | 53 | 23 | | |
| | | E | ePP | | | | | |
| | | N,E | eS | 18 | 57 | 58. | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | | △ | REMARKS: |
|--|---|--------|----------------|----------|----|----|------|-------------------|
| April | | | | h. | m. | s. | Km. | |
| 1950. | | | | | | | | |
| 4. (cont.) | | | | | | | | |
| | Bombay | N | LQ | 19 | 01 | 26 | | |
| | | NN,E | LR | 19 | 03 | 24 | | |
| | | N | M | 19 | 06 | 16 | | Per. 14 secs. |
| | | E | M | 19 | 06 | 18 | | $\mu = 57$. |
| | Dehra Dun | N | eP | 18 | 51 | 57 | 3379 | Per. 15 secs. |
| | | | eS | 18 | 56 | 54 | | $\mu = 61$ |
| | | | L | 19 | 01 | 30 | | Slight. |
| | | | M | 19 | 04 | 22 | | |
| | Kodaikanal | E | eP | 18 | 52 | 34 | 4920 | Per. = 18 secs. |
| | | | eS | 18 | 59 | 09 | | $\mu = 0.5''$ |
| | | | LR | 19 | 04 | 57 | | Moderate. |
| | | | M | 19 | 08 | 44 | | |
| | Colombo | E | P | 18 | 53 | - | | Per. = 10 secs. |
| | | | S | 19 | 00 | - | | $\mu = 10$. |
| | | | L | 19 | 11 | 30 | | |
| | | | M ₁ | 19 | 12 | - | | |
| | | | M ₂ | 19 | 19 | 30 | | |
| Times are approximate due to a fault in $\frac{1}{2}$ minute marking device. | | | | | | | | |
| 5. | Bombay | E | e | 01 | 40 | 30 | | Slight. |
| | | N | e | 01 | 41 | 09 | | |
| 5. | Epicentre 12°N, 93°E Off Andaman Islands, Bay of Bengal | | | | | | | |
| | 0 = 09h. 26m 08s. (Poona). | | | | | | | |
| | Colombo | E | P | 09 | 29 | 09 | | |
| | | | S | 09 | 38 | 34 | | |
| | | | L | 09 | 49 | 04 | | |
| | | | M | 09 | 53 | 14 | | |
| | Kodaikanal | E | iP? | 09 | 29 | 29 | 2200 | Moderate. |
| | | | eS | 09 | 33 | 07 | | |
| | | | LR | 09 | 34 | 12 | | |
| | | | M | 09 | 35 | 34 | | Per. = 13 secs. |
| | Poona | E | iP | 09 | 30 | 35 | 2170 | $\mu = 9$. |
| | | | S | 09 | 34 | 09 | | Slight. Probably |
| | | | SS | 09 | 34 | 35 | | a double shock |
| | | | SSS | 09 | 34 | 46 | | with second |
| | | | M? | 09 | 36 | 43 | | onset of P at |
| | Bombay | N,E | eP | 09 | 30 | 51 | 2410 | 09h. 35m.05s. and |
| | | | eS | 09 | 34 | 43 | | S at 09h. 38m. |
| | | N | SS | 09 | 35 | 15 | | 35s. |
| | New Delhi | N,E | iP | 09 | 31 | 13 | 2500 | Moderate. |
| | | N | PP | 09 | 31 | 43 | | |
| | | | PcP | 09 | 35 | 13 | | |
| | | N,E | iS | 09 | 35 | 16 | | |
| | | N | LR | 09 | 36 | 33 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | | △ Km. | REMARKS. |
|--------------------|---|--------|-------|---------------------------------|----|-----|----------|---|
| | | | | h. | m. | s. | | |
| <u>April 1950.</u> | | | | | | | | |
| 5. | Bombay | E | M | 09 | 47 | 35 | | Per. = 9 secs. $\mu = 9.$ Per. = 11 secs. $\mu = 7.$ |
| | | N | M | 09 | 52 | 32 | | |
| 6. | New Delhi | N,E | iP | 02 | 47 | 43 | 2080 | Slight. |
| | | E | PP | 02 | 47 | 58 | | |
| | | | PPP | 02 | 48 | 08 | | |
| | | N | iS | 02 | 51 | 09 | | |
| | | | SS | 02 | 51 | 31 | | |
| | | | SSS | 02 | 51 | 50 | | |
| | | | e | 02 | 53 | 16 | | |
| | Bombay | N | e | 02 | 48 | 00 | | Slight. |
| | | N,E | e | 02 | 52 | 53 | | |
| | | | e | 02 | 52 | 53 | | |
| 10. | New Delhi | E | eP | 18 | 56 | 55 | | Slight, near. |
| | | | e | 18 | 58 | 41 | | |
| | | | i | 18 | 59 | 49 | | |
| 13. | New Delhi | N,E | eP | 15 | 00 | 23 | 900 | Slight |
| | | | eS | 15 | 01 | 56 | | |
| | | | M | 15 | 08 | 33 | | |
| | Hyderabad | N | M | | | | | Per. = 12 secs $\mu = 3.$ |
| | | | | | | | | |
| 14. | Provisional Epicentre $36^{\circ}\text{S}, 103^{\circ}\text{W}$ | | | O = 19h. 59m. 58s. (U.S.C.G.S.) | | | | |
| | Kodaikanal | E | e? | 19 | 57 | 30? | | Slight, distant. |
| | New Delhi | N | e | 20 | 21 | 31 | | Phases not clear. Moderate. Very distant. |
| | | | i | 20 | 33 | 36 | | |
| | | | i | 20 | 36 | 11 | | |
| | | | e | 20 | 48 | 36 | | |
| | | | e | 20 | 54 | 01 | | |
| | | | e | 21 | 22 | 13 | | |
| | Bombay | N | e | 20 | 25 | 58 | | Surface waves. Slight. |
| | | | E | Record disturbed at the time. | | | | |
| | Hyderabad | N | M | 21 | 21 | 15 | | Per. = 16 secs. $\mu = 4.$ |
| 18. | Bombay | N,E | e | 15 | 21 | - | | Feeble Surface waves |
| 20 | Epicentre provisional $45^{\circ}\text{N}, 115^{\circ}\text{E}$ Kurile Islands Region | | | O = 09h. 50m. 44s. (U.S.C.G.S.) | | | | |
| | New Delhi | N | iP | 10 | 00 | 46 | 6480 | Moderate. |
| | | | eP | 10 | 00 | 48 | | |
| | | | PP | 10 | 01 | 39 | | |
| | | | N iS | 10 | 08 | 48 | | |
| | Hyderabad | N | M | 10 | 22 | 27 | 7130 | |
| | | | eP | 10 | 01 | 26 | | |
| | | | S | 10 | 10 | 03 | | |
| | | | PS | 10 | 10 | 21 | | |
| | | | M | 10 | 30 | 02 | | |
| | Bombay | N,E | e | 10 | 01 | 51 | | Per. = 15 secs. $\mu = 4.$ Slight. |
| | | | e | 10 | 10 | 43 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS | |
|--------------|------------|-------------|--------------------------|-----------|----------|------------------------------------|------------------|
| | | | | h. m. s. | Km. | | |
| <u>April</u> | | | | | | | |
| 1950. | | | | | | | |
| 20. (cont.) | | | | | | | |
| | Colombo | E | P | 10 02 11 | | | |
| | | | S | 10 11 41 | | | |
| | | | L | 10 33 21 | | | |
| | | | M | Not clear | | Amp. small. | |
| 20. | Poona | E | iS? | 21 45 00 | | Very feeble. | |
| | | | i | 21 46 16 | | | |
| | | | i | 21 47 35 | | | |
| | | | SSS? | 21 48 02 | | | |
| | Bombay | N,E | e | 21 45 35 | | Feeble. | |
| 23. | New Delhi | E | e | 08 28 29 | | Slight, near. | |
| | | N | Mn | 08 31 08 | | | |
| | Bombay | E | e | 08 32 49 | | Feeble. | |
| | | N | e | 08 33 19 | | | |
| 26. | Epicentre | 33°N, 135°E | Near Southcoast of Japan | | | 0 = 07h.04m. 54s. | (Poona). |
| | | 34°N, 135°E | Near Southerncoast | | | of Hanshu Japan | Depth = slightly |
| | | | 0 = 07h.04m. 48s. | | | deeper than normal (U.S.C.G.S.). | |
| | New Delhi | N,E | iP | 07 13 46 | 5450 | Moderate. | |
| | | N | iS | 07 20 50 | | | |
| | | | i | 07 21 14 | | | |
| | | | i | 07 22 13 | | | |
| | Hyderabad | N | ScS | 07 23 31 | 5850 | | |
| | | | eP | 07 14 13 | | | |
| | | | iS | 07 21 40 | | | |
| | | | ScS | 07 23 57 | | | |
| | | | SS | 07 25 45 | | | |
| | | | L | 07 30 43 | | | |
| | | | M | 07 34 18 | | Per. = 18secs. | |
| | | | | | | $\mu = 7.$ | |
| | Poona | N,E | iP | 07 14 36 | 6240 | Moderate. | |
| | | E | PPP | 07 13 07 | | | |
| | | N | iS | 07 22 25 | | | |
| | | E | eS | | | | |
| | | N | PS | 07 22 36 | | | |
| | | N,E | PPS | 07 22 47 | | | |
| | | N | ScS | 07 24 17 | | | |
| | | N,E | SS | 07 26 09 | | | |
| | | N | SSS | 07 28 12 | | | |
| | | | M | 07 35 30 | | | |
| | Bombay | N,E | eP | 07 14 45 | 6300 | Moderate. | |
| | | E | eS | 07 22 38 | | | |
| | | N | iS | | | | |
| | | | SS | 07 26 16 | | | |
| | | | LR | 07 29 55 | | | |
| | Kodaikanal | E | PP | 07 14 50 | 6300 | Slight. | |
| | | | iS | 07 22 42 | | | |
| | | | LR | 07 31 19 | | | |
| | | | M | 07 36 05 | | Per. = 20 secs. | |
| | | | | | | $\mu = 8.$ | |
| | Colombo | E | P | 07 14 50 | | | |
| | | | SS | 07 18 20 | | | |
| | | | L | 07 22 40 | | End over lapping. | |
| | | | M | 07 23 40 | | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|-----------------------|-----------------------|--------|-------|---|----------|--|
| | | | | h. m. s. | Km. | |
| <u>April</u> 1950. | | | | | | |
| 30. | Provisional Epicentre | | | 24° .5S, 112° .5W South Pacific Ocean O = 10h. 29m. 03s. (U.S.C.G.S.). | | |
| | Bombay | N,E | e | 10 50 00 | | Slight,distant. |
| | | N | e | 10 59 24 | | |
| | | E | M | 12 04 02 | | Per. = 19 secs. |
| | Kodaikanal | E | e | 10 50 28 | | $\mu = 5$. Slight.Phases not clear. |
| | Poona | N | M | 11 58 - | | Slight.Very distant. |

M.L.P.
12/8/50.

[The page contains extremely faint, illegible text, likely bleed-through from the reverse side of the document. The text is scattered across the upper half of the page and is not readable.]

GOVERNMENT OF INDIA

METEOROLOGICAL DEPARTMENT.

SEISMOLOGICAL BULLETIN

March 1950.

Published under the direction of
V . V. SOHONI, B.A.(Hons.) M.Sc.
Director General of Observatories.

.....

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 were being published in the form of the Quarterly Seismological Bulletin. From the month of January 1948, the data are being published in the present form of a Monthly Seismological Bulletin. With the kind co-operation of the Surveyor-General of India, the Director of the Nizamiah Observatory, Hyderabad and of the Director, Colombo Observatory, it has been possible to incorporate in the Bulletin the seismic data of their respective observatories viz. Dehra-Dun, Hyderabad and Colombo. The instrumental and non-instrumental voluntary observations are collected and edited at the Meteorological Office, Poona.

TABLE I.
List of Seismograph Stations.

| Station | Latitude | Longitude | Height above M.S.L. 'meters' | Lithologic Foundation. | Officer-in- charge of Observatory. |
|------------|-------------|------------|---------------------------------------|---------------------------|--|
| Bombay | 18° .54' N. | 72° .49' E | 6 | Deccan Trap | Director. |
| Calcutta | 22° .32' N. | 88° .22' E | (i) 7 (ii) 6 | Alluvium | Director. |
| Colombo | 06° .54' N. | 79° .52' E | 7 | Beach sand | Director. |
| Dehra Dun | 30° .19' N. | 78° .03' E | 682 | Gravel | President. |
| Hyderabad | 17° .26' N. | 78° .27' E | 528 | Granite | Director, Nizamiah Observatory. |
| Kodaikanal | 10° .14' N. | 77° .28' E | 2343 | Rock | Director. |
| New Delhi | 28° .35' N. | 77° .12' E | 207 | Massive Quartzites | Dy. Director General of Obser- vatories (I & S). |
| Poona | 18° .32' N. | 73° .51' E | 560 | Deccan Trap | Dy. Director General of Obser- vatories (C & G) |

(i) Milne-Shaw

(ii) Omori-Ewing

TABLE II.
Instruments and their constants.

| Station | Instrument | Compo- nent | Period in secs. | Static Magnifi- cation. | Damping Ratio | Paper Speed mm/min. |
|------------|---------------|----------------|-----------------------|-------------------------------|-----------------------------|------------------------|
| Bombay | Milne-Shaw | N | 12 | 250 | 21 : 1 | 8.0 |
| | Milne-Shaw | E | 12 | 350 | 20 : 1 | 8.0 |
| Calcutta | Milne-Shaw | E | 12 | 250 | 20 : 1 | 8.0 |
| | Omori-Ewing | N | 15 | 32 | - | 25.4 |
| | Omori-Ewing | E | 16 | 30 | - | 25.4 |
| | Wood-anderson | N | 4 | 1000 | 5 : 1 | 60.0 |
| Colombo | Milne-Shaw | E | 12 | 250 | 20 : 1 | 8.0 |
| Dehra-Dun | Omori | N | 30 | 12 | -- | - |
| Hyderabad | Milne-Shaw | E | 12 | 250 | 20 : 1 | 8.0 |
| | Milne-Shaw | N | 12 | 250 | 20 : 1 | 8.0 |
| Kodaikanal | Milne-Shaw | E | 10 | 250 | 20 : 1 | 8.0 |
| New Delhi | Milne-Shaw | N | 12 | 299 | 20 : 1 | 8.0 |
| | Wood-anderson | N | 4 | 1072 | 30 : 1 | 16.0 |
| | Wood-anderson | E | 2 | 2366 1474 | -- 1st to 7 -- 8th to 31 | 30:1 60.0 |
| | Omori-Ewing | E | 30 | 32 | 1 | 12.0 |
| Poona | Milne-Shaw | N | 12 | 250 | 20 : 1 | 8.0 |
| | Wood-anderson | E | 4 | 1100 | 20 : 1 | 16.0 |

2

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. | |
|-----------------------|-------------------------|-----------|----------|----------|-----------|---|----------|
| <u>March</u> 1950. | | | | h. m. s. | Km. | | |
| 1. | Poona | E,N | eP | 08 34 43 | 768.7 | Slight | |
| | | | PP | 08 37 27 | | | |
| | | PPP | 08 38 55 | | | | |
| | | N | eS | 08 43 49 | | | |
| | | | PS | 08 44 15 | | | |
| | | | PPS | 08 44 30 | | | |
| | | | SS | 08 41 21 | | | |
| | | Bombay | N | SSS | | | 08 51 22 |
| | eP | | | 08 35 18 | 6945 | Slight. "P" is not clear in E compt. Per. = 22 secs. $\mu = 9$. Per. = 19 secs. $u = 8$. Tremor. | |
| | N,E | | e | 08 39 02 | | | |
| | | | eS | 08 43 46 | | | |
| | E | | L | 08 52 38 | | | |
| | | | N | M | | | 08 56 57 |
| | Kodaikanal Hyderabad | | E | M | | | 08 59 16 |
| | | | | e | | | 08 41 53 |
| | | E | S | 08 43 13 | | | |
| | | | L | 08 50 29 | | | |
| | New Delhi | N | M | 08 54 01 | | | |
| | | | e | 08 45 19 | | | |
| | | | i | 08 45 48 | | | |
| e | | | 08 50 26 | | | | |
| i | | | 08 53 02 | | | | |
| e | | | 08 59 22 | | | | |
| M | | | 09 05 37 | | | | |
| | | | | | | | |
| 2. | Colombo | E | P | 18 57 20 | | | |
| | | | S | 19 07 50 | | | |
| | Hyderabad | N | M | 19 31 30 | 10190 | Per. = 16secs. $\mu = 5$. Per. = 18 secs. $\mu = 5$. | |
| | | | eP | 18 58 29 | | | |
| | | SKS | 19 09 19 | | | | |
| | | S | 19 09 28 | | | | |
| | Kodaikanal Poona | E | M | 19 35 11 | | | |
| | | | N | M | 19 35 29 | | |
| | Bombay | N,E | e | 18 58 45 | 8231 | Slight. 0 = 18h. 47m. 40 secs. | |
| | | | eP | 18 59 20 | | | |
| | | N | PcP | 18 59 28 | | | |
| | | | PP | 19 02 12 | | | |
| | | | PPP | 19 03 56 | | | |
| | | | i | 19 05 10 | | | |
| | | N | N,E | eS | | | 19 08 53 |
| | | | | SKS | | | 19 09 16 |
| | | | N | ScS | | | 19 09 24 |
| | | | | PS | | | 19 10 05 |
| | | New Delhi | N,E | SS | | | 19 13 55 |
| | | | | eP | | | 19 59 35 |
| E | eS | | 19 09 07 | | | | |
| | M | | 19 34 17 | | | | |
| New Delhi | N | eP | 19 00 39 | 8780 | Moderate. | | |
| | | PPP | 19 05 35 | | | | |
| | | eS | 19 10 38 | | | | |
| | | PPS | 19 11 37 | | | | |
| | | LQ | 19 22 05 | | | | |
| | | M | 19 38 26 | | | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | △ | REMARKS. |
|--------------------|-------------------------|--------|--------------------------|---|------|--------------------------|
| | | | | h. m. s. | Km. | |
| <u>March 1950.</u> | | | | | | |
| 3. | Epicentre 23°S, 175½°W | | Tonga | Islands region | | |
| | | | | 0 = 10h. 43m. 52s. (U.S.C.G.S.) | | |
| | Bombay | N,E | e | 11 06 16 | | Slight. |
| | | | e | 11 09 18 | | |
| | | | e | 11 10 33 | | |
| | Kodaikanal | E | e | 11 08 40 | | |
| 3. | Bombay | N,E | e | 19 51 03 | | Feeble. |
| 4. | Bombay | E | e | 16 09 35 | | Feeble |
| | | N | e | 16 13 34 | | |
| | | N | i | 16 17 15 | | |
| | | E | e | | | |
| 4. | Kodaikanal | E | e | 20 54 10 | | |
| 5. | Epicentre 39° .5N, 73°E | | | 0 = 00h. 32m. 40s. (Poona). | | |
| | New Delhi | N | eP | 00 35 29 | 1276 | Slight. |
| | | | PP | 00 35 39 | | |
| | | | PPP | 00 35 44 | | |
| | | N,E | LQ | 00 37 29 | | |
| | | | iS | 00 37 39 | | |
| | | N | SS | 00 37 47 | | |
| | | | SSS | 00 37 57 | | |
| | | | M | 00 39 12 | | |
| | Poona | N | eP | 00 37 25 | 2309 | Slight. |
| | | | PP | 00 37 50 | | |
| | | | PPP | 00 38 01 | | |
| | | N,E | eS | 00 41 13 | | |
| | | N | LQ | 00 41 37 | | |
| | | | SS | 00 41 56 | | |
| | | | SSS | 00 42 10 | | |
| | | | LR | 00 42 37 | | |
| | Bombay | N | eP | 00 37 26 | 2309 | Feeble. |
| | | E | e | 00 41 09 | | |
| | | N | eS | 00 41 13 | | |
| | Hyderabad | E | sS | 00 41 49 | 2523 | |
| | | | M | 00 46 21 | | Per. = 9 secs. μ = 2. |
| 5. | Epicentre 14½°S, 165°E | | New Hebrides | Islands | | |
| | | | | 0 = 14h. 15m. 48s. (U.S.C.G.S.) | | |
| | New Delhi | E | i | 14 19 42 | | Slight, near. |
| | | | e | 14 22 23 | | |
| | Bombay | N | e | 14 24 17 | | Feeble. |
| | | | M | 14 27 44 | | Per. = 7 secs. μ = 2 |
| | | E | Movements insignificant. | | | |
| 5. | Epc:- | | Nothern Chile | h= 100km. 0 = 18h. 01m. 10s. (U.S.C.G.S.) | | |
| | Poona | E | e | 18 55 45 | | Moderate, distant. |
| | | | e | 18 56 19 | | |
| | | | e | 18 56 42 | | |
| | | | e | 18 57 25 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. | | |
|-------------|-----------|-----------|-------------|--------------------|--|--|--|--|
| March 1950. | | | | h. m. s. | Km | | | |
| 6. | New Delhi | N | e | 20 52 10 | | Slight. Probably near. Feeble. Per. = 9 secs. $\mu = 1$. Per. = 7 secs. $\mu = 2$. | | |
| | Bombay | N,E | M | 20 53 24 | | | | |
| | | E | e | 20 55 55 | | | | |
| | Poona | | M | 21 01 38 | | | | |
| | | | N | M | 21 01 40 | | | |
| | | | E | e | 20 56 15 | | | |
| | | | N,E | e | 20 58 19 | | | |
| | | | N | i | 20 58 30 | | | |
| | 7. | Epicentre | 10°N, 123°E | Philippine Islands | 0 = 02h. 07m. 48s. (Poona). | | | |
| | | | 10°N, 124°E | | 0 = 02h. 07m. 46s. (U.S.C.G.S.) | | | |
| Calcutta | | E | iP | 02 14 41 | 3847 | Moderate. | | |
| | | | iPP | 02 15 45 | | | | |
| | | | iPPP | 02 16 15 | | | | |
| | | | iS | 02 20 10 | | | | |
| | | | PcS | 02 21 03 | | | | |
| | | | SS | 02 21 59 | | | | |
| | | | SSS | 02 22 30 | | | | |
| | | | LQ | 02 24 19 | | | | |
| | | | ScS | 02 25 05 | | | | |
| | | | M | 02 27 40 | | | | |
| Colombo | | E | P | 02 15 44 | 4720 | Per. = 18 secs. $\mu = 23.0$ | | |
| | | | S | 02 22 07 | | | | |
| | | | L | 02 32 04 | | | | |
| | | | M | 02 34 54 | | | | |
| | | | | | | | | |
| New Delhi | | N | eP | 02 16 12 | 5067 | Moderate. | | |
| | | | PcP | 02 18 09 | | | | |
| | | | iS | 02 22 55 | | | | |
| | | | PS | 02 22 52 | | | | |
| | | | SS | 02 26 03 | | | | |
| | | | LQ | 02 26 28 | | | | |
| | | | SSS | 02 26 53 | | | | |
| | | | LR | 02 28 46 | | | | |
| | M | | 02 33 07 | | | | | |
| | Mn | | 02 38 20 | | | | | |
| Poona | E | iP | 02 16 26 | 5265 | Reading from Sprengnether Seismograms In Milne-Shaw & Wood-Anderson phases lost while changing charts. | | | |
| | | i | 02 17 57 | | | | | |
| | | PP | 02 18 22 | | | | | |
| | | PPP | 02 19 09 | | | | | |
| | | ScP | 02 21 47 | | | | | |
| | | iS | 02 23 20 | | | | | |
| | | PS | 02 23 33 | | | | | |
| | | PPS | 02 23 39 | | | | | |
| | | ScS | 02 26 08 | | | | | |
| | | SS | 02 26 40 | | | | | |
| LQ | 02 27 39 | | | | | | | |
| SSS | 02 27 59 | | | | | | | |
| LR | 02 29 35 | | | | | | | |
| M | 02 32 30 | | | | | | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|--------------|-----------------------------------|--------|----------------|----------|----------|--------------------------------|
| | | | | h. m. s. | Km. | |
| <u>March</u> | | | | | | |
| <u>1950.</u> | | | | | | |
| 7.(cont.) | Bombay | N | eP | 02 16 35 | 5390 | Moderate. |
| | | E | iP | | | |
| | | N | iS | 02 23 37 | | |
| | | E | iSS | 02 27 09 | | |
| | | N | L | 02 29 59 | | |
| | | E | L | 02 30 19 | | |
| | | N | M | 02 42 11 | | Per. = 16 secs. |
| | | E | M | 02 44 43 | | $\mu = 24.$ Per. = 14 secs. |
| | Kodaikanal | E | PP | 02 17 31 | 4946 | $\mu = 15.$ Moderate. "P" |
| | | | PPP | 02 18 27 | | phase lost while |
| | | | iS | 02 22 39 | | changing chart. |
| | | | PPS | 02 23 08 | | |
| | | | ScS | 02 25 26 | | |
| | | | SS | 02 26 11 | | |
| | | | L _R | 02 29 56 | | |
| | | | M | 02 33 56 | | Per. 18 secs. $\mu = 157.$ |
| 12. | Epicentre North East Baluchistan? | | | | | |
| | New Delhi | N,E | eP | 02 07 45 | 690 | Slight. |
| | | | p* | 02 08 00 | | |
| | | E | P | 02 08 13 | | |
| | | N | P? | 02 08 19 | | |
| | | N,E | iS | 02 08 57 | | |
| | | E | S* | 02 09 14 | | |
| | | N | S* | 02 09 16 | | |
| | | E | S | 02 09 30 | | |
| | | N | S | 02 09 34 | | |
| | Poona | E | eP | 02 09 26 | 1145 | |
| | | N,E | PP | 02 09 16 | | |
| | | | PPP | 02 09 26 | | |
| | | E | L _Q | 02 11 14 | | |
| | | | S | 02 11 23 | | |
| | | E,N | SS | 02 11 36 | | |
| | | | SSS | 02 11 54 | | |
| | | E | M | 02 12 24 | | |
| | Dehra Dun | N | eP | 02 10 48 | | Slight. |
| | | | e | 02 11 22 | | Per. = 9 secs., Amp. = .5" |
| | | | M | 02 11 28 | | |
| | Colombo | E | P | 02 13 - | | |
| | | | M | 02 19 54 | | |
| | Calcutta | E | eP | 02 13 57 | 1022 | Moderate. |
| | | | iS | 02 15 42 | | |
| | Kodaikanal | E | e | 02 21 14 | | Tremor. |
| 12. | Bombay | N,E | e | 12 11 28 | | Slight. |
| | | E | L | 12 12 37 | | |
| | | N | L | 12 12 43 | | |
| | | | M | 12 13 55 | | Per. = 11 secs. $\mu = 4.$ |
| | | E | M | 12 13 57 | | Per. = 13 secs. $\mu = 3.$ |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | | △ | REMARKS. |
|--------------|---------------------|------------------|--------------|----------|----------------|--------------|-----|---------------------------------|
| | | | | h. | m. | s. | | |
| <u>March</u> | | | | | | | | |
| 1950. | | | | | | | | |
| 14. | Epicentre 8°S, 74°W | | Eastern Peru | 0 | 03h. 10m. 02s. | (U.S.C.G.S). | | |
| 12 | 8½°S, 73½°W | | | | h = 150Km ± - | | | |
| | Kodaikanal | E | e | 03 | 29 | 57 | | Tremor. |
| | | | i | 03 | 39 | 16 | | |
| 15. | New Delhi | N,E | P* | 11 | 55 | 14 | 17 | Slight |
| | | | S | 11 | 56 | 16 | | |
| 15. | New Delhi | N,E | P | 15 | 56 | 51 | 17 | Slight. Felt locally |
| | | | S | 15 | 56 | 53 | | direction of first motion South |
| 15. | New Delhi | N,E | P | 15 | 59 | 53 | 17 | Slight. |
| | | | S | 15 | 59 | 55 | | |
| 18. | Kodaikanal | E | e | 05 | 05 | 18 | | Tremor. |
| | Hyderabad | E | M | 05 | 32 | 48 | | Per. = 18 secs. |
| | | N | M | 05 | 33 | 33 | | μ = 6. |
| 18. | New Delhi | E | eP | 15 | 58 | 30 | 250 | Per. = 18 secs. |
| | | | eS | 15 | 58 | 59 | | μ = 6. |
| | | | | | | | | Slight. |
| 21. | Bombay | N,E | e | 19 | 46 | 00 | | Surface waves. |
| | Kodaikanal | E | e | 10 | 01 | 06 | | Tremor. |
| 22. | New Delhi | N,E | eP | 00 | 26 | 37 | 910 | Slight. |
| | | | e* | 00 | 27 | 06 | | |
| | | N | P | 00 | 27 | 33 | | |
| | | | S | 00 | 28 | 11 | | |
| | | | S | 00 | 29 | 14 | | |
| 23. | Bombay | E | e | 00 | 30 | 11 | | Feeble. |
| | | N | e | 00 | 30 | 37 | | |
| | | | i | 00 | 31 | 23 | | |
| | Hyderabad | N | S | 00 | 33 | 12 | | |
| | | | M | 00 | 34 | 43 | | Per. = 8 secs. |
| | | | | | | | | μ = 2. |
| 24. | Kodaikanal | E | e | 10 | 16 | 53 | | Tremor. |
| 25. | New Delhi | E | e | 00 | 20 | 39 | | Slight. |
| | 7 | | e | 00 | 22 | 45 | | |
| | | | e | 00 | 23 | 38 | | |
| 25. | Kodaikanal | E | e | 07 | 00 | 15 | | Tremor. |
| | Bombay | E | e | 07 | 02 | 10 | | Slight. |
| | | N,E | e | 07 | 07 | 40 | | |
| 26. | Epc:- | Southern Red Sea | | 0 | 16h. 53m. 26s. | (U.S.C.G.S.) | | |
| | New Delhi | E | e | 17 | 00 | 45 | | Slight, distant. |
| | | N | e | 17 | 02 | 02 | | |
| | | | i | 17 | 06 | 31 | | |
| | Bombay | E | e | 17 | 01 | 22 | | Slight. |
| | | N | e | 17 | 05 | 15 | | |
| | | E | e | 17 | 05 | 32 | | |
| 26. | New Delhi | N,E | eP | 19 | 21 | 25 | 320 | Slight. |
| | | | iS | 19 | 22 | 01 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|-------------|------------|--|--|--|----------|---|
| March 1960, | | | | h. m. s. | Km. | |
| 27. | Epicentre | 53°N, 173°E 53½°N, 173°E 53°N, 172°E | | 0 = 13h. 04m. 07s. (Poona). 0 = 13h. 04m. 04s. (U.S.C.G.S.) 0 = 13h. 03m. 59s. (Strasbourg). | | |
| | Calcutta | E | eP eS Mn | 13 15 12 13 24 08 13 45 01 | 7500 | Slight. Per. = 16secs. $\mu = 54$. |
| | New Delhi | E N N, E N | eP 1P PP PPP 1 1S 1S LQ M Mn | 13 15 20 13 15 21 13 17 59 13 19 31 13 20 35 13 24 27 13 24 27 13 32 23 13 40 55 13 45 13 | 7710 | Moderate. Direction of first motion North. |
| | Hyderabad | E, N N E N | eP S 1S SS LQ M | 13 16 05 13 25 57 13 25 58 13 31 07 13 40 25 13 45 28 | 8644 | Per. = 18 secs. $\mu = 16$. Per. = 16 secs. $\mu = 20$. |
| | Poona | E N, E | M eP PP PPP 1S SKS ₁ 11S PPS SS SSS Lq M | 13 45 42 13 16 16 13 19 26 13 21 16 13 26 17 13 26 26 13 27 04 13 27 26 13 31 30 13 34 58 13 41 - 13 48 - | 3825 | |
| | Bombay | N, E N N, E E N E N | eP DP eS L L M M | 13 16 18 13 19 10 13 26 24 13 38 06 13 40 36 13 48 39 13 48 42 | 8935 | Moderate. Per. = 22 secs. $\mu = 24$. Per. = 29 secs. $\mu = 23$. |
| | Kodaikanal | E | eP 1S PS SS LQ LR M | 13 16 40 13 27 03 13 27 50 13 32 27 13 38 57 13 42 57 13 50 57 | 9335 | Moderate. Per. = 27 secs. $\mu = 45$. |
| | Colombo | E | P S L M | 13 16 49 13 27 14 13 47 49 13 59 39 | 9500 | Several maxima of equal amplitude follow. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | | Km. | REMARKS. |
|--------------------|-----------|--|-------------------------------|----------------------------------|----|----|------|-----------------------|
| | | | | h | m | s | | |
| <u>March 1950.</u> | | | | | | | | |
| 27. | Epicentre | $5\frac{1}{2}^{\circ}$ S, $103\frac{1}{2}^{\circ}$ E | Off Southern coast of Sumatra | | | | | |
| | | $5\frac{1}{2}^{\circ}$ S, 103° E | | 0 = 21h. 18m. 33s. (Poona). | | | | |
| | | | | 0 = 21h. 18m. 32s. (U.S.C.G.S.). | | | | |
| | Colombo | E | P | 21 | 24 | 17 | 2940 | |
| | | | S | 21 | 28 | 49 | | |
| | | | L | 21 | 37 | 24 | | |
| | | | M | 21 | 39 | 24 | | |
| | Calcutta | E | eP | 21 | 25 | 00 | 3490 | Slight. |
| | | | ePP | 21 | 26 | 05 | | |
| | | | eS | 21 | 30 | 08 | | |
| | | | Mn | 21 | 42 | 18 | | |
| | | | | | | | | Per. 24 secs. |
| | | | | | | | | $\mu = 100$ |
| | Hyderabad | E,N | P | 21 | 25 | 14 | 3710 | |
| | | E | PP | 21 | 26 | 18 | | |
| | | E,N | S | 21 | 30 | 35 | | |
| | | N | M | 21 | 37 | 35 | | |
| | | | | | | | | Per. = 16 secs. |
| | | | | | | | | $\mu = 20$ |
| | | E | M | 21 | 37 | 44 | | Per. = 17 secs. |
| | | | | | | | | $\mu = 12.$ |
| | Poona | N,E | eP | 21 | 25 | 45 | 4090 | |
| | | | PP? | 21 | 27 | 16 | | |
| | | | PPP | 21 | 27 | 32 | | |
| | | | PcP | 21 | 28 | 10 | | |
| | | | iS | 21 | 31 | 29 | | |
| | | | PcS | 21 | 31 | 52 | | |
| | | | SS | 21 | 34 | 06 | | |
| | | | SSS | 21 | 34 | 32 | | |
| | | | LR | 21 | 36 | - | | |
| | | | M | 21 | 39 | - | | |
| | Bombay | N,E | eP | 21 | 26 | 00 | 4265 | Moderate. |
| | | | PP | 21 | 27 | 31 | | |
| | | | eS | 21 | 31 | 56 | | |
| | | E | SS | 21 | 35 | 57 | | |
| | | N | L | 21 | 38 | 24 | | |
| | | E | L | 21 | 38 | 33 | | |
| | | N | M | 21 | 43 | 12 | | |
| | | | | | | | | Per. = 19 secs. |
| | | | | | | | | $\mu = 17.$ |
| | | E | M | 21 | 43 | 23 | | Per. = 17 secs. |
| | | | | | | | | $\mu = 10$ |
| | New Delhi | N,E | P | 21 | 26 | 24 | 4635 | |
| | | N | iS | 21 | 32 | 41 | | |
| | | E | iS | 21 | 32 | 42 | | |
| | | N | SSS | 21 | 36 | 22 | | |
| | | | LQ | 21 | 36 | 33 | | |
| | | | M | 21 | 39 | 52 | | |
| | Dehra Dun | N | eP | 21 | 28 | 21 | | Slight. |
| | | | e | 21 | 34 | 36 | | |
| | | | M | 21 | 35 | 36 | | Per. = 6, Amp. = .03" |
| 27. | New Delhi | E | eP | 22 | 14 | 03 | | Slight, local. |
| | | | i | 22 | 14 | 34 | | |
| 29. | Bombay | N,E | e | 12 | 54 | - | | Surface waves |
| 29. | New Delhi | N,E | eP | 14 | 46 | 44 | 960 | Slight. |
| | | | iS | 14 | 48 | 23 | | |

March
1950.

h. m. s. Km.

29. Epicentre $03^{\circ}S, 138^{\circ}E$, Northern New Guinea $0 = 17h.41m.10s.$ (Poona).
 $03^{\circ}S, 137\frac{1}{2}^{\circ}E$, $0 = 17h.41m.07s.$ (U.S.C.G.S.).

| | | | | |
|-----------|---|----|----------|------|
| Colombo | E | P | 17 51 16 | 6620 |
| | | S? | 17 59 49 | |
| | | L | 18 12 19 | |
| | | M | 18 18 09 | |
| Hyderabad | N | eP | 17 51 33 | 6830 |
| | | eS | 17 59 59 | |
| | | L | 18 10 38 | |
| | | M | 18 16 42 | |

Per. = 20 sec.
 $\mu = 7.$
Moderate.

| | | | | |
|------------|---|----------------|----------|------|
| Kodaikanal | E | iP | 17 51 39 | 6890 |
| | | PcP | 17 52 19 | |
| | | PP | 17 54 19 | |
| | | PcS | 17 56 24 | |
| | | eS | 18 00 03 | |
| | | PS | 18 00 21 | |
| | | PPS | 18 00 31 | |
| | | L _R | 18 12 25 | |
| | | M | 18 18 02 | |
| | | M | 18 18 02 | |

Per. = 20 sec., $\mu = 16.$
Moderate

| | | | | |
|-----------|---|----|----------|------|
| New Delhi | E | eP | 17 51 59 | 7350 |
| | N | iS | 18 00 47 | |

| | | | | |
|-------|---|----------------|----------|------|
| Poona | N | PS | 18 01 21 | 7400 |
| | | iP | 17 52 05 | |
| | | iPcP | 17 52 27 | |
| | | PP | 17 54 43 | |
| | | PPP | 17 56 19 | |
| | | iS | 18 00 55 | |
| | | ScS | 18 01 15 | |
| | | iPS | 18 01 39 | |
| | | iPPS | 18 01 57 | |
| | | iSS | 18 05 59 | |
| | | SSS | 18 09 11 | |
| | | L _Q | 18 11 - | |
| | | L _R | 18 15 - | |

| | | | | | |
|---------------|---|---|----------|---------|----------|
| 29. New Delhi | E | e | 19 30 42 | Slight. | |
| | | N | e | | 19 31 48 |
| | | i | 19 32 25 | | |

30. Epicentre $22^{\circ}S, 170^{\circ}E$ Loyalty Islands region
 $0 = 22h. 01m. 19s.$ (U.S.C.G.S.)

| | | | | |
|-----------|-----------|-----|----------|-----------------------------|
| New Delhi | N,E | e | 22 39 43 | Slight. |
| | | iS | 22 41 20 | |
| Poona | E | i | 22 41 40 | Sprengnether E.W. Compt. |
| | | eS? | 22 44 46 | |
| | | i | 22 44 56 | |
| | | e | 22 45 22 | |
| | | i | 22 45 55 | |
| i(M)? | 22 47 01. | | | |

M.L.P.
24/8/50

The following table contains a list of
voluntary Observers from various stations.



From the ISC collection scanned by SISMOS

| Place at which felt | Date | G.M.T. of E.Q. | Duration in seconds | Intensity | No. of shocks | Remarks. |
|---------------------------------------|---------|----------------|---------------------|-----------|---------------|----------------------------------|
| Bankura | 9-1-50 | h.m. 0111 | 5 to 10 | VI | 1 | |
| Calcutta | 9-1-50 | 0110 | | II | | |
| Bareilly | 1-2-50 | 1845 | 30 | III | 2 | |
| Mohalla) Malakpur) (Bareilly) | 1-2-50 | 1855 | 5 to 7 | III | 2 | First shock stronger. |
| Mukteswar | 1-2-50 | 1845 | 3 | V | 1 | - |
| Nainital | 1-2-50 | 1845 | - | III | | |
| Tezpur | 7-2-50 | 0007 | 5 3 | IV | 2 | Interval between shocks =4 secs. |
| Cherapunji | 13-2-50 | 0722 | 2 | IV | 1 | |
| Gauhati | 13-2-50 | 0725 | 15 | IV | 1 | |
| English Bazar | 13-2-50 | 0727 | 12 to 15 | V | 3 | Interval between shocks=2 |
| Dhubri | 13-2-50 | 0730 | 30 | VII | 1 | |
| Cooch Behar | 13-2-50 | 0720 | 3 3 | VI | 2 | |
| Tura (Near Dhubri) | 13-2-50 | 0720 | 20 | VI | 1 | |
| Shillong | 13-2-50 | 0730 | - | IV | | |
| Angul | 31-3-50 | 2215 | 2 | IV | 1 | |
| Yatung | 31-3-50 | 2230 | 2 | III | 1 | |

01

1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025

GOVERNMENT OF INDIA

METEOROLOGICAL DEPARTMENT.

S E I S M O L O G I C A L B U L L E T I N

JANUARY 1950.

Published under the direction of

V. V. SOHONI, B.A. (Hons.), M.Sc.

Offg. Director General of Observatories.

.....

the India Meteorological Department were being published in the Annual Summary of the India Weather Part D of the Annual Summary of the India Weather the data were being published in the form of the Quarterly Bulletin. From the month of January 1948, the data are being published in the present form of a Monthly Seismological Bulletin. With the kind co-operation of the Surveyor-General of India, The Curator of the Nizamiah Observatory, Hyderabad, and of the Director, Colombo Observatory, it has been possible to incorporate in the Bulletin the seismic data of their respective observatories viz. Dehra Dun, Hyderabad and Colombo. The instrumental and non-instrumental voluntary observations are collected and edited at the Meteorological Office, Poona.

TABLE I.
List of Seismograph Stations.

| Station. | Latitude | Longitude | Height above M.S.L. 'meters' | Lithologic Foundation. | Officer-in- charge of Observatory. |
|------------|-------------|-------------|---------------------------------------|---------------------------|---|
| Bombay | 18° .54' N. | 72° .49' E. | 6 | Deccan Trap | Director |
| Calcutta | 22° .32' N. | 88° .22' E. | (i) 7 (ii) 6 | Alluvium | Director |
| Colombo | 06° .54' N. | 79° .52' E. | 7 | Beach-sand | Director |
| Dehra Dun | 30° .19' N. | 78° .03' E. | 682 | Gravel | President |
| Hyderabad | 17° .26' N. | 78° .27' E. | 528 | Granite | Curator, Nizamiah Observatory. |
| Kodaikanal | 10° .14' N. | 77° .28' E. | 2343 | Rock | Director |
| New Delhi | 28° .35' N. | 77° .12' E. | 207 | Massive Quartzites | Dy. Director General of Observatories (I. & S.) |
| Poona | 18° .32' N. | 73° .51' N | 560 | Deccan Trap | Dy. Director General of Obser- vatories (C. & G.) |

(i) Milne-Shaw.

(ii) Omori-Ewing.

TABLE II.
Instruments and their constants.

| Station | Instrument | Compo- nent | Period in secs. | Static Magnifi- cation. | Damping Ratio. | Paper Speed mm/min. |
|-------------|----------------|----------------|-----------------------|--------------------------------|-------------------|------------------------|
| Bombay | Milne-Shaw | N | 12 | 250 | 20 : 1 | 8.0 |
| Calcutta | Milne-Shaw | E | 12 | 250 | 20 : 1 | 8.0 |
| | Omori-Ewing | N | 15 | 32 | - | 25.4 |
| | Omori-Ewing | E | 16 | 30 | - | 25.4 |
| | Wood-Anderson. | N | 4 | 1000 | 5 : 1 | 60.0 |
| Colombo | Milne-Shaw | E | 12 | 250 | 20 : 1 | 8.0 |
| Dehra Dun | Omori | N | 30 | 12 | - | - |
| Hyderabad | Milne-Shaw | N | 12 | 250 | 20 : 1 | 8.0 |
| | Milne-Shaw | E | 12 | 250 | 20 : 1 | 8.0 |
| Kodaikanal. | Milne-Shaw | E | 10 | 250 | 20 : 1 | 8.0 |
| New Delhi | Milne-Shaw | N | 12 | 247 | 20 : 1 | 8.0 |
| | | | | From 1st to 3rd Jan. 299 | | |
| | | | | From 25th to 31st. | | |
| | Wood-Anderson | N | 4 | 1072 | 30 : 1 | 16.0 |
| | Wood-Anderson | E | 2 | 2366 | 30 : 1 | 60.0 |
| | Omori-Ewing | E | 30 | 30 | 1 | 12.0 |
| Poona | Milne-Shaw | N | 12 | 250 | 20 : 1 | 8.0 |
| | Wood-Anderson | E | 4 | 1100 | 20 : 1 | 16.0 |
| | Wood-Anderson | N | 2 | 1900 | 30 : 1 | 60.0 |



January 1950.

h. m. s. km.

| STATION | COMPT. | PHASE | G. M. T. | km. | |
|--|--------|-------|----------|------|-------------------------------------|
| 1. Poona | E | e | 10 12 41 | | Tremor |
| | | e | 10 45 20 | | |
| | | e | 10 50 18 | | |
| 1. Epicentre Near Northern coast of Luzon. Philippine Islands. O = 16h.04m.32s. (U.S.C.G.S.) | | | | | |
| Hyderabad | E | eP | 16 12 14 | 4650 | |
| | N | eS | 16 18 27 | | |
| | E | S | 16 18 33 | | |
| | N | M | 16 29 39 | | |
| Bombay | N | e | 16 14 08 | | Per.=15 secs. $\mu=3$ Slight. |
| | E | e | 16 14 48 | | |
| | N,E | e | 16 19 45 | | |
| New Delhi | N | e | 16 23 27 | | Slight.Distant Surface waves. |
| 2. Epicentre $11\frac{1}{2}^{\circ}S, 165^{\circ}E$, Queen Charlotte Islands Region O = 15h.14m.54s.(U.S.C.G.S.) | | | | | |
| Colombo | E | P | 15 27 22 | | |
| | | S | 15 38 02 | | |
| | | M | 16 15 52 | | |
| Hyderabad | E | P | 15 27 39 | | |
| | | SKS | 15 38 08 | | |
| | N | M | 16 16 50 | | |
| Poona | E | e | 15 27 56 | | Per.=15 secs. $\mu=2$ Feeble. |
| | | LQ? | 15 39 15 | | |
| Bombay | N,E | e | 15 28 00 | | Slight. |
| | | e | 15 38 38 | | |
| 3. Epicentre $18^{\circ}N, 121^{\circ}E$, O = 02h.51m.50s.(U.S.C.G.S.) | | | | | |
| Calcutta | E | eP | 02 58 21 | 3400 | Moderate |
| | | iPP | 02 59 59 | | |
| | | iS | 03 03 24 | | |
| | | iSSS | 03 06 16 | | |
| | | Mn | 03 14 23 | | |
| Hyderabad | N,E | P | 02 59 34 | 4550 | Per.=14 secs. $\mu=123$ |
| | E | PP | 03 01 21 | | |
| | N,E | S | 03 05 45 | | |
| | N | SS | 03 09 30 | | |
| | | M | 03 16 45 | | |
| Colombo | E | P | 02 59 40 | | Per.=15 secs. $\mu=32$ |
| | | S(?) | 03 06 20 | | |
| | | L | 03 15 40 | | |
| | | M | 03 17 50 | | |
| New Delhi | N | eP | 02 59 43 | 4640 | Moderate. |
| | | PP | 03 01 24 | | |
| | | PPP | 03 01 52 | | |
| | | eS | 03 06 02 | | |
| | | SS | 03 08 45 | | |
| | | SSS | 03 09 15 | | |
| | | ScS | 03 09 30 | | |
| | | M | 03 14 11 | | |
| | | Mn | 03 17 29 | | |
| Kodaikanal | E | iP | 02 59 54 | 4840 | Per.=15 secs. $\mu=15$ Moderate. |
| | | iPP | 03 00 12 | | |
| | | iS | 03 06 33 | | |
| | | SS | 03 09 50 | | |
| | | LR | 03 12 45 | | |
| | | M | 03 16 26 | | Per.=15 secs. $\mu=11$ |



| DATE | STATION | COMPT. | PHASE | G. M. T. | | |
|--|------------|--------|--------------------------|-----------|------|---|
| | | | | h. m. s. | km. | |
| <u>January</u> | | | | | | |
| 1950. | | | | | | |
| 3. | Poona | E | iP | 03 00 09 | 5000 | Moderate. |
| (cont.) | | | iPcP | 03 01 33 | | |
| | | | iPP | 03 01 57 | | |
| | | | iPPP | 03 02 43 | | |
| | | | iPcS | 03 05 07 | | |
| | | | iS | 03 06 48 | | |
| | | | iScS | 03 09 43 | | |
| | | | iSS | 03 10 17 | | |
| | | | Lq | 03 11 23 | | |
| | | | LR | 03 13 25 | | |
| | Bombay | N,E | eP | 03 00 15 | 5100 | Moderate |
| | | E | iPP) | 03 02 09 | | |
| | | N | ePP) | | | |
| | | N,E | iS | 03 06 58 | | |
| | | N | SS | 03 10 37 | | |
| | | E | L | 03 14 48 | | |
| | | N | L | 03 14 53 | | |
| | | | M | 03 20 53 | | Per.=15s. $\mu=19$ |
| | | E | M | 03 25 30 | | Per.=13 sec. $\mu=13$ |
| 3. | Bombay | E | e | 11 38 - | | Feeble. |
| | | N | e | 12 16 - | | |
| | Kodaikanal | E | e? | 12 00 00 | | Probably distant. Lines superposing. |
| | Hyderabad | N | M | 12 30 24 | | Per.=15 sec. $\mu=3$ |
| | Poona | N | M | 12 32 - | | |
| 7. Epicentre $3^{\circ}.5N, 96^{\circ}.5E$ on the West coast of Sumatra. | | | | | | |
| O = 23h.15m.35s. | | | | | | |
| | Kodaikanal | E | iP | 23 20 11 | 2100 | Slight.Near. |
| | | | eS | 23 23 39 | | |
| | | | M | 23 27 12 | | Per.=18 secs. $\mu=4$ |
| | Calcutta | E | eP | 23 20 16 | 2410 | Slight. |
| | | | eS | 23 24 12 | | |
| | Poona | E | eP | 23 21 19 | 2260 | Feeble. |
| | | | S | 23 25 49 | | |
| | | | iSSS | 23 27 36 | | |
| | | | LR | 23 27 54 | | |
| | | | M | 23 36 - | | |
| | Colombo | E | P | 23 19 21 | 1780 | |
| | | | S | 23 22 15 | | |
| | | | L | 23 23 51 | | |
| | | | M ₁ | 23 26 01 | | |
| | | | M ₂ | 23 32 31 | | |
| | Bombay | E | e | 23 25 29 | | Slight. |
| | | N | e | 23 25 37 | | |
| | | | e | 23 28 01 | | |
| 9. | Calcutta | E | iP | 01 11 23 | | Slight. |
| | | | iS | 01 11 39 | | |
| | Bombay | N | e | 01 15 45 | | Very feeble. |
| | | | e | 01 18 13 | | |
| | | E | Movements insignificant. | | | |
| 10. | Bombay | N,E | e | 04 15 - | | Surface waves. |
| 11. | Kodaikanal | E | e? | Not clear | | Slight.Fairly distant. |
| 12. | Bombay | E | e | 04 21 31 | | |
| | | N | e | 04 35 01 | | |
| | | E | M | 04 48 22 | | Per.=15 secs. $\mu=3$ |

January 1960

h. m. s.

km.



From the ISC collection scanned by SISMOS

12(cont.)

| | | | | |
|-----------|---|---|----------|--|
| Hyderabad | E | e | 04 35 08 | |
| | | S | 04 40 12 | |
| | | L | 04 43 54 | |
| | | M | 04 45 48 | |
| | | M | 04 46 18 | |
| Colombo | E | L | 04 38 18 | |
| | | M | 04 44 23 | |

Per.=13 secs. $\mu=5$
Per.=13 secs. $\mu=3$

12. Epicentre: $17^{\circ}\text{S}, 178^{\circ}\text{W}$, Fiji Islands Region. $0=12\text{h.}06\text{m.}06\text{s.}$
(U.S.C.G.S.)

| | | | | |
|------------|-----|----------------------|-----------------------------------|-------|
| Colombo | E | PKP ₁ | 12 21 17 | |
| | | e | 12 29 02 | |
| Hyderabad | E | PKP ₁ (?) | 12 24 07 | |
| | | e | 12 29 20 | |
| | | e | 12 37 28 | |
| Bombay | N,E | e | 12 24 35 | |
| | | i | 12 29 48 | |
| Poona | E | iPP | 12 34 40 | 13665 |
| | | PKS ₁ | 12 35 27 | |
| | | PPP | 12 36 06 | |
| | | iSKS ₁ | 12 39 40 | |
| Kodaikanal | E | e? | Phases not clear. Slight.Distant. | |

Feeble.

Feeble.

| | | | | |
|------------|---|----|----------|--|
| Bombay | N | e | 00 04 39 | |
| | E | e | 00 05 09 | |
| | N | e | 00 14 02 | |
| | E | e | 00 14 26 | |
| Calcutta | E | e | 00 12 37 | |
| | | e | 00 13 33 | |
| Kodaikanal | E | e? | 18 02 12 | |
| Bombay | N | e | 18 03 11 | |
| | E | e | 18 09 00 | |
| Poona | N | M | 18 29 00 | |

Very feeble.

Slight.Distant.

Phases not clear.

Feeble

Distant.

| | | | | |
|------------|---|----|----------|--|
| Bombay | E | e | 07 13 09 | |
| | N | e | 07 13 22 | |
| Bombay | E | e | 11 15 47 | |
| Kodaikanal | E | e? | 16 37 01 | |
| Kodaikanal | E | e? | 17 11 53 | |

Feeble

Feeble

Slight,Fairly distant.Phases not clear.

Distant.Slight Phases not clear.

19. Epicentre: $28^{\circ}\text{N}, 53^{\circ}\text{E}$, on the Southern coast of Iran
 $0=17\text{h.}27\text{m.}20\text{s.}$ (U.S.C.G.S.)
 $27^{\circ}.5\text{N}, 52^{\circ}\text{E},$ $0=17\text{h.}27\text{m.}05\text{s.}$ (Poona)

| | | | | | |
|--------|-----|----------------|----------|------|---------|
| Bombay | N,E | eP | 17 31 54 | 2400 | Slight. |
| | | eS | 17 35 46 | | |
| Poona | N,E | iP | 17 32 04 | 2455 | Slight. |
| | | PP | 17 32 29 | | |
| | | PPP | 17 32 42 | | |
| | | iS | 17 36 04 | | |
| | | L ₀ | 17 36 20 | | |
| | | SS | 17 36 58 | | |
| | | SSS | 17 37 04 | | |

DATE STATION COMPT. PHASE G. M. I. Δ

 h. m. s. km.

REMARKS.
 International Seismological Centre
 From the ISC collection scanned by SISMOS

January 1950.

19(Cont.)

| STATION | COMPT. | PHASE | G. | M. | I. | km. | REMARKS. |
|-----------|--------|-------|----|----|----|------------------------|----------|
| New Delhi | N | eP | 17 | 32 | 13 | 2400 | Moderate |
| | | PcP | 17 | 36 | 00 | | |
| | | iS | 17 | 36 | 10 | | |
| | | LQ | 17 | 38 | 10 | | |
| | | M | 17 | 40 | 00 | | |
| Colombo | E | Mn | 17 | 42 | 33 | Per.=12 secs. $\mu=10$ | |
| | | P | 17 | 33 | 50 | | |
| Dehra Dun | N | L | 17 | 45 | - | Slight | |
| | | e | 17 | 40 | 06 | | |
| | | eL? | 17 | 43 | 54 | | |
| | | M | 17 | 46 | 08 | | |

22. Epicentre: 28°N, 53°E, Near Southern Coast of Iran

| STATION | COMPT. | PHASE | G. | M. | I. | km. | REMARKS. |
|---------------------------------------|--------|-------------------|-------------------------------------|----|----|-----------------------|---------------|
| O=04h.07m.15s. (U.S.C.G.S.) | | | | | | | |
| 27°.5N, 52°E. O=04h.07m.00s. (Poona.) | | | | | | | |
| Bombay | N, E | eP | 04 | 11 | 53 | 2300 | Slight. |
| | | eS | 04 | 15 | 36 | | |
| | | S | Lost due to artificial disturbance, | | | | |
| Poona | E | eP | 04 | 11 | 58 | 2320 | Slight. |
| | | PP | 04 | 12 | 17 | | |
| | | PPP | 04 | 12 | 28 | | |
| | | e | 04 | 15 | 26 | | |
| | | S | 04 | 15 | 55 | | |
| | | SS | 04 | 16 | 10 | | |
| | | SSS | 04 | 16 | 30 | | |
| | | eP | 04 | 12 | 04 | | |
| i | 04 | 12 | 17 | | | | |
| PPP | 04 | 12 | 38 | | | | |
| iS | 04 | 16 | 00 | | | | |
| Hyderabad | N | LR | 04 | 17 | 08 | 2810 | |
| | | M | 04 | 19 | 04 | | |
| | | eP? | 04 | 12 | 08 | | |
| | | S | 04 | 17 | 10 | | |
| | | L | 04 | 22 | 19 | | |
| Kodaikanal | E | M | 04 | 25 | 16 | Per.=10 secs. $\mu=3$ | |
| | | e | 04 | 12 | 59 | | Slight. Near. |
| | | Phases not clear. | | | | | |
| Dehra Dun | N | eP | 04 | 13 | 30 | 3059 | Slight. |
| | | e | 04 | 19 | 48 | | |
| | | eL | 04 | 23 | 06 | | |
| | | M | 04 | 24 | 12 | | |

23. Epicentre: 10°N, 125°E, Philippines Islands, O=09h.59m.50s. (U.S.C.G.S)

| STATION | COMPT. | PHASE | G. | M. | I. | km. | REMARKS. |
|-----------|--------|-------|----|----|----|------|----------|
| Colombo | E | e | 10 | 08 | 00 | 5080 | |
| | | S | 10 | 15 | 00 | | |
| | | L | 10 | 27 | - | | |
| Hyderabad | N | eP | 10 | 59 | 50 | 5060 | |
| | | S | 10 | 14 | 56 | | |
| | | SS | 10 | 18 | 07 | | |
| | | L | 10 | 21 | 34 | | |
| Bombay | N | eP | 10 | 08 | 45 | 5535 | Feeble. |
| | | e | 10 | 09 | 00 | | |
| | | i) | 10 | 16 | 15 | | |
| Poona | E | e) | 10 | 08 | 50 | 5555 | Slight. |
| | | iP | 10 | 08 | 50 | | |
| | | PPP | 10 | 11 | 32 | | |
| | | eS | 10 | 15 | 51 | | |
| | | LQ | 10 | 20 | 20 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|--|---|--------|-------------------|----------|----------|------------------------|
| ----- | | | | | | |
| January 1950. | | | | | | |
| | | | | h. m. s. | km. | |
| 24. Epicentre: $14^{\circ}.5S, 167^{\circ}E$. $O=16h.47m.18s.$ (U.S.C.G.S.) | | | | | | |
| | Colombo | E | P? | 16 59 52 | 9890 | |
| | | | iS | 17 10 12 | | |
| | | | L | 17 17 25 | | |
| | New Delhi | N,E | eP | 17 00 34 | 10890 | Slight |
| | | N | iSKS ₁ | 17 10 53 | | |
| | | | iSKKS | 17 11 14 | | |
| | | | iS | 17 11 38 | | |
| | | | i | 17 12 07 | | |
| | Poona | E | iP | 17 00 38 | 10890 | Slight. |
| | | | PP | 17 04 38 | | |
| | | N,E | iSKS ₁ | 17 10 55 | | |
| | | | iS | 17 11 54 | | |
| | | E | PS | 17 13 15 | | |
| | Bombay | N,E | eP | 17 00 45 | 11000 | Slight. |
| | | | iSKS ₁ | 17 11 05 | | |
| | | | S | 17 12 05 | | |
| | | E | L | 17 31 16 | | |
| | | N | L | 17 31 22 | | |
| 25. | Kodaikanal | E | eP | 17 00 39 | | Phases are not clear. |
| 28. | Poona | E | eP? | 11 00 10 | 1220 | Feeble, Near. |
| | | | eS? | 11 02 10 | | |
| | | | M | 11 03 30 | | |
| 28. | Poona | E | eP | 13 09 27 | 2665 | Feeble, Near. |
| | | | eS | 13 13 38 | | |
| | | | SS | 13 14 27 | | |
| | | | M | 13 17 15 | | |
| | New Delhi | N | eM | 13 11 45 | | Slight, Distant. |
| 30. | Epicentre: $54^{\circ}S, 71^{\circ}W$, $O=00h.56m.32s.$ (U.S.C.G.S.) | | | | | |
| | Poona | N | ePKP ₁ | 01 15 35 | 15665 | Moderate. |
| | | | PP | 01 18 35 | | |
| | | | iPKS ₂ | 01 19 28 | | |
| | | | PPP | 01 21 37 | | |
| | | | eSKS ₂ | 01 22 30 | | |
| | | | PKKP ₁ | 01 24 48 | | |
| | | | SKKS ₁ | 01 25 25 | | |
| | | | PKKS ₁ | 01 28 00 | | |
| | | | PS | 01 28 55 | | |
| | | | PPS | 01 30 34 | | |
| | | | SS | 01 36 27 | | |
| | | | SSP | 01 37 06 | | |
| | | | SSS | 01 41 34 | | |
| | | | LQ | 01 54 - | | |
| | | | LR | 02 00 - | | |
| | | | M | 02 08 - | | |
| | Colombo | E | P | 01 15 36 | | Per.=22 secs. $\mu=15$ |
| | | | S | 01 35 11 | | |
| | | | L | 01 50 21 | | |
| | | | M ₁ | 01 59 51 | | |
| | | | M ₂ | 02 07 56 | | |
| | New Delhi | N | PKP ₁ | 01 16 18 | 13220 | Moderate. |
| | | | PP | 01 17 44 | | |
| | | | SS | 01 33 49 | | |
| | | | M | 02 05 01 | | |

DATE STATION COMPT. PHASE G. M. T.



From the ISC collection scanned by SISMOS

January 1950.

h. m. s.

km.

30. (contd.)

| STATION | COMPT. | PHASE | G. M. T. | km. | |
|---------------|----------|------------------|------------------------|---------------------------------------|--|
| Hyderabad | N | PKP ₁ | 01 18 38 | | |
| | | PP | 01 22 47 | | |
| | | L | 01 54 55 | | |
| | | M | 02 01 19 | | |
| | | M | 02 15 47 | | |
| Bombay | E | e | 01 18 41 | Per=15 secs. $\mu=12$ Moderate | |
| | | e | 01 22 24 | | |
| | | M | 02 15 47 | Per=20 secs. $\mu=12$ | |
| Kodaikanal | N | Record lost. | | | |
| | | E | PKP ₁ | 01 19 14 | |
| | | | SS | 01 35 23 | |
| | | | LQ | 01 47 15 | |
| | | | LR | 01 52 40 | |
| M | 02 02 02 | | Per.=18 secs. $\mu=11$ | | |
| 30. Dehra Dun | N | e | 01 56 54 | | |
| | | e | 02 06 17 | | |
| | | e | 02 09 34 | | |
| | | M ₁ | 02 16 52 | | |
| | | M ₂ | 02 30 52 | | |
| 31. Bombay | N,E | e | 04 47 16 | | |
| 31. Bombay | N | e | 11 00 48 | Slight. | |
| | | E | 11 33 24 | | |
| 31. Poona | N,E | eP | 11 23 20 | 5240 Slight. | |
| | | PP | 11 35 26 | | |
| | | PPP | 11 36 03 | | |
| | | eS | 11 40 13 | | |
| | | M | 11 50 30 | | |
| Kodaikanal | E | eP | 11 33 26 | 5490 Slight, Distant. | |
| | | eS | 11 40 33 | | |
| | | LR | 11 47 38 | | |
| | | M | 11 51 56 | Per.=19 secs. $\mu=6$ | |
| Colombo | E | P | 18 55 36 | | |
| | | L | 19 08 21 | | |
| | | M | 19 15 31 | | |
| Kodaikanal | E | e | 19 00 34 | Slight, Distant. Phases not clear. | |
| Bombay | N,E | e | 19 07 - | Feeble, surface waves. | |
| New Delhi | N | eP | 20 27 59 | 970 Feeble. | |
| | | iS | 20 29 39 | | |



GOVERNMENT OF INDIA

METEOROLOGICAL DEPARTMENT.

SEISMOLOGICAL BULLETIN

FEBRUARY 1950.

Published under the direction of
V. V. SOHONI, B.A. (Hons.), M.Sc.
Director General of Observatories.
.....

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 were being published in the form of the Quarterly Seismological Bulletin. From the month of January 1948, the data are being published in the present form of a Monthly Seismological Bulletin. With the kind co-operation of the Surveyor-General of India, The Curator of the Nizamiah Observatory, Hyderabad, and the Director, Colombo Observatory, it has been possible to incorporate in the Bulletin the seismic data of their respective observatories viz. Dehra Dun, Hyderabad and Colombo. The instrumental and non-instrumental voluntary observations are collected and edited at the Meteorological Office, Poona.

TABLE I.
List of Seismograph Stations.

| Station. | Latitude. | Longitude. | Height above M.S.L. 'Meters' | Lithologic Foundation. | Officer-in- charge of Observatory. |
|------------|-----------|------------|---------------------------------------|---------------------------|---|
| Bombay | 18°.54'N. | 72°.49'E. | 6 | Deccan Trap | Director |
| Calcutta | 22°.32'N. | 88°.22'E. | (i) 7 (ii) 6 | Alluvium | Director |
| Colombo | 06°.54'N. | 79°.52'E. | 7 | Beach-sand | Director |
| Dehra Dun | 30°.19'N. | 78°.03'E. | 682 | Gravel | President |
| Hyderabad | 17°.26'N. | 78°.27'E. | 528 | Granite | Curator, Nizamiah Observatory. |
| Kodaikanal | 10°.14'N. | 77°.28'E. | 2343 | R O C K | Director |
| New Delhi | 28°.35'N. | 77°.12'E. | 207 | Massive Quartzites | Dy. Director General of Obser- vatories (I. & S.) |
| Poona | 18°.32'N. | 73°.51'E. | 560 | Deccan Trap | Dy. Director General of Obser- vatories (C. & G.) |

(i) Milne-Shaw.

(ii) Omori-Ewing.

TABLE II.
Instruments and their constants.

| Station | Instrument | Compo- nent | Period in secs. | Static Magnifi- cation. | Damping Ratio. | Paper Speed mm/min. |
|------------|---------------|----------------|-----------------------|-------------------------------|-------------------|------------------------|
| Bombay | Milne-Shaw | N | 12 | 250 | 21 : 1 | 8.0 |
| | Milne-Shaw | E | 12 | 350 | 20 : 1 | 8.0 |
| Calcutta | Milne-Shaw | E | 12 | 250 | 20 : 1 | 8.0 |
| | Omori-Ewing | N | 15 | 32 | - | 25.4 |
| | Omori-Ewing | E | 16 | 30 | - | 25.4 |
| Colombo | Wood-Anderson | N | 4 | 1000 | 5 : 1 | 60.0 |
| | Milne-Shaw | E | 12 | 250 | 16 : 1 | 8.0 |
| Dehra Dun | Omori | N | 30 | 12 | - | - |
| Hyderabad | Milne-Shaw | E | 12 | 250 | 20 : 1 | 8.0 |
| | Milne-Shaw | N | 12 | 250 | 20 : 1 | 8.0 |
| New Delhi | Milne-Shaw | N | 12 | 299 | 20 : 1 | 8.0 |
| | Wood-Anderson | E | 2 | 2366 | 30 : 1 | 60.0 |
| | Wood-Anderson | N | 4 | 1072 | 30 : 1 | 16.0 |
| Kodaikanal | Omori-Ewing | E | 30 | 30 | 1 | 12.0 |
| | Milne-Shaw | E | 10 | 250 | 20 : 1 | 8.0 |
| Poona | Milne-Shaw | N | 12 | 250 | 20 : 1 | 8.0 |
| | Wood-Anderson | E | 4 | 1100 | 20 : 1 | 16.0 |
| | Wood-Anderson | N | 2 | 1892 | 30 : 1 | 60.0 |

| DATE | STATION | COMPT. | PHASE | G.M.T. | | |
|-----------------|---|--------|-------|----------|------|--|
| | | | | h. m. s. | Km. | |
| <u>February</u> | | | | | | |
| <u>1950.</u> | | | | | | |
| 1. | Kodaikanal | E | e | 02 21 - | | Distant. Phases not clear. |
| 1. | Epicentre in the Pacific, in the region of Mortai Islands. O = 14h. 38.0m. (Poona) | | | | | |
| | Colombo | E | P | 14 46 53 | | |
| | | | S | 14 53 53 | | |
| | | | L | 15 01 53 | | |
| | | | M | 15 05 38 | | |
| | Kodaikanal | E | iP | 14 47 20 | 5890 | |
| | | | iPP | 14 49 30 | | |
| | | | iS | 14 54 50 | | |
| | | | SS | 14 58 40 | | |
| | | | M | - - - | | Per. = 12 Secs. U = 11 Slight. |
| | Bombay | N,E | e | 14 47 28 | | |
| | | N | e | 14 55 48 | | |
| | | E | i | | | |
| | Hyderabad | N | S | 14 54 26 | | |
| | New Delhi | N | i | 14 55 12 | | Slight,distant |
| | | | i | 15 03 34 | | |
| | | | e | 15 07 42 | | |
| | | | e | 15 12 56 | | |
| | Poona | N | i(SS) | 14 55 26 | | Slight,distant. |
| | | | e | 14 59 06 | | |
| 1. | New Delhi | N | eP | 18 46 46 | 110 | Slight. |
| | | | iS | 18 47 01 | | |
| | | | i | 18 47 12 | | |
| | | | i | 18 47 27 | | |
| 1. | Colombo | E | P | 22 27 44 | | |
| | | | S | 22 34 44 | | |
| | | | L | 22 43 - | | |
| | | | M | 22 46 29 | | |
| | Bombay | N,E | e | 22 28 46 | | Feeble. |
| | Hyderabad | N | M | 22 35 20 | | Per. = 9 Secs. U = 3. Tremor. Feeble. |
| | Kodaikanal | E | e | 22 35 30 | | |
| | Poona | N | i | 22 36 18 | | |
| | | | e | 22 40 08 | | |
| 2. | Epicentre 23°N, 100½°E South Western Yunnan Province, China. O = 23h. 33m. 39s. Poona. | | | | | |
| | 22°N, 100½°E South Western Yunnan Province, China. O = 23h. 33m. 38s. (U.S.C.G.S.). | | | | | |
| | Calcutta | E | iP | 23 36 17 | 1143 | Great. |
| | | | iS | 23 38 14 | | |
| | | | M | - - - | | Extremes went off the scale. |
| | Hyderabad | N | P | 23 38 20 | 2320 | |
| | | | PP | 23 38 26 | | |
| | | | S | 23 42 09 | | |
| | | | L | 23 43 41 | | |
| | | | M | 23 46 34 | | Per. = 15 Secs. U = 279. |

h. m. s. Km.

February 1950.

| STATION | COMPT. | PHASE | G. | M. | T. | Km. | Remarks | |
|---------------------|--------|-------|---|----|----|------|---|--------|
| 2 (cont.) New Delhi | N | iP | 23 | 38 | 31 | 2360 | Great; Direction of first motion South. | |
| | | PP | 23 | 38 | 55 | | | |
| | | iS | 23 | 42 | 23 | | | |
| | | LQ | 23 | 42 | 41 | | | |
| | | SS | 23 | 42 | 53 | | | |
| | | SSS | 23 | 43 | 08 | | | |
| | | LR | 23 | 43 | 58 | | | |
| | | M | 23 | 45 | 23 | | | |
| | | Mn | 23 | 47 | 16 | | Per. = 16 Secs. U = 301 | |
| Colombo | E | P | 23 | 39 | 00 | 2923 | | |
| | | S | 23 | 43 | 30 | | | |
| | | L | 23 | 47 | 38 | | | |
| | | M | 23 | 51 | 20 | | | |
| Poona | N, E | eP | 23 | 39 | 05 | 2765 | Great. | |
| | | ePP | 23 | 39 | 37 | | | |
| | | PPP | 23 | 40 | 01 | | | |
| | | PcP | 23 | 42 | 23 | | | |
| | | iS | 23 | 43 | 26 | | | |
| | | LQ | 23 | 45 | 29 | | | |
| | | SS | 23 | 45 | 39 | | | |
| | | SSS | 23 | 46 | 16 | | | |
| | N | M | 23 | 51 | - | | Per. = 16 Secs. U = 237. | |
| Bombay | N | eP | 23 | 39 | 13 | 2900 | Great. | |
| | E | P | Not identifiable due to congestion of lines | | | | | Lines. |
| | N, Ei | iS | 23 | 43 | 43 | | | |
| | N | L | 23 | 45 | 39 | | | |
| | N | M | 23 | 50 | - | | Per. = 15 Secs. U = 243. | |
| | E | M | 23 | 51 | - | | Per. = 15 Secs. U = 76. | |
| Dehra Dun | N | eP | 23 | 39 | 13 | 2478 | Moderate | |
| | | eS | 23 | 43 | 04 | | | |
| | | eL | 23 | 46 | 06 | | | |
| | | M | 23 | 47 | 25 | | | |
| Kodaikanal | E | | | | | | Record faint. | |

3. Epicentre 23°N, 100°E After shock of the great earthquake shock of 23h. of 2nd.

0 = 02h. 51m. 44s. (Poona)
0 = 02h. 51m. 46s. (U.S.C.G.S.).

| STATION | COMPT. | PHASE | G. | M. | T. | Km. | Remarks | |
|-----------|--------|---|----|----|----|--------|-----------------------------|--|
| Calcutta | E | iP | 02 | 54 | 20 | 1310 | Great. | |
| | | iS | 02 | 56 | 34 | | | |
| | | iSSS | 02 | 56 | 54 | | | |
| | | Other phases lost in congestion of lines. | | | | | | |
| Hyderabad | N | P | 02 | 56 | 30 | 2 2310 | | |
| | | S | 03 | 00 | 18 | | | |
| | | L | 03 | 02 | 17 | | | |
| | | M | 03 | 05 | 20 | | Per. = 16 Secs. U = 147. | |

| DATE | STATION | COMPT. | PHASE | G.M.T. | Δ | REMARKS. |
|------|---------|--------|-------|----------|----------|----------|
| | | | | h. m. s. | Km. | |

February
1950.

3. (cont.)

| | | | | | | |
|------------|----------|---------------------------------------|----------|----------|--|---|
| New Delhi | N,E | iP | 02 56 39 | 2410 | Great. Direction of first motion East. | |
| | | PP | 02 57 01 | | | |
| | N | PPP | 02 57 14 | | | |
| | | iS | 03 00 35 | | | |
| | | LQ | 03 00 50 | | | |
| | | SS | 03 01 00 | | | |
| | | LR | 03 01 50 | | | |
| | | M | 03 03 26 | | | |
| Mn | 03 05 21 | Per. = 16 Secs. U = 187. Great. | | | | |
| Poona | N | iP | 02 57 09 | | Per. = 16 Secs. U = 216. Great. | |
| | | PP | 02 57 41 | | | |
| | PPP | 02 58 05 | | | | |
| | PcP | 03 00 27 | | | | |
| | iS | 03 01 31 | | | | |
| | LQ | 03 03 34 | | | | |
| | SSS | 03 04 21 | | | | |
| | M | 03 09 - | | | | |
| Colombo | E | P | 02 57 10 | | | |
| | | S | 03 01 35 | | | |
| | | L | 03 05 55 | | | |
| | | M | 03 08 55 | | | |
| Kodaikanal | E | iP | 02 57 15 | 2910 | | |
| | | iS | 03 01 46 | | | |
| | | L | 03 03 55 | | | |
| | | M | 03 06 05 | | | |
| Bombay | N,E | eP | 02 57 22 | 2900 | Great. | |
| | | iS | 03 01 51 | | | |
| | E | L | 03 06 05 | | | |
| | | N | L | | | 03 06 11 |
| | | E | M | | | 03 09 24 |
| | N | M | 03 10 28 | | | Per. = 15 Secs. U = 64. Per. = 14 Secs. U = 159. |
| Dehra Dun | | N | eP | 02 57 42 | 2478 | Moderate. |
| | | | eS | 03 01 30 | | |
| | eL | | 03 04 36 | | | |
| | M | | 03 05 42 | | | |

3. After shock of the one at 23h. on 2nd.
0 = 13h. 04m. 00s. (Poona).

| | | | | | |
|-----------|-----------|----------|----------|----------|--|
| Hyderabad | E,N | P | 13 08 38 | 2380 | Per. = 15 Secs. U = 6. Per. = 12 Secs. U = 5. |
| | | S | 13 12 32 | | |
| | E | L | 13 14 30 | | |
| | | M | 13 17 35 | | |
| N | M | 13 17 36 | | | |
| | New Delhi | E | iP | 13 08 47 | 2410 |
| eP | | | 13 08 47 | | |
| S | | | 13 12 44 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | | △ Km. | REMARKS. |
|-----------------------|--|------------------------------------|-------|---|----|----|----------|--|
| | | | | h. | m. | s. | | |
| <u>February 1950.</u> | | | | | | | | |
| 3 (cont.) | | | | | | | | |
| | Poona | E | eP | 13 | 09 | 17 | | Moderate. |
| | | | eS | 13 | 13 | 42 | | |
| | | | SSS | 13 | 45 | 02 | | |
| | Colombo | E | P | 13 | 09 | 20 | | Slight. |
| | | | S | 13 | 13 | 42 | | |
| | | | L | 13 | 18 | 20 | | |
| | | | M | 13 | 21 | 40 | | |
| | Bombay | N,E | eP | 13 | 09 | 30 | 2880 | |
| | | | eS | 13 | 13 | 57 | | |
| | | N | L | 13 | 17 | 38 | | |
| | | E | L | 13 | 17 | 59 | | |
| | | N | M | 13 | 19 | 43 | | Per. = 7 Secs. |
| | Dehra Dun | N | eP | 13 | 13 | 52 | 2227 | U = 4. |
| | | | eS | 13 | 17 | 06 | | Slight. |
| | | | M | 13 | 18 | 16 | | |
| | Kodaikanal | --- Lost due to wandering of zero. | | | | | | |
| 3. | Epicentre 54°N, 162°W (Aleutian Islands) | | | 0 = 16h. 45m. 29s. | | | | (U.S.C.G.S.) |
| | Bombay | N,E | e | 17 | 09 | - | | Feeble tremors. |
| | Hyderabad | E | M | 17 | 38 | 22 | | Per. = 15 Secs. |
| | Kodaikanal | E | e | 17 | 39 | - | | U = 3. |
| | | | | | | | | Tremor. |
| 4. | Epicentre 54°N, 162°W | | | 0 = 02h. 07m. 53s. Aftershock of previous shock (U.S.C.G.S.). | | | | |
| | Bombay | N,E | e | 02 | 56 | - | | Feeble surface waves. |
| 4. | New Delhi | E | e | 11 | 03 | 25 | | Feeble. |
| | | N | e | 11 | 04 | 51 | | |
| | | | e | 11 | 05 | 56 | | |
| | Bombay | N | e | 11 | 05 | 07 | | Very feeble. |
| | | E | e | 11 | 07 | 50 | | |
| | | N | e | 11 | 13 | 33 | | |
| | Poona | E | eP | 11 | 06 | 42 | 1110 | Slight; near. |
| | | | PP | 11 | 06 | 49 | | |
| | | | PPP | 11 | 06 | 58 | | |
| | | | LQ | 11 | 08 | 27 | | |
| | | | S | 11 | 08 | 36 | | |
| | | | LR | 11 | 08 | 55 | | |
| | | | M | 11 | 09 | 35 | | |
| | Kodaikanal | E | e | 11 | 12 | 00 | | Tremor. |
| 4. | New Delhi | N,E | eP | 20 | 56 | 41 | 1010 | Slight. |
| | | | eS | 20 | 58 | 25 | | |
| 5. | Epicentre 50°S, 164°E | | | Off the Southern coast of Newzeland. | | | | |
| | | | | 0 = 01h. 23m. 30s. (U.S.C.G.S.). | | | | |
| | Kodaikanal | E | e | 01 | 38 | 18 | | Long distance shock; phases not clear. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | | | REMARKS. |
|-----------------------|---|--------|-------------------|----------------------------------|----|----|--|
| | | | | h. | m. | s. | Km. |
| <u>February 1950.</u> | | | | | | | |
| 5 (cont.) | Poona | N | ePkP ₁ | 01 | 41 | 22 | 11660 Slight. |
| | | | ePP | 01 | 42 | 10 | |
| | | | ePPP | 01 | 44 | 22 | |
| | | | SKSK ₂ | 01 | 48 | 19 | |
| | | | PS | 01 | 51 | 22 | |
| | | | PPS | 01 | 52 | 25 | |
| | | | SS | 01 | 57 | 10 | |
| | | | SSP | 01 | 57 | 33 | |
| | | | SSS | 02 | 01 | 13 | |
| | | | M | 02 | 23 | - | |
| | Bombay | N,E | e | 01 | 42 | 24 | Slight. |
| | Hyderabad | N | e | 01 | 49 | 36 | |
| | | | e | 01 | 47 | 58 | |
| | | | M | 02 | 21 | 14 | |
| | New Delhi | N | e | 01 | 50 | 01 | Per. = 18 Secs. U = 5. Moderate; very distant. |
| | | | e | 01 | 55 | 18 | |
| | | | i | 01 | 57 | 50 | |
| | | | e | 02 | 02 | 06 | |
| | Colombo | E | M | 02 | 28 | 06 | P, S & L lost due to drift of light spot. |
| 6. | Bombay | N,E | e | 03 | 25 | 02 | Very feeble. |
| | | | e | 03 | 29 | 17 | |
| 7. | Kodaikanal | E | e | 00 | 50 | - | Tremor. |
| 7. | Epicentre 46°N, 152°E (Karile Islands region) | | | 0 = 10h. 37m. 22s. (U.S.C.G.S.). | | | |
| | New Delhi | N | eP | 10 | 47 | 08 | 6910 Slight. |
| | | | PcP | 10 | 47 | 33 | |
| | | | iS | 10 | 55 | 33 | |
| | | | M | 11 | 09 | 15 | |
| | Bombay | N,E | eP | 10 | 48 | 32 | Slight. |
| | | | e | 10 | 57 | 32 | |
| | Kodaikanal | E | e | 11 | 02 | 40 | Tremor. |
| 7. | New Delhi | N | e | 13 | 03 | 07 | Slight. |
| | Bombay | N,E | eP | 13 | 05 | 39 | 910 Slight. |
| | | N | eS | 13 | 07 | 11 | |
| | | E | M | 13 | 09 | 28 | Per. = 8Secs. U = 1. |
| | | N | M | 13 | 10 | 17 | Per. = 7 Secs. U = 1. |
| | Poona | E | eP | 13 | 05 | 44 | 1385 |
| | | | L _Q | 13 | 07 | 56 | |
| | | | es | 13 | 08 | 04 | |
| | | | M | 13 | 10 | - | |
| | Kodaikanal | E | e | 13 | 10 | - | Tremor. |
| 7. | New Delhi | E | eP | 21 | 29 | 07 | 960 Slight. |
| | | | iS | 21 | 30 | 46 | |

| DATE | STATION | COMPT. | PH. SE | G. M. T. | Δ | REMARKS. |
|-----------------------|--|---------------|--------------------------------------|--|----------|------------------------------------|
| | | | | h. m. s. | Km. | |
| <u>February 1950.</u> | | | | | | |
| 8. | New Delhi | N,E N E | eP eS eS | 10 06 50 10 08 47 10 08 51 | 1150 | Slight. |
| 9. | New Delhi | N | e | 13 37 25 | | Slight, distant. Surface waves. |
| 10 | New Delhi | N | e e | 12 35 45 12 36 37 | | Slight, near. |
| 10. | New Delhi | N,E N | e e i | 13 03 16 13 04 13 13 04 55 | | Slight, near. |
| 11. | Colombo | E | P S L M | 01 32 28 01 40 38 01 51 - 02 05 58 | | |
| | New Delhi | N,E N | eP e PP iS PS i LQ | 01 34 09 01 36 47 01 37 04 01 44 01 01 44 49 01 47 15 01 54 52 | 8630 | Moderate. |
| | Bombay | N E | i o -- | 01 42 09 Record lost while changing | | Slight. |
| | Kodaikanal | E | e | 01 47 10 | | Tremor. |
| | Hyderabad | N | M | 01 56 41 | | Per. = 40 secs. J = 5. |
| 11. | Kodaikanal | E | e | 11 56 20 | | Tremor. |
| 12 | New Delhi | N,E | eP eS | 19 50 14 19 51 55 | 980 | Slight. |
| 12 | Epicentre 19°S, 178°W Fiji Islands region | | | 0 = 22h. 14m. 55s. (U.S.C.G.S.). | | |
| | Bombay | N,E | eP? eS | 22 34 03 22 44 09 | 8890? | Slight. |
| | Colombo | E | P S L M | 22 38 08 22 41 53 23 08 18 23 12 03 | | |
| | Poona | N | i M | 22 40 28 23 25 00 | | Feeble, distant. |
| 13. | Bombay | E | e | 07 06 - | | Tremor. |
| | Hyderabad | N | M | 07 14 58 | | Per. = 15 Secs. J = 4. |
| 13. | Epicentre 27°N, 90°E Felt at Dhubri, Cherrapunji, | | | 0 = 07h. 22m. 30s. (Poona). Cooch-behar and Shillong. | | |
| | Calcutta | E | iP iS | 07 23 37 07 24 27 | 468 | Moderate. |



| DATE | STATION | COMPT. | PHASE | G. M. T. | Km. | |
|-----------------|------------------------|--------|----------------|------------------------------------|------|----------------|
| | | | | h. m. s. | | |
| <u>February</u> | | | | | | |
| <u>1950.</u> | | | | | | |
| 13 (cont.) | New Delhi | N,E | eP | 07 25 19 | 1290 | Slight |
| | | E | eS | 07 27 31 | | |
| | | N | eS | 07 27 34 | | |
| | | | M | 07 29 03 | | |
| | Poona | N,E | eP | 07 26 25 | 1890 | |
| | | | LQ | 07 29 21 | | |
| | | | eS | 07 29 34 | | |
| | | | SS | 07 29 34 | | |
| | | | SSS | 07 29 53 | | |
| | | | L _R | 07 30 13 | | |
| | | | i | 07 31 08 | | |
| | | | i | 07 31 15 | | |
| | | N | M | 07 31 27 | | Per. = 6 Secs. |
| | Hyderabad | N | e | 07 28 23 | | $\mu = 14.$ |
| | | | iS | 07 29 39 | | |
| 14. | New Delhi | N | e | 07 51 58 | | Slight, near. |
| | | | i | 07 52 44 | | |
| 14. | Bombay | N,E | e | 23 28 - | | Very feeble. |
| | Poona | N | e | 23 32 00 | | Surface waves. |
| | | | e | 23 39 00 | | |
| 15. | New Delhi | E | e | 11 44 45 | | Slight, near. |
| | | | i | 11 45 15 | | |
| 15. | Epicentre 13.5°N, 94°E | | | Off the coast of Andamans | | |
| | | | | 0 = 14h. 36m. 55s. (Poona). | | |
| | Colombo | E | P | 14 40 30 | | |
| | | | S | 14 42 43 | | |
| | | | L | 14 46 13 | | |
| | | | M | 14 46 33 | | |
| | Kodaikanal | E | iP | 14 40 32 | 1800 | |
| | | | iS | 14 43 32 | | |
| | | | M | - - - | | |
| | Hyderabad | N | iP | 14 40 37 | 1780 | Per. = 7 Secs. |
| | | | iS | 14 43 35 | | $\mu = 30$ |
| | | | M | 14 45 39 | | |
| | Calcutta | E | iP | 14 40 54 | 1110 | Per. = 8 Secs. |
| | | | iS | 14 42 48 | | $\mu = 5.$ |
| | | | Mn | 14 44 58 | | Moderate. |
| | | | | Absolute times appear to be wrong. | | |
| | Poona | E,N | iP | 14 41 31 | 2166 | Per. = 9 Secs. |
| | | | eP | 14 41 49 | | $\mu = 55.$ |
| | | | PPP | 14 42 11 | | Moderate. |
| | | | iS | 14 45 05 | | |
| | | | PcP | 14 45 14 | | |
| | | | LQ | 14 45 43 | | |
| | | | SS | 14 46 18 | | |
| | | | SSS | 14 46 54 | | |
| | | | L _R | 14 47 41 | | |
| | | | M | 14 48 39 | | Not developed. |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|-----------------|-----------------------|--------|----------------|--------------------|----------|---|
| | | | | h. m. s. | Km. | |
| <u>February</u> | | | | | | |
| <u>1950.</u> | | | | | | |
| 15. (Cont.) | Bombay | E | eP? | 14 41 43 | 2320 | Moderate, times of P & S from E record doubtful as the spot is not well defined. Per. = 7 Secs. $\mu = 3.$ |
| | | N | eP | 14 41 51 | | |
| | | E | eS? | 14 45 31 | | |
| | | N | iS | 14 45 36 | | |
| | | | L | 14 46 25 | | |
| | | | M | 14 49 33 | | |
| | New Delhi | N,E | iP | 14 41 56 | 2478 | Moderate, direction of first motion N & W. |
| | | N | PP | 14 42 23 | | |
| | | N,E | iS | 14 45 57 | | |
| | | N | i | 14 46 19 | | |
| | | N | SS | 14 46 41 | | |
| | | | i | 14 46 54 | | |
| | Dehra Dun | N | i | 14 47 45 | | Slight. |
| | | | eP | 14 44 48 | 2414 | |
| | | | eS | 14 48 37 | | |
| | | | e | 14 53 24 | | |
| | | | M | 14 54 48 | | |
| 16. | Bombay | N,E | e | 14 16 -- | | Very feeble tremors. |
| 18. | New Delhi | N | e | 12 45 22 | | Slight, near. |
| | | | e | 12 46 50 | | |
| | | | e | 12 47 24 | | |
| 19. | New Delhi | N | e | 03 53 30 | | Slight, near. Beginning lost due to traffic movements. Feeble, tremor. |
| | | | e | 03 54 34 | | |
| | | | i | 03 55 16 | | |
| | Poona | E | i | 03 57 52 | | |
| | | | i | 03 59 00 | | |
| 19. | Bombay | N | e | 07 20 - | | Surface waves. |
| | | E | e | 07 28 - | | |
| | Poona | N | M | 07 36 00 | | Feeble, distant. Per. = 15 Secs. $\mu = 2.$ |
| | Hyderabad | N | M | 07 39 29 | | |
| | New Delhi | N | e | 07 40 36 | | |
| | | | | | | |
| 20. | New Delhi | N | e | 05 56 59 | | Distant. Surface waves. Slight, near. |
| | | | e | 05 57 41 | | |
| | | | i | 05 57 43 | | |
| 21. | Bombay | N,E | e | 09 31 20 | | Slight. |
| 22. | Kodaikanal | E | e | 12 09 -- | | Tremor. Feeble. |
| | Bombay | N,E | e | 12 41 -- | | |
| 23 | Epicentre 50°N, 148°E | | Sea of Okhotsa | 0 = 08h. 31m. 23s. | | h = 500 Km. \pm (U.S.C.G.S.) 0 = 08h. 31m. 22s. h = 500 Km. \pm (Poona). |
| | | | | | | |
| | Poona | E | iP | 08 41 19 | 7355 | |
| | | | epP | 08 43 08 | | |
| | | | isP | 08 43 56 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|-----------------|---|--------|---------------|----------------------------------|----------|--|
| | | | | h. m. s. | Km. | |
| <u>February</u> | | | | | | |
| 1950. | | | | | | |
| 23. (cont.) | Poona | E | PcP | 08 46 02 | | |
| | | | iS | 08 49 27 | | |
| | | | iPS | 08 49 42 | | |
| | | | PPS | 08 49 52 | | |
| | | | ScS | 08 51 04 | | |
| | | | SS? | 08 52 34 | | |
| | Bombay | N | e | 08 41 25 | | Feeble. |
| | | | e | 08 49 29 | | |
| | | | e | 08 52 44 | | |
| | Hyderabad | N | S | 08 48 55 | | |
| | | E | e | 08 56 40 | | Per. = 15 Secs. |
| | Kodaikanal | E | e | 08 50 - | | Tremor. |
| 23. | Epicentre Near 32°N , $94\frac{1}{2}^{\circ}\text{E}$ | | | 0 = 09h. 57m. 16s. (Poona). | | |
| | Calcutta | E | eP | 09 59 51 | 1166 | Slight. |
| | | | eS | 10 01 50 | | |
| 23. | Aftershock of the previous one | | | 0 = 10h. 01m. 10s. | | |
| | Calcutta | E | eP | 10 03 48 | 1177 | Moderate. |
| | | | eS | 10 05 49 | ** | |
| | Dehra Dun | * N | eP | 11 04 02 | | Slight. |
| | | | M | 11 08 24 | | |
| | New Delhi | N | e | 11 04 29 | | Slight, near. |
| | | | e | 11 05 06 | | |
| | | | iM | 11 09 48 | | |
| | Poona | E | eP | 11 06 15 | 2665 | |
| | | | iS | 11 08 30 | | |
| | Bombay | N, E | eP | 11 06 19 | 1280 | Slight. Phases not very clear. Times of P & S in E Compt. not clear due to thickness of trace. |
| | | N | eS | 11 08 27 | | Per. = 7 Secs. |
| | | | M | 11 13 53 | | $\mu = 7$. |
| | | E | M | 11 15 22 | | Per. = 7 Secs. |
| | | | | | | $\mu = 3$. |
| | Hyderabad | N | eP | 11 07 16 | 2790 | |
| | | | S | 11 11 39 | | |
| | Kodaikanal | E | e | 11 09 - | | Tremor. |
| 23. | New Delhi | N | e | 12 02 10 | | Slight, near. |
| | | | e | 12 04 01 | | |
| | | | Mn | 12 06 05 | | |
| 24. | Kodaikanal | E | e | 12 53 - | | Tremor. |
| 25. | Epicentre 45°N , 99°E South Western Mongolia | | | 0 = 05h. 47m. 08s. (Poona) | | |
| | $45\frac{1}{2}^{\circ}\text{N}$, 99°E South Western Mongolia | | | 0 = 05h. 47m. 09s. (U.S.C.G.S.). | | |
| | New Delhi | N, E | eP? | 05 52 30 | 2754 | Moderate. |
| | | | PP | 05 52 50 | | |
| | | | iS | 05 56 51 | | |
| | | | i | 05 57 05 | | |
| | | | SS | 05 58 14 | | |
| | | | i | 06 00 09 | | |
| | * Calcutta | E | Mn | 10 08 46 | | Per = 9 Secs. $\mu = 86$. * |

11

| DATE | STATION | COMPT. | PHASE | G. M. T. | | | △ Km. | REMARKS. |
|-----------------|----------------------------|--------|----------------|-----------------------------|----|----|----------|--|
| | | | | h. | m. | s. | | |
| <u>February</u> | | | | | | | | |
| 1950. | | | | | | | | |
| 25. (cont.) | | | | | | | | |
| | Calcutta | E | iP | 05 | 52 | 35 | 2790 | Slight. |
| | | | iPP | 05 | 53 | 14 | | |
| | | | iS | 05 | 56 | 54 | | |
| | | | L _Q | 05 | 57 | 03 | | |
| | | | iSS | 05 | 58 | 06 | | |
| | | | L _R | 05 | 58 | 55 | | |
| | Bombay | N | eP | 05 | 53 | 45 | | Slight. |
| | | | e | 05 | 59 | 36 | | |
| | | E | e | 05 | 59 | 41 | | |
| | | N | M | 06 | 09 | 41 | | |
| | Poona | N | iP | 05 | 53 | 53 | 3743 | Per. = 7 Secs. $\mu = 2$. Slight. |
| | | | iS | 05 | 59 | 16 | | |
| | | | iSS | 06 | 01 | 34 | | |
| | | | iSSS | 06 | 02 | 01 | | |
| | Kodaikanal | E | e | 05 | 56 | - | | Short distance shock. Phases not clear. |
| 25. | Epicentre Near 27°N, 127°E | | | 0 = 09h. 52m. 00s. (Poona). | | | | |
| | Calcutta | E | eP | 09 | 58 | 32 | 4010 | |
| | | | PP | 09 | 59 | 37 | | |
| | | | PPP | 10 | 00 | 13 | | |
| | | | eS | 10 | 04 | 12 | | |
| | | | PcS | 10 | 04 | 46 | | |
| | | | SS | 10 | 04 | 38 | | |
| | | | L _Q | 10 | 06 | 56 | | |
| | | | SSS | 10 | 07 | 30 | | |
| | | | L _R | 10 | 09 | 04 | | |
| | | | M | 10 | 13 | - | | |
| | Bombay | E | e | 10 | 01 | 15 | | Slight. |
| | | N | e | 10 | 02 | 28 | | |
| | | E | M | 10 | 28 | 02 | | Per. = 15 Secs. $\mu = 3$. |
| | | N | M | 10 | 30 | 27 | | Per. = 16 Secs. $\mu = 3$. |
| | New Delhi | N,E | eP | 10 | 00 | 06 | 5110 | Moderate. |
| | | N | iS | 10 | 06 | 51 | | |
| | | | SS | 10 | 10 | 00 | | |
| | | | L _Q | 10 | 10 | 27 | | |
| | | | SSS | 10 | 11 | 06 | | |
| | | | M | 10 | 16 | 40 | | |
| | Kodaikanal | E | eP | 10 | 00 | 40 | | |
| | | | e | 10 | 08 | 20 | | |
| | | | SS | 10 | 11 | 00 | | Not clear. |
| | | | M | - | - | - | | Per. 20 Secs. $\mu = 30$. |
| | Colombo | E | P | 10 | 00 | 49 | | |
| | | | S | 10 | 08 | 19 | | |
| | | | L | 10 | 18 | 49 | | |
| | | | M | 10 | 29 | 34 | | |
| | Poona | N | eP | 10 | 00 | 59 | | Moderate. |
| | | | iScP | 10 | 06 | 59 | | |
| | | | iS | 10 | 08 | 11 | | |
| | | | iPS | 10 | 08 | 23 | | |
| | | | iPPS | 10 | 08 | 29 | | |
| | | | iScS | 10 | 09 | 38 | | |
| | | | iSS | 10 | 10 | 48 | | |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|-----------------|----------------------|-----------------------|------------------------------------|--|----------|---|
| | | | | h. m. s. | Km. | |
| <u>February</u> | | | | | | |
| <u>1950.</u> | | | | | | |
| 26. | Epicentre 27°N, 90°E | | Sikkim | 0 = 03h. 36m. 00s. (Poona). | | |
| | Calcutta | E | iP iS S* Mn | 03 37 19 03 38 18 03 38 33 03 39 16 | 556 | Moderate. Per. = 7 Secs. $\bar{U} = 73.$ Slight. |
| | New Delhi | E N | eP iS i SSS i M | 03 38 44 3 40 52 03 41 04 03 41 20 03 41 47 03 42 28 | 1250 | |
| | Poona | N | eP iS iSS iSSS LR M | 03 39 56 03 43 05 03 43 35 03 43 42 03 43 57 03 45 23 | 1890 | |
| | Bombay | N,E N | eP eS L M | 03 40 09 03 43 24 03 44 20 03 45 52 | 1957 | Slight. Per. = 7 Secs. $\bar{U} = 5.$ Per. = 10 Secs. $\bar{U} = 5.$ |
| | | E | M | 03 47 20 | | |
| | Hyderabad | N | eP S M | 03 40 19 03 44 51 03 50 20 | | Per. = 8 Secs. $\bar{U} = 2.$ |
| | Kodaikanal | E | e | 03 40 30 | | Short distance shock. Phases not clear. |
| 28. | | | | | | |
| 28. | New Delhi | E N | eP eS e M | 07 31 41 07 33 10 07 33 21 07 34 23 | 860 | Feeble. Succeeded by another shock. |
| 28. | Bombay | E N E N E | e eP eS L L M | 07 36 04 07 36 23 07 41 00 07 43 34 07 43 37 07 44 57 | | Slight. S time not determinable from N Compt. due to failure of drum movement. Per. = 9 Secs. $\bar{U} = 4.$ Per. = 9 Secs. $\bar{U} = 5.$ Slight. |
| | Poona | N,E N N,E | eP iPP PPP | 07 36 09 07 36 30 07 36 46 | | |
| | | * | iS | 07 40 06 | * | |
| | | N | iSSS | 07 40 49 | | |
| | | N,E | LR | 07 41 19 | | |
| | | E | S | 07 | | |
| | | * | E | SS | 07 40 30 | * |

| DATE | STATION | COMPT. | PHASE | G. M. T. | Δ | REMARKS. |
|---|------------|--------|----------------|----------|----------|---|
| | | | | h. m. s. | Km. | |
| <u>February</u> | | | | | | |
| 1950. | | | | | | |
| 28. (cont.) | | | | | | |
| | New Delhi | N | eP(?) | 07 36 33 | 840 | Slight. pre- ceeded by another shock. |
| | | | i | 07 37 10 | | |
| | | | i | 07 37 34 | | |
| | | N,E | iS | 07 38 00 | | |
| | | N | i | 07 38 13 | | |
| | Hyderabad | E,N | M | 07 39 14 | 3410 | |
| | | | P | 07 37 58 | | |
| | | N | S | 07 43 01 | | |
| | | | SS | 07 44 37 | | |
| | | | M | 07 50 02 | | |
| | Kodaikanal | E | e | 07 41 00 | | Per. = 10 Secs. U = 2. |
| | Colombo | E | P | 07 44 20 | | |
| | | | S | 07 48 25 | | |
| | | | L | 07 55 - | | |
| 28. Epicentre 46°N , 144°E near Sakhalin Island $0 = 10\text{h. } 21\text{m. } 00\text{s.}$ | | | | | | |
| $h = 350\text{Km. (Poona)}$ | | | | | | |
| 46°N , $143\frac{1}{2}^{\circ}\text{E}$ off North coast of Hokkaido, Japan | | | | | | |
| $0 = 10\text{h. } 20\text{m. } 58\text{s.}$ | | | | | | |
| $h = 350\text{Km. (U.S.C.G.S.)}$ | | | | | | |
| | New Delhi | N,E | iP | 10 29 50 | 6010 | Moderate. $h = 350\text{Km.}$ Direction of first motion South and West |
| | | N | PcP | 10 41 07 | | |
| | | | PP | 10 31 20 | | |
| | | | PPP | 10 32 46 | | |
| | | | iS | 10 36 57 | | |
| | | E | iS | 10 37 00 | | |
| | | N | ScS | 10 39 03 | | |
| | | | sS | 10 39 18 | | |
| | | | SS | 10 40 10 | | |
| | | | SSS | 10 41 22 | | |
| | | | L _R | 10 43 48 | | |
| | | | M | 10 47 56 | | |
| | | | ? | 10 50 39 | | |
| | Hyderabad | E,N | iP | 10 30 32 | 6755 | Per. = 25 Secs. U = 145. |
| | | N | PcP | 10 31 44 | | |
| | | E | PP | 10 32 23 | | |
| | | | iS | 10 38 19 | | |
| | | N | iS | 10 38 21 | | |
| | | | PS | 10 38 24 | | |
| | | E | ScS | 10 40 38 | | |
| | | N | SS | 10 42 24 | | |
| | | E | M | 10 52 26 | | |
| | | N | M | 10 54 26 | | |
| | Dehra Dun | N | eP | 10 30 33 | | Per. = 18 Secs. U = 43. Per. = 14 Secs. U = 39. Moderate. |
| | | | eS | 10 37 09 | | |
| | | | ? | 10 39 42 | | |
| | | | M | 10 51 24 | | |



| DATE | STATION | COMPT. | PHASE | G. M. T. | | | | |
|-----------------|------------|--------|-------|----------|----|----|------|--------|
| | | | | h. | m. | s. | Km. | |
| <u>February</u> | | | | | | | | |
| 1950. | | | | | | | | |
| 28. (cont.) | Poona | N,E | iP | 10 | 30 | 54 | 7010 | |
| | | | ipP | 10 | 32 | 06 | | |
| | | | isP | 10 | 32 | 39 | | |
| | | | iS | 10 | 38 | 55 | | |
| | | | i | 10 | 40 | 17 | | |
| | | N | iss | 10 | 41 | 09 | | |
| | Bombay | N,E | iP | 10 | 30 | 56 | 7220 | Great. |
| | | N, | i | 10 | 32 | 08 | | |
| | | E | i | 10 | 36 | 15 | | |
| | | N,E | iS | 10 | 39 | 07 | | |
| | | E | SS | 10 | 42 | 45 | | |
| | | N | iSS | 10 | 43 | 17 | | |
| | | | L | 10 | 48 | 13 | | |
| | | E | L | 10 | 48 | 15 | | |
| | | | M | 10 | 58 | 12 | | |
| | | N | M | 11 | 03 | 39 | | |
| | Colombo | E | P | 10 | 31 | 10 | 7335 | |
| | | | PP | 10 | 39 | 45 | | |
| | | | SS | 10 | 42 | 00 | | |
| | | | SS | 10 | 49 | 20 | | |
| | | | L | 11 | 04 | - | | |
| | | | M | 11 | 05 | 20 | | |
| | Kodaikanal | E | iP | 10 | 31 | 17 | 7490 | |
| | | | PP | 10 | 33 | 20 | | |
| | | | iS | 10 | 39 | 42 | | |
| | | | SS | 10 | 43 | 00 | | |
| | | | LQ | 10 | 45 | 45 | | |
| | | | LR | 10 | 48 | 35 | | |
| | | | M | 10 | 52 | 30 | | |

Per. = 14 Secs.

U = 26.

Per. = 7 Secs.

U = 22.

Per. = 12 Secs.

U = 80.

