

*Copied. 27/10/61*  
International  
Seismological  
Centre

GOVERNMENT OF INDIA  
METEOROLOGICAL DEPARTMENT

SEISMOLOGICAL BULLETIN

*October, 1961*



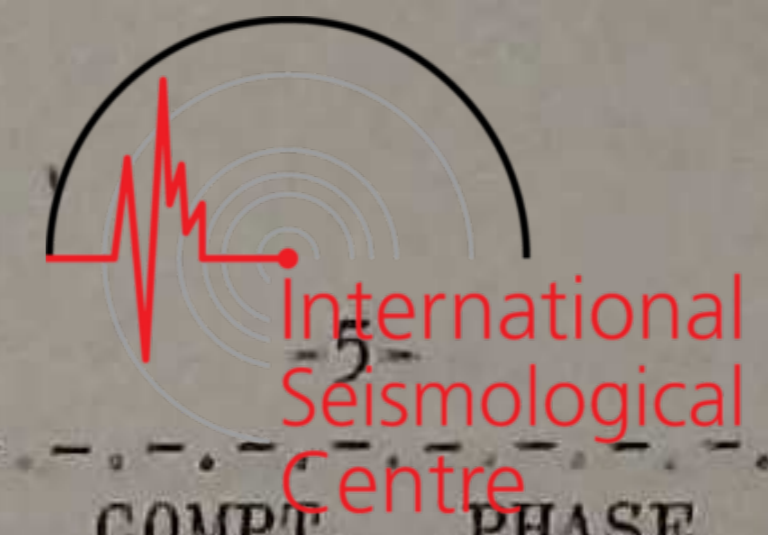
Published under the direction of  
Shri P. R. Krishna Rao,  
Director General of Observatories

List of Seismograph Stations with their Instruments and Constants

| STATION     | LATI-TUDE | LONGI-TUDE | HEIGHT<br>a. s. l.<br>(Metres) | LITHOGRAPHIC<br>FOUNDATION                         | INSTRUMENT    | COMPT.        | PERIOD<br>IN<br>SECS              | STATIC<br>MAGNIFI-<br>CATION | DAMPING<br>RATIO | PAPER<br>SPEED<br>mm/min |          |      |
|-------------|-----------|------------|--------------------------------|--|---------------|---------------|-----------------------------------|------------------------------|------------------|--------------------------|----------|------|
| Agra        |           |            |                                |  | Columbia      | E             | To=15                             |                              |                  | 15                       |          |      |
|             |           |            |                                |  | Long Period   | N             | Tg=100                            |                              |                  | 15                       |          |      |
|             |           |            |                                |  | -do-          | Z             | To=15<br>Tg=8.5<br>To=15<br>Tg=70 |                              | 15               |                          |          |      |
| Bombay      | 18° 54' N | 72° 40' E  | 6                              | Deccan Trap  | Milne-Shaw    | N             | 12                                | 350                          | 13:1             | 16                       |          |      |
|             |           |            |                                |  | Milne-Shaw    | E             | 12                                | 350                          | 23:1             | 8                        |          |      |
|             |           |            |                                |  | Sprengnether  | E             | To=Tg=7                           | secs                         |                  | 30                       |          |      |
| Pohore      | 23° 50' N | 85° 48' E  |                                | Rock   | Milne-Shaw    | N             | 12                                | 250                          | 20:1             | 16                       |          |      |
|             |           |            |                                |  | Milne-Shaw    | E             | 12                                | 250                          | 20:1             | 16                       |          |      |
|             |           |            |                                |  | Wood-Anderson | E             | 0.8                               | 950                          | h=0.8            | 50                       |          |      |
|             |           |            |                                |  | Wood-Anderson | N             | 0.8                               | 1000                         | h=0.8            | 50                       |          |      |
| Calcutta    | 22° 32' N | 88° 22' E  | (1) 7                          | (Milne-Shaw)                                       | Milne-Shaw    | E             | 12                                | 250                          | 20:1             | 8                        |          |      |
|             |           |            |                                |  | (2) 6         | (Omori-Ewing) | Wood-Anderson                     | N                            | 2                | 870                      | Critical | 30   |
|             |           |            |                                |  |               | Omori-Ewing   | N                                 | 15                           | 32               |                          | 25.4     |      |
|             |           |            |                                |  |               | Alluvium      | Omori-Ewing                       | E                            | 21               | 30                       |          | 25.4 |
|             |           |            |                                |  |               |               |                                   |                              |                  |                          |          |      |
| Chatra      | 26° 50' N | 87° 10' E  | 161                            | Sand Stone   | Milne-Shaw    | E             | 12                                | 250                          | 20:1             | 16                       |          |      |
|             |           |            |                                |  | Wood-Anderson | N             | 1                                 | 1000                         | 30:1             | 50                       |          |      |
|             |           |            |                                |  | Benioff       | Z             | To=0.72                           | Tg=0.45                      | Critical         | 60                       |          |      |
|             |           |            |                                |  |               |               |                                   |                              | secs             |                          |          |      |
|             |           |            |                                | Wenner-Accelerograph                               | ZNE           |               |                                   |                              |                  |                          |          |      |
| Colombo     | 06° 54' N | 79° 52' E  | 7                              | Beach Sand   | Milne-Shaw    | E             | 12                                | 250                          | 20:1             | -                        |          |      |
| Dehra dun   | 30° 19' N | 78° 02' E  | 582                            | Gravel   | Wood-Anderson | N             | 0.8                               | 950                          | Critical         | 50                       |          |      |
|             |           |            |                                |  | Wood-Anderson | E             | 0.8                               | 850                          | Critical         | 50                       |          |      |
|             |           |            |                                |  | Milne-Shaw    | N             | 12                                | 250                          | 20:1             | 8                        |          |      |
|             |           |            |                                |  | Milne-Shaw    | E             | 12                                | 250                          | 20:1             | 8                        |          |      |
| Hyderabad   | 17° 25' N | 78° 27' E  | 536                            | Granite  | Milne-Shaw    | E             | 12                                | 250                          | 20:1             | 8                        |          |      |
|             |           |            |                                |  | Milne-Shaw    | N             | 12                                | 250                          | 20:1             | 8                        |          |      |
| Kozaikanal  | 10° 14' N | 77° 28' E  | 2346                           | Rock   | Milne-Shaw    | E             | 10                                | 250                          | 20:1             | 8                        |          |      |
| Madras      | 13° 00' N | 80° 11' E  | 15                             | -  | Sprengnether  | E             | To=Tg=72                          | secs                         | Critical         | 30                       |          |      |
| New Delhi   | 28° 35' N | 77° 12' E  | 207                            | Massive Quartzite                                  |               |               |                                   |                              |                  |                          |          |      |
| POONA       | 18° 32' N | 73° 51' E  | 560                            | Deccan Trap  | Sprengnether  | Z             | To=Tg=1.5                         |                              | Critical         | 30                       |          |      |
|             |           |            |                                |  | Wood-Anderson | E             | 4                                 | 1000                         | 20:1             | 15                       |          |      |
|             |           |            |                                |  | Milne-Shaw    | N             | 12                                | 280                          | 20:1             | 8                        |          |      |
| Fort Blair  | 11° 40' N | 92° 43' E  |                                |  | Wood-Anderson | N             | 2                                 | 1000                         | 20:1             | 30                       |          |      |
|             |           |            |                                |  | Wood-Anderson | E             | 0.8                               | 1000                         | 55:1             | 30                       |          |      |
|             |           |            |                                |  | Milne-Shaw    | N             | 12                                | 350                          | 20:1             | 8                        |          |      |
| Sehore      |           |            |                                |  | Wood-Anderson | N             | 0.8                               | 980                          | Critical         | 30                       |          |      |
| Shillong    | 25° 34' N | 91° 53' E  | 1500                           | Quartzite<br>Sand Stone<br>(Shillong<br>Quartzite) | Wood-Anderson | N             | 0.8                               | 1000                         | h=0 h=0.8        | 30                       |          |      |
|             |           |            |                                |  | Wood-Anderson | E             | 0.8                               | 1000                         | h=0.8            | 30                       |          |      |
|             |           |            |                                |  | Milne-Shaw    | N             | 12                                | 250                          | 20:1             | 8                        |          |      |
|             |           |            |                                |  | Benioff       | Z             | To=1.0                            | Tg=0.18                      |                  | 50                       |          |      |
|             |           |            |                                |  | Sprengnether  | E             | To=Tg=5.5                         |                              | Critical         | 30                       |          |      |
|             |           |            |                                | Wenner Accel-<br>erograph                          | ZNE           |               |                                   |                              |                  |                          |          |      |
| Tocklai     | 28° 45' N | 94° 45' E  |                                | Alluvium   | Wood-Anderson | E             | 0.8                               | 970                          | h=0.8            | 50                       |          |      |
| Vizianagram | 18° 07' N | 83° 27' E  |                                |  | Wood-Anderson | E             | 0.8                               | 1000                         | h=0.8            | 30                       |          |      |
|             |           |            |                                |  | Wood-Anderson | N             | 2                                 | 1000                         | 20:1             | 30                       |          |      |



| Date           | Station   | COMPT. | PHASE      | G. M. T.<br>h. m. s.  | REMARKS<br>km.                     |
|----------------|---|--------|------------|-----------------------|------------------------------------|
| October, 1961. |   |        |            |                       |                                    |
| 01             | Epc: - 34.4° N, 104.9° E, Kansu Province, China.<br>- H = 00h 16m 03.1s, h about 32 Kms. (USCGS). |        |            |                       |                                    |
|                | Chatra  | Z      | iP         | 00 19 59              | Feeble, Compression.               |
|                |   |        | i          | 23 20                 |                                    |
|                |   |        | i          | 25 29                 |                                    |
|                | Dehra Dun   | NE     | e          | 00 21 20              | Feeble.                            |
|                |   |        | e          | 25 10                 |                                    |
|                | Calcutta  | E      | e          | 00 23 53              | Slight.                            |
|                |   |        | e          | 26 53                 |                                    |
|                | Poona   | N      | M          | 00 30 00              | Feeble, Other phases<br>not clear. |
| 01             | Chatra  | Z      | e          | 02 21 25              | Mild.                              |
| 01             | Chatra  | Z      | iP         | 03 11 07              | Very weak, distant.                |
|                | Shillong  | Z      | iP         | 03 11 28              | Slight, distant.<br>Compression.   |
| 01             | Shillong  | Z      | ePg        | 09 30 54 30           | Slight.                            |
| 01             | Shillong  | Z      | iP         | 13 09 54              | Slight, distant.<br>Compression.   |
| 01             | Epc: - 37.6° N, 71.8° E, Hindukush Region.<br>- H = 14h 17m 41.0s, h about 122 Kms. (USCGS).      |        |            |                       |                                    |
|                | Delhi   | Z      | iP         | 14 20 03              | Slight, Compression.               |
|                |   |        | i          | 21 42                 |                                    |
|                | Chatra  | Z      | e          | 14 21 27              | Feeble.                            |
|                |   |        | e          | 24 24                 |                                    |
| 01             | Shillong  | Z      | iP         | 17 00 34              | Slight, distant.<br>Compression.   |
| 01             | Shillong  | Z      | iP         | 19 02 41              | Slight, near.<br>Compression.      |
| 01             | Shillong  | Z      | iPg<br>iSg | 19 22 01 110<br>22 14 | Slight, Compression.               |
| 01             | Shillong  | Z      | iP         | 19 58 02              | Slight, distant.<br>Rarefaction.   |
|                | Chatra  | Z      | eP         | 19 58 44              | Feeble, distant.                   |
|                | Delhi   | Z      | iP         | 20 00 11              | Slight, Rarefaction.               |
|                | Calcutta  | E      | e          | 20 02 33              | Slight.                            |
|                |   |        | e          | 05 33                 |                                    |
| 01             | Shillong  | Z      | eP         | 23 17 55              | Slight, distant.                   |



Date Station Compt. PHASE G. M. T.  $\Delta$  REMARKS  
h m. s. km.

DATE STATION COMPT. PHASE G. M. T.  $\Delta$  REMARKS  
h. m. s. km.

October, 1961.

October, 1961.

| Date     | Station   | Compt.   | PHASE       | G. M. T.<br>h m. s.        | $\Delta$<br>km. | REMARKS                        |
|----------|---|----------|-------------|----------------------------|-----------------|--------------------------------|
| 01       | Chatra  | Z        | eP          | 23 18 33                   |                 | Feeble                         |
| (Contd.) | Delhi   | Z        | iP          | 23 19 48                   |                 | Slight, Compression            |
| 01       | Shillong  | Z        | iPg         | 23 54 00                   |                 | Slight, Rarefaction            |
| 02       | Shillong  | Z        | eP          | 00 02 43                   |                 | Slight, distant                |
| 02       | Chatra  | Z        | eP          | 03 35 56                   |                 | Feeble, distant                |
| 02       | Shillong  | Z        | iP          | 06 09 42                   |                 | Slight, distant<br>Compression |
| 02       | Epc:- 7.6°S, 107 0°E, Near coast of Java<br>-H = 06h 21m 32.8s, h about 85 Kms. (USCGS.)    |          |             |                            |                 |                                |
|          | Chatra  | Z        | iP<br>e     | 06 27 56<br>31 08          |                 | Feeble, Compression            |
|          | Shillong  | Z        | eP          | 06 28 28                   |                 | Slight, distant                |
|          | Poona   | Z        | iP          | 06 29 20                   |                 | Tremor, Compression            |
|          | Delhi   | Z<br>ZNE | iP<br>iS    | 06 29 52<br>36 35          | 5080            | Slight, Compression            |
|          | Shillong  | Z        | iP          | 06 30 56                   |                 | Slight, distant<br>Compression |
| 02       | Shillong  | Z        | iP          | 06 34 38                   |                 | Slight, distant<br>Compression |
| 02       | Shillong  | Z        | eP          | 06 59 58                   |                 | Slight, distant                |
| 02       | Shillong  | Z        | eP          | 07 19 59                   |                 | Slight, distant                |
|          | Bombay  | E<br>NE  | e<br>e      | 07 21 10<br>24 44          |                 | Feeble                         |
|          | Visakhapatnam   | E        | e           | 07 21 16                   |                 | Distant                        |
|          | Kodaikanal  | E        | e           | 07 21 23                   |                 | -                              |
| 02       | Epc:- 37.2°N, 22 2°E, Near coast of Greece<br>- H = 07h 21m 49 4s, h about 72 Kms. (USCGS.) |          |             |                            |                 |                                |
|          | Delhi   | Z        | iP          | 07 30 13                   |                 | Slight, compression            |
|          | Dehra Dun   | NE       | e<br>i<br>i | 07 30 20<br>37 08<br>40 06 |                 | Feeble                         |
|          | Poona   | Z        | iP          | 07 30 29                   |                 | Slight, Compression            |
|          | Chatra  | Z        | iP          | 07 31 17                   |                 | Feeble, distant<br>Compression |
|          | Shillong  | Z        | iP          | 07 31 45                   |                 | Slight, distant<br>Compression |

| Date | Station  | Compt. | PHASE                            | G. M. T.<br>h. m. s.                                  | $\Delta$<br>km. | REMARKS                          |
|------|----------|--------|----------------------------------|---|-----------------|----------------------------------|
| 02   | Bombay   | NE     | e                                | 07 37 19  |                 | Slight.                          |
| 02   | Shillong | Z      | eP                               | 07 39 19  |                 | Slight, distant.                 |
| 02   | Shillong | Z      | iP                               | 08 20 13  |                 | Slight, distant.<br>Compression. |
|      | Delhi    | NE     | i                                | 08 36 55  |                 | -                                |
| 02   | Shillong | Z      | iP                               | 12 01 43  |                 | Slight, distant.<br>Compression. |
| 02   | Shillong | Z      | e<br>e                           | 12 12 32<br>12 52                                     |                 | Slight, tremor.                  |
| 02   | Shillong | Z      | eP<br>iSg                        | 12 17 53<br>18 07                                     | 120             | Slight.                          |
| 02   | Shillong | Z      | e                                | 18 22 08  |                 | Slight, near.                    |
| 02   | Tocklai  | E      | eP                               | 19 04 24  |                 | Slight, near.                    |
|      | Shillong | Z      | iP<br>i                          | 19 05 50<br>07 12                                     |                 | Slight, distant.<br>Rarefaction. |
|      | Chatra   | Z      | eP<br>S                          | 19 06 44<br>08 49                                     | 1220            | Feeble.                          |
| 02   | Shillong | Z      | iP                               | 20 50 35  |                 | Slight, distant.<br>Compression. |
| 02   | Shillong | Z      | i                                | 21 08 30  |                 | Slight, near.                    |
| 02   | Shillong | Z      | iP                               | 21 55 32  |                 | Slight, distant.<br>Compression. |
| 02   | Shillong | Z      | ePg<br>P<br>Sg<br>S<br>SS<br>SSS | 22 29 05<br>29 07<br>29 12<br>29 18<br>29 28<br>29 38 | 70              | Slight.                          |
| 02   | Shillong | Z      | e<br>e                           | 23 22 15<br>22 35                                     |                 | Slight, near.                    |
| 02   | Shillong | Z      | iP<br>iS                         | 23 27 25<br>27 40                                     | 110             | Slight, Compression              |
| 03   | Shillong | Z      | iP                               | 00 08 30  |                 | Slight, near.<br>Compression.    |
| 03   | Shillong | Z      | iP                               | 00 10 35  |                 | Slight, distant.<br>Compression. |
| 03   | Shillong | Z      | eP<br>eS                         | 01 18 07<br>18 23                                     | 110             | Slight.                          |

| DATE                  | STATION  | COMPT   | PHASE      | G. M. T.<br>h. m. s. | Δ<br>km. | REMARKS                          |
|-----------------------|----------|---------|------------|----------------------|----------|----------------------------------|
| <u>October, 1961.</u> |          |         |            |                      |          |                                  |
| 03                    | Shillong | Z       | eP         | 09 06 35             |          | Slight, distant.                 |
|                       | Chatra   | Z       | iP<br>S    | 09 06 59<br>07 17    | 150      | Feeble, Compression.             |
|                       | Delhi    | Z       | iP         | 09 09 27             |          | Slight, Compression.             |
| 03                    | Chatra   | Z       | eP<br>i    | 09 41 33<br>43 15    |          | Feeble, distant.                 |
|                       | Shillong | Z       | eP         | 09 42 12             |          | Slight, distant.                 |
| 03                    | Shillong | Z       | eP         | 17 29 57             |          | Slight, distant.                 |
|                       | Chatra   | Z       | eP         | 17 30 19             |          | Very feeble, distant.            |
| 03                    | Shillong | Z       | iP         | 18 40 12             |          | Slight, distant.<br>Compression. |
| 03                    | Shillong | Z       | iP         | 19 11 27             |          | Slight, distant.<br>Compression. |
| 03                    | Shillong | Z       | eP         | 20 37 51             |          | Slight, distant.                 |
| 03                    | Shillong | Z       | ePg<br>eSg | 21 06 55<br>07 05    | 90       | Slight.                          |
| 03                    | Chatra   | Z       | iPg<br>Sg  | 21 59 16<br>59 28    | 110      | Feeble, local.                   |
| 03                    | Shillong | Z       | iP         | 23 29 50             |          | Slight, distant.<br>Compression. |
|                       | Delhi    | Z       | iP         | 23 31 20             |          | Slight, Rarefaction.             |
| 04                    | Shillong | Z       | eP         | 00 53 54             |          | Slight, distant.                 |
| 04                    | Chatra   | Z       | iP         | 02 36 03             |          | Feeble, distant.<br>Compression. |
| 04                    | Shillong | Z       | iP         | 06 23 18             |          | Slight, distant.<br>Compression. |
|                       | Chatra   | Z       | iP         | 06 23 51             |          | Feeble, distant.<br>Rarefaction. |
| 04                    | Shillong | Z       | eP         | 07 25 55             |          | Slight, local.                   |
| 04                    | Shillong | Z       | iP         | 10 57 36             |          | Slight, distant.<br>Rarefaction. |
| 04                    | Chatra   | Z<br>ZN | iPg<br>Sg  | 15 03 16<br>03 28    | 90       | Feeble, Compression.             |
| 04                    | Delhi    | Z       | iP<br>iS   | 16 28 35<br>30 15    | 970      | Slight, Rarefaction.             |

| DATE                  | STATION  | COMPT   | PHASE   | G. M. T.<br>h. m. s.   | Δ<br>km. | REMARKS                          |
|-----------------------|--|---------|---|--|----------|----------------------------------|
| <u>October, 1961.</u> |  |         |   |  |          |                                  |
| 04                    | Chatra<br>(Contd.)   | Z       | iP<br>i   | 16 30 10<br>33 03  |          | Feeble, distant.                 |
|                       | Shillong   | Z       | iP  | 16 30 57   |          | Slight, distant.<br>Rarefaction. |
| 04                    | Shillong   | Z       | iP  | 20 20 19   |          | Slight, distant.<br>Compression. |
| 04                    | Shillong   | Z       | iP  | 22 07 37   |          | Slight, distant.<br>Rarefaction. |
| 04                    | Shillong   | Z       | ePg<br>iSg  | 22 22 26<br>22 36  | 90       | Slight.                          |
| 04                    | Shillong   | Z       | eP  | 23 12 37   |          | Slight, distant.                 |
| 05                    | Shillong   | Z       | eP<br>iS  | 00 47 05<br>47 32  | 250      | Slight.                          |
| 05                    | Shillong   | Z       | eP<br>P*<br>Pg<br>PP<br>PPP<br>iS<br>S*<br>Sg<br>SS | 04 50 40<br>50 42<br>50 45<br>50 47<br>50 53<br>51 04<br>51 05<br>51 07<br>51 14 | 200      | Slight.                          |
| 05                    | Port Blair   | E       | ePg<br>eSg  | 08 25 40<br>25 44  | 30       | Slight.                          |
| 05                    | Shillong   | Z       | eP  | 11 05 50   |          | Slight, near.                    |
|                       | Chatra   | Z<br>ZN | eP<br>S   | 11 06 21<br>07 05  | 410      | Feeble.                          |
| 05                    | Chatra   | Z       | iP  | 12 23 48   |          | Feeble, distant.<br>Compression. |
| 05                    | Shillong   | Z       | iP<br>Sg  | 18 06 12<br>06 43  | 220      | Slight, Rarefaction.             |
| 05                    | Chatra   | Z       | eP  | 18 08 28   |          | Feeble, distant.<br>Compression. |
| 05                    | Shillong   | Z       | iP  | 18 21 25   |          | Slight, distant.<br>Compression. |
|                       | Delhi  | Z       | iP  | 18 22 26   |          | Slight, Rarefaction.             |
| 05                    | Shillong   | Z       | iP  | 19 36 45   |          | Slight, distant.                 |
| 05                    | Felt at Kallakurichi (South Arcol- Madras) and Atur (Salem). |         |   |  |          |                                  |



| DATE                  | STATION   | COMPT.       | PHASE                            | G. M. T.<br>h. m. s.                                  | △<br>km | REMARKS  |
|-----------------------|---|--------------|----------------------------------|---|---------|--|
| <u>October, 1961.</u> |   |              |                                  |   |         |  |
| 05                    | Madras<br>(Contd.)  | E            | eP<br>LR<br>iS<br>M<br>SS<br>SSS | 20 39 18<br>39 34<br>39 41<br>39 43<br>39 50<br>40 02 | 190     | Slight, Tremor.  |
| 05                    | Shillong  | Z            | iP                               | 20 53 07  |         | Slight, near.<br>Compression.  |
| 05                    | Shillong  | Z            | eP<br>Sg                         | 22 27 06<br>27 31                                     | 190     | Slight.  |
| 05                    | Epc:- 24.0°N, 121.9°E, Near Coast of Formosa.<br>-h = 56 Km. - H = 22h 35m 00.8s (USCGS.) |              |                                  |   |         |  |
|                       | Shillong  | ZE           | iP<br>iS                         | 22 40 41<br>45 22                                     | 3060    | Slight, initial<br>ground movement<br>towards East and<br>Rarefaction. |
|                       | Chatra  | Z<br>NE      | iP<br>iS                         | 22 41 19<br>46 25                                     | 3460    | Feeble, Rarefact   |
|                       | Calcutta  | E            | e<br>e                           | 22 41 35<br>46 14                                     |         | Slight.  |
|                       | Delhi   | ZE<br>E<br>N | iP<br>i<br>i                     | 22 42 32<br>42 43<br>49 12                            |         | Slight, initial<br>ground movement<br>towards East and<br>Rarefaction. |
|                       | Dehra Dun   | NE           | e<br>i<br>i                      | 22 42 40<br>44 02<br>48 25                            |         | Slight.  |
|                       | Bombay  | E<br>NE      | e<br>e                           | 22 43 30<br>54 29                                     |         | Slight.  |
| 05                    | Shillong  | Z            | iP                               | 23 09 22  |         | Slight, distant.<br>Rarefaction.                                       |
|                       | Chatra  | Z            | iP                               | 23 09 38  |         | Feeble, distant.<br>Rarefaction.                                       |
| 06                    | Shillong  | Z            | eP                               | 01 34 45  |         | Slight, near.  |
| 06                    | Shillong  | Z            | eP                               | 02 35 50  |         | Slight, distant.   |
| 06                    | Shillong  | Z            | iP                               | 03 32 17  |         | Slight, distant.<br>Compression.                                       |
| 06                    | Shillong  | Z            | eP<br>Sg                         | 03 53 04<br>53 18                                     | 130     | Slight.  |
| 06                    | Shillong  | Z            | eP                               | 05 54 54  |         | Slight, near.  |
| 06                    | Delhi   | Z            | iP<br>iS                         | 07 11 20<br>12 50                                     | 870     | Slight, Rarefacti  |

| DATE                  | STATION   | COMPT. | PHASE       | G. M. T.<br>h. m. s.       | △<br>km | REMARKS  |
|-----------------------|---|--------|-------------|----------------------------|---------|--|
| <u>October, 1961.</u> |   |        |             |                            |         |  |
| 06                    | Dehra Dun<br>(Contd.)   | NE     | e<br>i      | 07 13 17<br>14 44          |         | Feeble.  |
|                       | Chatra  | Z      | eP<br>S     | 07 13 22<br>16 32          | 1900    | Feeble.  |
| 06                    | Shillong  | Z      | iP          | 13 32 39                   |         | Slight, distant.<br>Rarefaction.                                       |
| 06                    | Shillong  | Z      | eP<br>Sg    | 14 24 44<br>25 10          | 190     | Slight.  |
| 06                    | Shillong  | Z      | iP          | 19 51 26                   |         | Slight, distant.<br>Compression  |
| 06                    | Chatra  | Z      | iP<br>S     | 23 57 03<br>57 21          | 140     | Feeble, local.<br>Compression.   |
|                       | Shillong  | ZE     | iP<br>iS    | 23 57 42<br>58 31          | 450     | Slight, initial<br>ground movement<br>towards West and<br>Rarefaction. |
| 07                    | Dehra Dun   | NE     | e           | 00 00 15                   |         | Tremor.  |
| 07                    | Epc:- 31.4°N, 70.2° West Pakistan<br>-h = 59 Km. - H = 04h 21m 56.1s (USCGS.) |        |             |                            |         |  |
|                       | Dehra Dun   | NE     | e<br>i<br>i | 04 23 40<br>24 11<br>25 46 |         | Slight.  |
|                       | Chatra  | Z      | eP<br>e     | 04 25 32<br>30 38          |         | Feeble, distant.   |
|                       | Shillong  | Z      | iP          | 04 26 26                   |         | Slight, distant.<br>Compression.                                       |
|                       | Visakhapatnam   | E      | e           | 04 29 57                   |         |  |
|                       | Madras  | E      | e           | 04 32 37                   |         | Surface waves.   |
| 07                    | Shillong  | Z      | iP          | 08 32 21                   |         | Slight, distant.<br>Rarefaction.                                       |
| 07                    | Shillong  | Z      | eP          | 09 59 12                   |         | Slight, distant.<br>Rarefaction.                                       |
| 07                    | Shillong  | Z      | iP          | 10 15 42                   |         | Slight, distant.<br>Rarefaction.                                       |
|                       | Chatra  | Z      | eP          | 10 15 43                   |         | Feeble, distant.   |
| 07                    | Chatra  | Z      | iP          | 10 19 05                   |         | Rarefaction.   |
| 07                    | Shillong  | Z      | eP          | 15 38 41                   |         | Slight, distant.   |
| 07                    | Shillong  | Z      | eP          | 16 57 19                   |         | Slight, near.  |

DATE STATION COMPT. PHASE G. M. T.  $\Delta$  REMARKS  
h. m. s. km.

October, 1961.

|    |          |   |            |                   |     |                                  |
|----|----------|---|------------|-------------------|-----|----------------------------------|
| 07 | Shillong | Z | iP         | 23 18 42          |     | Tremor                           |
| 08 | Shillong | Z | iP         | 01 01 20          |     | Slight, distant.<br>Compression  |
| 08 | Shillong | Z | eP         | 03 09 29          |     | Slight, distant.                 |
| 08 | Shillong | Z | ePg<br>eSg | 05 02 44<br>02 53 | 80  | Slight.                          |
| 08 | Shillong | Z | iPg        | 09 50 01          |     | Slight, local.<br>Rarefaction.   |
| 08 | Delhi    | Z | iP         | 13 01 26          |     | Slight, Compression.             |
|    | Shillong | Z | iP         | 13 01 34          |     | Slight, distant.<br>Rarefaction. |
| 08 | Shillong | Z | iP<br>iS   | 13 02 10<br>02 53 | 400 | Slight, Rarefaction.             |
| 08 | Delhi    | Z | eP         | 18 09 18          |     | Slight.                          |
|    | Chatra   | Z | eP         | 18 10 51          |     | Feeble, distant.                 |
| 08 | Shillong | Z | iP         | 18 13 36          |     | Slight, distant.<br>Compression. |
| 08 | Shillong | Z | e          | 18 31 39          |     | -                                |
|    | Chatra   | Z | eP         | 18 32 11          |     | Feeble, distant.                 |
| 08 | Shillong | Z | iP         | 22 08 29          |     | Slight, distant.<br>Compression. |
|    | Chatra   | Z | iP         | 22 08 40          |     | Feeble, distant.<br>Rarefaction. |
|    | Delhi    | Z | iP         | 22 08 57          |     | Slight, Compression.             |
| 08 | Shillong | Z | iP         | 22 58 19          |     | Slight, distant.<br>Rarefaction. |

08 Epc:- 1.6°N, 127.3°E, Halmahera.  
- H = 23h 41m 32.2s, -h about 102 Kms. (USCGS).

|               |    |          |                   |      |   |
|---------------|----|----------|-------------------|------|---|
| Shillong      | ZE | iP       | 23 49 12          | 4640 | Slight, initial ground movement towards East and Rarefaction. |
|               | Z  | i        | 54 47             |      |   |
|               |    | iS       | 55 19             |      |   |
| Chatra        | Z  | iP<br>eS | 23 49 47<br>56 22 | 5120 | Feeble, Rarefaction.  |
| Visakhapatnam | EN | iP       | 23 49 49          | 5110 | Moderate. Initial ground movement towards East.               |
|               | E  | PP       | 51 36             |      |   |
|               |    | PPP      | 52 17             |      |   |
|               | NE | eS       | 56 23             |      |   |
|               | E  | e        | 56 31             |      |   |
|               |    | e        | 56 40             |      |   |

DATE STATION COMPT. PHASE G. M. T.  $\Delta$  REMARKS  
h. m. s. km.

October, 1961.

|    |                    |           |  |  |      |   |
|----|--------------------|-----------|--|--|------|---|
| 08 | Madras<br>(Contd.) | E         | iP<br>PcP<br>PP<br>PPP<br>eS<br>e<br>e | 23 50 02<br>51 41<br>51 55<br>52 41<br>56 52<br>57 00<br>57 05 | 5390 | Slight, initial ground movement towards East.                       |
|    | Delhi              | ZNE<br>NE | iP<br>iS                               | 23 50 52<br>58 22  | 6110 | Slight, initial ground movement towards South East and Rarefaction. |
|    | Poona              | Z         | iP                                     | 23 50 54   |      | Slight, initial ground movement towards East and Rarefaction.       |
|    | Dehra Dun          | NE        | eP<br>iS                               | 23 50 57<br>58 26  | 6100 | Slight.   |
|    | Bombay             | NE        | eP<br>PP<br>eS                         | 23 50 59<br>53 07<br>58 37                                     | 6250 | Slight.   |
| 08 | Shillong           | Z         | eP                                     | 23 59 37   |      | Slight, near.   |
| 09 | Tocklai            | E         | eP<br>Sg                               | 04 24 03<br>24 19  | 130  | Slight.   |
|    | Shillong           | Z         | iP<br>S                                | 04 24 31<br>25 06  | 310  | Slight, Rarefaction.  |
|    | Chatra             | Z         | iP<br>S                                | 04 25 29<br>26 51  | 800  | Feeble, Compression.  |
| 09 | Dehra Dun          | NE        | e                                      | 06 58 25   |      | Tremor.   |
| 09 | Shillong           | Z         | iPg<br>Sg                              | 07 10 31<br>10 45  | 120  | Slight, Rarefaction.  |
|    | Chatra             | Z         | iP                                     | 07 11 41   |      | Feeble, Compression   |
| 09 | Shillong           | Z         | iP                                     | 10 50 57   |      | Slight, distant.<br>Compression.                                    |
| 09 | Shillong           | Z         | eP                                     | 11 19 10   |      | Slight, distant.  |
| 09 | Shillong           | Z         | eP<br>eS                               | 15 30 32<br>31 04  | 290  | Slight.   |
| 09 | Shillong           | Z         | eP<br>eS                               | 15 49 11<br>49 35  | 200  | Slight.   |
| 09 | Shillong           | Z         | iP                                     | 16 43 53   |      | Slight, distant.<br>Compression.                                    |
| 09 | Shillong           | Z         | iP                                     | 17 29 26   |      | Slight, distant.<br>Rarefaction.                                    |



| DATE                  | STATION   | COMPT.  | PHASE      | G. M. T.<br>h. m. s. | △<br>km. | REMARKS   |
|-----------------------|---|---------|------------|----------------------|----------|---|
| <u>October, 1961.</u> |   |         |            |                      |          |   |
| 09                    | Calcutta<br>(Contd.)  | NE      | e          | 17 31 06             |          | Slight.   |
| 09                    | Chatra  | Z       | iP<br>i    | 18 30 15<br>31 39    |          | Feeble, distant.<br>Compression.                                    |
| 09                    | Shillong  | Z       | iP         | 19 39 55             |          | Slight, local.  |
| 09                    | Shillong  | Z       | iP         | 19 51 36             |          | Slight, distant.<br>Rarefaction.                                    |
| 09                    | Shillong  | Z       | e          | 22 16 10             |          | Tremor.   |
| 09                    | Shillong  | Z       | iP         | 22 22 20             |          | Slight, distant.<br>Rarefaction.                                    |
|                       | Chatra  | Z       | iP         | 22 22 36             |          | Feeble, distant.<br>Compression.                                    |
| 09                    | Chatra  | Z       | iP         | 23 28 26             |          | Feeble, distant.<br>Compression.                                    |
|                       | Shillong  | Z       | eP         | 23 28 52             |          | Slight, distant.  |
| 10                    | Shillong  | Z       | iP         | 04 08 53             |          | Slight, distant.<br>Compression.                                    |
|                       | Chatra  | Z       | eP         | 04 09 25             |          | Very feeble, distant.   |
|                       | Delhi   | Z       | iP         | 04 10 23             |          | Slight, Compression.  |
| 10                    | Chatra  | Z       | eP         | 04 47 52             |          | Very feeble, distant.   |
| 10                    | Shillong  | Z       | eP         | 06 10 13             |          | Slight, near.   |
| 10                    | Shillong  | Z       | iP         | 06 14 15             |          | Slight, distant.<br>Compression.                                    |
|                       | Chatra  | Z       | eP         | 06 15 08             |          | Very feeble, distant.   |
| 10                    | Chatra  | Z       | iP         | 08 37 06             |          | Feeble, distant.<br>Compression.                                    |
| 10                    | Shillong  | Z       | iPg<br>iSg | 14 18 48<br>18 51    | 20       | Slight.   |
| 10                    | Shillong  | Z       | eP<br>eS   | 16 48 16<br>48 46    | 270      | Slight.   |
| 10                    | Epc:- 4.7°S, 138.2°E, New Guinea.<br>- H = 17h 24m 58.9s, -h about 36 Kms. (USCGS). |         |            |                      |          |   |
|                       | Shillong  | ZE<br>E | iP<br>iS   | 17 34 23<br>41 56    | 5970     | Slight, initial ground<br>movement towards West<br>and Compression. |
|                       | Chatra  | Z       | iP         | 17 34 54             |          | Feeble, distant.  |

| DATE                  | STATION                   | COMPT. | PHASE   | G. M. T.<br>h. m. s.  | △<br>km. | REMARKS   |
|-----------------------|---------------------------|--------|---|---|----------|---|
| <u>October, 1961.</u> |                           |        |   |   |          |   |
| 10                    | Visakhapatnam<br>(Contd.) | E      | eP<br>PP<br>PPP<br>eS<br>PS<br>PPS<br>SS<br>SSS | 17 34 53<br>37 05<br>38 33<br>42 55<br>43 11<br>43 19<br>46 49<br>49 23 | 6480     | Moderate.   |
|                       | Madras                    | E      | e<br>e<br>PP<br>S<br>PPS<br>SKS                 | 17 34 55<br>35 34<br>37 13<br>43 18<br>43 30<br>43 39<br>44 37          |          | Slight.   |
|                       | Bombay                    | E      | e<br>e  | 17 55 05<br>44 58   |          | Slight.   |
|                       | Delhi                     | ZNE    | iP<br>iS  | 17 35 51<br>44 45   | 7430     | Slight, initial<br>ground movement<br>towards North, West<br>and Compression. |
|                       | Poona                     | Z      | iP  | 17 35 52  | 7450     | Slight, Compression.  |
|                       | Dehra Dun                 | NE     | e<br>iP   | 17 36 04<br>44 46   |          | Slight.   |
| 10                    | Shillong                  | Z      | eP  | 19 00 04  |          | Slight, near.   |
| 10                    | Dehra Dun                 | NE     | e<br>e  | 20 47 20<br>57 58   |          | Very slight   |
| 10                    | Shillong                  | Z      | eP  | 20 55 24<br>55 57   |          | Slight, near  |
| 10                    | Shillong                  | Z      | eP  | 21 22 15  |          | Slight, near.   |
| 10                    | Shillong                  | Z      | iP  | 22 22 36  |          | Slight, distant.<br>Compression.  |
| 11                    | Shillong                  | Z      | ePg<br>eSg                                      | 00 13 58<br>14 11   | 110      | Slight.   |
| 11                    | Dehra Dun                 | NE     | e   | 01 21 33  |          | Tremor.   |
|                       | Chatra                    | Z      | eP  | 01 22 00  |          | Feeble, distant.<br>Probably Rarefaction.                                     |
|                       | Shillong                  | Z      | iP  | 01 22 53  |          | Slight, distant.<br>Compression.  |
| 11                    | Shillong                  | Z      | ePg<br>P<br>Sg<br>PPP                           | 05 31 00<br>31 04<br>31 07<br>31 16                                     | 70       | Slight.   |



International  
Seismological  
Centre

| DATE           | STATION  | COMPT. | PHASE                     | G. M. T.<br>h. m. s.                         | Δ<br>km | REMARKS                          |
|----------------|----------|--------|---------------------------|--|---------|----------------------------------|
| October, 1961. |          |        |                           |  |         |                                  |
| 11             | Shillong | Z      | iP                        | 07 16 07                                     |         | Slight, distant<br>Compression.  |
| 11             | Tocklai  | E      | iP<br>Pg<br>LQ<br>S<br>Sg | 09 32 39<br>32 59<br>33 26<br>33 37<br>34 06 | 550     | Weak.                            |
|                | Shillong | Z<br>E | eP<br>i<br>i<br>i         | 09 33 03<br>33 55<br>34 07<br>34 15          |         | Slight, near                     |
| 11             | Shillong | Z      | iP                        | 09 40 30                                     |         | Slight, distant<br>Compression.  |
| 11             | Shillong | Z      | eP                        | 11 38 36                                     |         | Slight, near                     |
| 11             | Shillong | Z      | ePg<br>eSg                | 13 19 42<br>19 54                            | 100     | Slight.                          |
| 11             | Shillong | Z      | iP<br>iS                  | 14 43 37<br>44 01                            | 200     | Slight, Compress                 |
|                | Chatra   | Z      | iP<br>S                   | 14 43 55<br>44 20                            | 220     | Feeble, Compress                 |
| 11             | Shillong | Z      | eP<br>eS                  | 16 43 57<br>44 40                            | 400     | -                                |
| 11             | Shillong | Z      | iP                        | 17 26 56                                     |         | Slight, distant.<br>Compression. |
| 11             | Shillong | Z      | iP                        | 19 55 21                                     |         | Slight, distant<br>Rarefaction.  |
| 11             | Shillong | Z      | iP                        | 20 31 14                                     |         | Slight, distant.<br>Rarefaction  |
| 11             | Shillong | Z      | iP                        | 20 32 14                                     |         | Slight, distant<br>Compression   |
| 12             | Shillong | Z      | eP                        | 03 50 02                                     |         | Slight, near                     |
|                | Delhi    | Z      | iP                        | 03 51 46                                     |         | Slight, Compressi                |
| 12             | Shillong | Z      | eP                        | 06 11 27                                     |         | Slight, distant                  |
| 12             | Shillong | Z      | iP                        | 08 34 55                                     |         | Slight, distant<br>Rarefaction   |
| 12             | Shillong | Z      | iP                        | 19 13 03                                     |         | Slight, distant<br>Rarefaction.  |
| 12             | Chatra   | Z      | e<br>i<br>i               | 20 32 03<br>32 10<br>32 48                   | 350     | Feeble, Compressi                |

| DATE           | STATION   | COMPT. | PHASE               | G. M. T.<br>h. m. s.                | Δ<br>km | REMARKS                                      |
|----------------|-----------|--------|---------------------|-------------------------------------|---------|--|
| October, 1961. |           |        |                     |                                     |         |  |
| 12             | Shillong  | Z      | eP<br>eS            | 20 41 40<br>42 07                   | 230     | Slight.                                      |
| 12             | Shillong  | Z      | eP                  | 21 46 03                            |         | Slight, distant.                             |
| 13             | Shillong  | Z      | iP                  | 02 29 05                            |         | Slight, distant.<br>Compression.             |
|                | Chatra    | Z      | iP                  | 02 29 42                            |         | Very feeble, distant.<br>Compression.        |
| 13             | Chatra    | Z      | e                   | 05 23 36                            |         | Very mild, near<br>Beginning not<br>certain. |
| 13             | Chatra    | Z      | iP                  | 05 18 00                            |         | Feeble, distant.<br>Rarefaction.             |
|                | Shillong  | Z      | iP                  | 05 18 03                            |         | Slight, distant.<br>Rarefaction.             |
| 13             | Shillong  | Z      | iP<br>iS            | 05 45 39<br>46 01                   | 190     | Slight, Rarefaction.                         |
| 13             | Chatra    | Z      | e<br>e              | 07 22 09<br>22 19                   |         | Very mild, near.                             |
| 13             | Shillong  | Z      | eP                  | 09 32 50                            |         | Slight, local.                               |
| 13             | Shillong  | Z      | iP                  | 11 05 52                            |         | Slight, distant.<br>Compression.             |
| 13             | Shillong  | Z      | eP                  | 14 37 40                            |         | Slight, distant.                             |
| 13             | Chatra    | Z      | e                   | 14 40 58                            |         | Feeble, near.                                |
|                | Shillong  | Z      | e<br>e<br>e         | 14 41 11<br>41 47<br>42 11          |         | Slight, near.                                |
| 13             | Shillong  | Z      | iPg<br>iSg          | 15 25 11<br>25 22                   | 90      | Slight, Rarefaction.                         |
| 13             | Dehra Dun | NE     | e                   | 16 47 18                            |         | Tremor.                                      |
|                | Delhi     | Z      | iP<br>Pg<br>i<br>iS | 16 47 26<br>47 43<br>47 59<br>48 13 | 430     | Slight, Rarefaction.                         |
|                | Chatra    | Z      | eP                  | 16 47 45                            |         | Feeble, near.                                |
|                | Shillong  | Z      | iP                  | 16 48 41                            |         | Slight, Compression.                         |
| 13             | Shillong  | Z      | iP                  | 17 08 51                            |         | Slight, distant.<br>Rarefaction.             |



DATE STATION COMPT. PHASE G. M. T.  $\Delta$  REMARKS  
h. m. s. km.

October, 1961

| DATE | STATION  | COMPT. | PHASE      | G. | M. | T. | $\Delta$ | REMARKS                         |
|------|----------|--------|------------|----|----|----|----------|---------------------------------|
|      |          |        |            | h. | m. | s. | km.      |                                 |
| 13   | Shillong | Z      | iPg<br>iSg | 18 | 15 | 38 | 50       | Slight, Rarefa                  |
|      |          |        |            |    | 15 | 44 |          |                                 |
| 13   | Shillong | Z      | iP         | 21 | 08 | 03 |          | Slight, distant<br>Rarefaction. |
| 13   | Shillong | Z      | iP         | 21 | 31 | 23 |          | Slight, distant<br>Rarefaction  |
| 14   | Shillong | Z      | iP         | 01 | 09 | 55 |          | Slight, near.<br>Compression.   |
| 14   | Chatra   | Z      | eP         | 01 | 47 | 36 |          | Very feeble, P<br>not clear.    |
| 14   | Delhi    | Z      | iP         | 02 | 03 | 15 |          | Slight, Rarefa                  |
| 14   | Chatra   | Z      | e          | 02 | 39 | 20 |          | Very mild. Be                   |
|      |          |        | e          | 03 | 18 | 57 |          | 02 30 and minor                 |
|      |          |        | e          |    | 23 | 22 |          | disturbances                    |
|      |          |        | e          |    | 29 | 03 |          | recorded proba                  |
|      |          |        | e          |    | 32 | 17 |          | due to land sl                  |
|      |          |        | e          | 04 | 02 | 28 |          | caused by heavy<br>rain.        |
| 14   | Shillong | Z      | ePg<br>eSg | 06 | 40 | 25 | 50       | Slight.                         |
|      |          |        |            |    | 40 | 29 |          |                                 |
| 14   | Shillong | Z      | iP         | 09 | 16 | 25 |          | Slight, distant<br>Compression. |
| 14   | Chatra   | Z      | eP         | 12 | 39 | 19 |          | Very weak, dis                  |
|      | Delhi    | Z      | iP         | 12 | 40 | 21 |          | Slight, Rarefa                  |
| 14   | Shillong | Z      | iP         | 14 | 45 | 34 |          | Slight, distant<br>Rarefaction. |
| 14   | Shillong | Z      | iP         | 16 | 26 | 31 |          | Slight, distant<br>Rarefaction. |
| 14   | Shillong | Z      | iP<br>eS   | 17 | 21 | 33 | 300      | Slight, Compre                  |
|      |          |        |            |    | 22 | 07 |          |                                 |
| 14   | Chatra   | Z      | eP         | 17 | 24 | 52 |          | Very weak, dis                  |
| 14   | Chatra   | Z      | iP<br>eS   | 17 | 36 | 31 | 150      | Feeble, Rarefa                  |
|      |          |        |            |    | 36 | 50 |          |                                 |
|      | Shillong | Z      | eP<br>eS   | 17 | 37 | 44 | 590      | Slight.                         |
|      |          |        |            |    | 38 | 46 |          |                                 |
| 14   | Shillong | Z      | iPg<br>iSg | 18 | 27 | 00 | 70       | Slight, Rarefa                  |
|      |          |        |            |    | 27 | 08 |          |                                 |
| 14   | Delhi    | Z      | iP         | 19 | 20 | 51 |          | Slight, Compres                 |
| 14   | Shillong | Z      | iP         | 22 | 08 | 32 |          | Slight, distant<br>Compression. |

DATE STATION COMPT. PHASE G. M. T.  $\Delta$  REMARKS  
h. m. s. km.

October, 1961.

| DATE | STATION   | COMPT. | PHASE        | G. | M. | T. | $\Delta$ | REMARKS                          |
|------|---|--------|--------------|----|----|----|----------|----------------------------------|
|      |   |        |              | h. | m. | s. | km.      |                                  |
| 14   | Chatra  | Z      | iP           | 22 | 08 | 49 |          | Feeble, distant.<br>Compression. |
|      | (Contd.)  |        |              |    |    |    |          |                                  |
| 15   | Shillong  | Z      | eP           | 00 | 11 | 23 |          | Slight, near.                    |
| 15   | Shillong  | Z      | i            | 13 | 25 | 48 |          | Slight, near.                    |
| 15   | Shillong  | Z      | iP<br>iS     | 15 | 25 | 41 | 230      | Slight, Rarefaction.             |
|      |   |        |              |    | 26 | 08 |          |                                  |
| 15   | Shillong  | Z      | iP<br>iS     | 16 | 25 | 15 | 230      | Slight, Rarefaction.             |
|      |   |        |              |    | 25 | 42 |          |                                  |
| 15   | Epc:- 4.1°S, 102.3°E, Near South West Coast of Sumatra.<br>- H = 17h 07m 55.6s - h about 66 Kms. (USCGS). |        |              |    |    |    |          |                                  |
|      | Shillong  | Z      | iP           | 17 | 14 | 12 |          | Slight, distant.<br>Compression. |
|      | Chatra  | Z      | iP           | 17 | 14 | 39 |          | Feeble, distant.<br>Compression. |
|      | Delhi   | Z      | iP           | 17 | 15 | 34 |          | Slight, Compression.             |
|      | Chatra  | Z      | iP           | 17 | 17 | 15 |          | Feeble, distant.<br>Compression. |
| 15   | Shillong  | Z      | iP           | 17 | 34 | 55 |          | Slight, distant.<br>Compression. |
| 15   | Chatra  | Z      | eP           | 18 | 24 | 01 |          | Very feeble, distant.            |
| 15   | Delhi   | Z      | eP<br>i<br>i | 18 | 32 | 30 |          | Slight.                          |
|      |   |        |              |    | 34 | 02 |          |                                  |
|      |   |        |              |    | 34 | 11 |          |                                  |
| 15   | Shillong  | Z      | e            | 19 | 34 | 47 |          | Slight, near.                    |
| 15   | Chatra  | Z      | eP           | 20 | 36 | 19 |          | Very feeble, distant.            |
| 15   | Shillong  | Z      | iP           | 21 | 26 | 31 |          | Slight, distant.<br>Rarefaction. |
| 15   | Delhi   | Z      | eP           | 22 | 46 | 22 |          | Slight.                          |
| 16   | Shillong  | Z      | iP           | 01 | 16 | 43 |          | Slight, distant.<br>Compression. |
| 16   | Shillong  | Z      | eP           | 08 | 07 | 16 |          | Slight, distant.                 |
| 16   | Shillong  | Z      | iP           | 09 | 15 | 13 |          | Slight, distant.<br>Rarefaction. |
| 16   | Shillong  | Z      | eP           | 12 | 12 | 01 |          | Slight, near.                    |
| 16   | Shillong  | Z      | ePg<br>eSg   | 16 | 20 | 07 | 20       | Slight.                          |
|      |   |        |              |    | 20 | 09 |          |                                  |
|      | Chatra  | Z      | eP           | 16 | 20 | 07 |          | Feeble, distant.                 |



| DATE                  | STATION    | COMPT.       | PHASE       | G. M. T.<br>h. m. s.                 | △<br>km. | REMARKS                              |
|-----------------------|------------|--------------|-------------|--------------------------------------|----------|--------------------------------------|
| <u>October, 1961.</u> |            |              |             |                                      |          |                                      |
| 16                    | Shillong   | Z            | iP          | 18 19 07                             |          | Slight, distant.<br>Compression.     |
| 16                    | Dehra Dun  | NE           | e           | 18 23 01                             |          | Tremor.                              |
| 16                    | Shillong   | Z            | iP          | 18 48 50                             |          | Slight, distant.<br>Compression.     |
| 16                    | Shillong   | Z            | e           | 19 48 08                             |          | Tremor.                              |
| 16                    | Shillong   | Z            | eP          | 20 06 59                             |          | Slight, near.                        |
| 16                    | Shillong   | Z            | iP          | 21 05 48                             |          | Slight, distant.<br>Rarefaction.     |
| 17                    | Delhi      | Z            | iP<br>i     | 03 28 09<br>28 14                    |          | Slight, Rarefaction                  |
|                       | Shillong   | Z            | iP          | 03 28 47                             |          | Slight, near.<br>Rarefaction.        |
| 17                    | Bombay     | N<br>NE<br>E | e<br>M<br>M | 04 51 45<br>58 58<br>05 17 -<br>18 - |          | Slight.                              |
|                       | Kodaikanal | E            | e           | 05 10 46                             |          | -                                    |
|                       | Madras     | E            | e           | 05 12 10                             |          | Surface waves of a<br>distant shock. |
|                       | Hyderabad  | E            | M           | 05 15 25                             |          | Period = 19 sec.,<br>Gr. dis. = 5 μ  |
| 17                    | Shillong   | Z            | iP          | 10 04 07                             |          | Slight, distant.<br>Compression.     |
| 17                    | Shillong   | Z            | iP          | 11 11 33                             |          | Slight, distant.<br>Compression.     |
| 17                    | Shillong   | Z            | iP<br>iS    | 13 30 24<br>30 40                    | 120      | Slight, Rarefaction                  |
| 17                    | Shillong   | Z            | iP          | 15 28 33                             |          | Slight, near.<br>Rarefaction.        |
| 17                    | Shillong   | Z            | eP          | 19 47 35                             |          | Slight, near.                        |
| 17                    | Shillong   | Z            | iP<br>iS    | 20 44 19<br>44 39                    | 150      | Slight, Compression                  |
| 18                    | Shillong   | Z            | iP          | 06 52 13                             |          | Slight, near.<br>Compression.        |
|                       | Chatra     | Z            | eP<br>eS    | 06 52 55<br>53 37                    | 370      | Very feeble.                         |

| DATE                  | STATION  | COMPT.  | PHASE   | G M T.<br>h. m. s.   | △<br>km. | REMARKS  |
|-----------------------|--|---------|---|--|----------|--|
| <u>October, 1961.</u> |  |         |   |  |          |  |
| 18                    | Calcutta   | E       | e<br>i<br>i<br>i  | 07 11 53<br>16 20<br>23 03<br>26 26  |          | Slight.  |
| 18                    | Shillong   | Z       | e   | 10 56 01   |          | Slight, distant.   |
| 18                    | Shillong   | Z       | iP  | 15 17 37   |          | Slight, near.<br>Rarefaction.  |
| 18                    | Epc: - 23.2°N, 94.7°E, Burma.<br>- H = 15h 31m 19.2s, -h about 105 Kms. (USCGS).   |         |   |  |          |  |
|                       | Shillong   | Z<br>E  | iP<br>PP<br>PPP   | 15 32 12<br>32 19<br>32 28   | 330      | Slight, initial<br>ground movement<br>towards East and<br>Rarefaction. |
|                       |  | NE<br>E | iS<br>SS<br>SSS   | 32 48<br>33 00<br>33 12  |          |  |
|                       | Tocklai  | E       | eP<br>PP<br>e<br>Sg<br>e                                  | 15 32 23<br>32 30<br>33 01<br>33 16<br>33 24                                     | 510      | Feeble.  |
|                       | Chatra   | Z<br>ZN | iP<br>S<br>LR<br>SS<br>SSS<br>Sg.M                        | 15 33 09<br>34 30<br>34 40<br>34 41<br>34 52<br>35 11                            | 800      | Feeble, Compression.   |
|                       | Bokaro   | NE      | eP  | 15 33 14   |          | Slight, Other phases<br>not clear.                                     |
|                       | Delhi  | Z       | eP<br>iS  | 15 35 07<br>37 58  | 1760     | Slight.  |
|                       | Poona  | Z       | eP  | 15 35 52   |          | Feeble, phases not<br>clear.   |
|                       | Bombay   | NE      | e   | 15 37 51   |          | Tremor.  |
| 18                    | Epc: - 36.7°S, 72.6°W, Near Coast of Southern Chile.<br>- H = 16h 52m 00.2s, - h about Kms.<br>Minor damage in area between Curico and Valdivia (USCGS).<br>Mag: - 6½ (Pas). |         |   |  |          |  |
|                       | Bombay   | NE      | PKP<br>PKP<br>e<br>PP<br>PKS1<br>SKKS1<br>SKSP<br>PS<br>e | 17 11 32<br>11 49<br>12 34<br>15 00<br>15 37<br>21 51<br>25 07<br>25 53<br>26 41 | 16330    |  |

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

October, 1961.

| DATE | STATION                     | COMPT. | PHASE      | G. M. T.<br>h. m. s. | REMARKS<br>km.   |       |          |
|------|-----------------------------|--------|------------|----------------------|--|-------|----------|
| 18   | Bombay<br>(Contd.) (Contd.) | NE     | PPS        | 17 27 47             | Period = 19 secs.,<br>Gr. dis. = 9 $\mu$<br>Period = 19 secs.,<br>Gr. dis. = 11 $\mu$  |       |          |
|      |                             |        | eSS        | 34 00                |  |       |          |
|      |                             |        | SSP        | 34 51                |  |       |          |
|      |                             | N      | e          | 35 23                |  |       |          |
|      |                             | NE     | SSS        | 39 21                |  |       |          |
|      |                             | N      | e          | 42 58                |  |       |          |
|      |                             |        | LQ         | 54 00                |  |       |          |
|      |                             |        | M          | 18 12 23             |  |       |          |
|      |                             |        | E          | M                    |  | 12 40 |          |
|      |                             |        |            |                      |  |       |          |
|      | Poona                       | Z      | iPKP1      | 17 11 34             | Initial ground move<br>towards North, East<br>and Compression.                         |       |          |
|      | Madras                      | E      | iPKP       | 17 11 37             | 16550 Initial ground mov<br>towards East.  |       |          |
|      |                             |        | i          | 11 54                |  |       |          |
|      |                             |        | i          | 12 10                |  |       |          |
|      |                             |        | e          | 14 42                |  |       |          |
|      |                             |        | PP         | 15 17                |  |       |          |
|      | Hyderabad                   | E      | PKP1       | 17 11 42             | Period = 18 secs.,<br>Gr. dis. = 10 $\mu$<br>Period = 19 secs.,<br>Gr. dis. = 16 $\mu$ |       |          |
|      |                             |        | e          | 14 42                |  |       |          |
|      |                             |        | e          | 15 18                |  |       |          |
|      |                             |        | e          | 18 27                |  |       |          |
|      |                             |        | e          | 22 03                |  |       |          |
|      |                             | N      | e          | 25 23                |  |       |          |
|      |                             | E      | e          | 25 27                |  |       |          |
|      |                             |        | e          | 33 36                |  |       |          |
|      |                             |        | e          | 46 13                |  |       |          |
|      |                             | N      | LR         | 59 35                |  |       |          |
|      |                             | E      | LP         | 59 39                |  |       |          |
|      |                             | N      | M          | 18 07 35             |  |       |          |
|      |                             |        | E          | M                    |  | 09 36 |          |
|      |                             |        |            |                      |  |       |          |
|      |                             |        | Port Blair | E                    |  | ePKP  | 17 11 46 |
|      |                             | M      |            | 18 05 26             |  |       |          |
|      | Delhi                       | ZNE    | ePKP       | 17 11 48             | 16940 Compression.   |       |          |
|      |                             | NE     | i          | 12 10                |  |       |          |
|      |                             |        | PP         | 15 42                |  |       |          |
|      |                             | N      | i          | 22 27                |  |       |          |
|      |                             | NE     | i          | 26 00                |  |       |          |
|      | Dehra Dun                   | NE     | ePKP       | 17 11 51             |  |       |          |
|      |                             | N      | e          | 15 17                |  |       |          |
|      |                             |        | i          | 22 40                |  |       |          |
|      |                             |        | i          | 28 30                |  |       |          |
|      |                             |        | i          | 32 08                |  |       |          |
|      |                             |        | e          | 35 58                |  |       |          |
|      |                             |        | e          | 40 08                |  |       |          |
|      | M                           | 47 25  |            |                      |  |       |          |
|      | Visakhapatnam               | NE     | e          | 17 11 53             |  |       |          |
|      |                             |        | e          | 22 24                |  |       |          |
|      |                             | E      | e          | 25 55                |  |       |          |

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

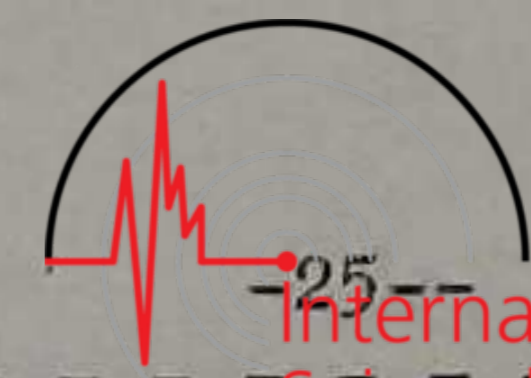
October, 1961.

| DATE | STATION            | COMPT. | PHASE | G. M. T.<br>h. m. s. | REMARKS<br>km.                                |
|------|--------------------|--------|-------|----------------------|---|
| 18   | Chatra<br>(Contd.) | ZNE    | PKP1  | 17 11 55             | 17820 Compression. Other<br>phases not clear. |
|      |                    |        | PKP2  | 12 41                |   |
|      |                    |        | PP    | 16 21                |   |
|      |                    |        | SKKS1 | 22 58                |   |
|      |                    |        |       |                      |   |
|      | Bokaro             | NE     | ePKP  | 17 11 56             | Other phases not clear.                       |
|      | Shillong           | Z      | iPKP  | 17 11 56             | Compression. Phases<br>not clear.             |
|      |                    | N      | i     | 22 06                |   |
|      |                    |        | i     | 23 21                |   |
|      |                    |        | i     | 27 33                |   |
|      |                    |        | i     | 30 13                |   |
|      |                    |        | M     | 18 36 -              |   |
|      | Kodaikanal         | E      | e     | 17 15 20             | -   |
| 18   | Shillong           | Z      | e     | 19 31 01             | Slight, distant.                              |
| 18   | Shillong           | Z      | iP    | 20 10 20             | 200 Slight.                                   |
|      |                    |        | iS    | 10 44                |   |
| 18   | Shillong           | Z      | iP    | 20 28 43             | Slight, distant.<br>Rarefaction.              |
|      | Chatra             | Z      | eP    | 20 29 33             | 940 Feeble.                                   |
|      |                    | ZN     | S     | 31 09                |   |
| 18   | Shillong           | Z      | eP    | 23 38 35             | Slight, near.                                 |
| 19   | Delhi              | Z      | iP    | 04 30 53             | Slight, Compression.                          |
| 19   | Poona              | Z      | iP    | 11 38 36             | Slight, Compression.                          |
|      | Madras             | E      | e     | 11 38 40             | -   |
|      | Chatra             | Z      | iP    | 11 39 02             | Feeble, distant.<br>Rarefaction.              |
|      |                    |        | i     | 39 37                |   |
|      | Shillong           | Z      | iP    | 11 39 03             | Slight, distant.<br>Compression.              |
|      |                    |        | i     | 39 45                |   |
|      |                    |        | i     | 40 25                |   |
| 19   | Shillong           | Z      | iP    | 12 31 59             | Slight, distant.<br>Compression.              |
| 19   | Shillong           | Z      | iP    | 16 18 42             | Slight, near.<br>Compression.                 |
| 19   | Tocklai            | E      | iPg   | 16 32 03             | 20 Very slight.                               |
|      |                    |        | Sg    | 32 06                |   |
| 19   | Chatra             | Z      | eP    | 16 35 18             | 180 Feeble, near.                             |
|      |                    |        | S     | 35 39                |   |
| 19   | Shillong           | Z      | iP    | 19 39 44             | Slight, distant.<br>Compression.              |



| DATE                  | STATION   | COMPT.  | PHASE      | G. M. T.<br>h. m. s. | △<br>km. | REMARKS                                    |
|-----------------------|---|---------|------------|----------------------|----------|--|
| <u>October, 1961.</u> |   |         |            |                      |          |  |
| 19                    | Poona<br>(Contd.)   | Z       | iP         | 19 39 55             |          | Tremor, Rarefaction.                       |
|                       | Chatra  | Z       | iP         | 19 39 57             |          | Feeble, distant.<br>Rarefaction.           |
| 19                    | Shillong  | Z       | ePg        | 19 47 35             |          | Slight, near.                              |
| 19                    | Shillong  | Z       | iP         | 22 54 19             |          | Slight, distant.<br>Compression.           |
| 20                    | Shillong  | Z       | eP         | 02 31 06             |          | Slight, near.                              |
| 20                    | Shillong  | Z       | iP         | 04 01 42             |          | Slight, distant.<br>Rarefaction.           |
| 20                    | Shillong  | Z       | iP         | 05 52 03             |          | Slight, distant.<br>Rarefaction.           |
| 20                    | Shillong  | Z       | iPg        | 06 35 59             |          | Slight, local.                             |
| 20                    | Shillong  | Z       | iP         | 08 14 02             |          | Slight, distant.<br>Compression.           |
|                       | Chatra  | Z       | iP         | 08 14 34             |          | Feeble, distant.<br>Compression.           |
| 20                    | Shillong  | Z       | eP         | 09 53 36             |          | Slight, near.                              |
| 20                    | Shillong  | ZE<br>E | iP<br>iS   | 10 43 08<br>43 55    | 430      | Slight.                                    |
|                       | Tocklai   | E       | iP<br>iS   | 10 43 48<br>44 13    | 210      | Slight, Initial gro<br>motion towards West |
|                       | Chatra  | Z<br>ZN | iP<br>S    | 10 44 06<br>45 35    | 850      | Rarefaction.                               |
| 20                    | Shillong  | Z       | ePg<br>eSg | 13 02 36<br>02 45    | 80       | Slight.                                    |
| 20                    | Shillong  | Z       | iPg<br>iSg | 16 48 37<br>48 42    | 50       | Slight, Rarefaction                        |
| 20                    | Shillong  | Z       | eP         | 17 46 09             |          | Slight, distant.<br>Compression.           |
|                       | Chatra  | Z       | iP         | 17 46 54             |          | Feeble, distant.<br>Compression.           |
| 20                    | Epc:- 38.4°N, 97.5°E, Western China.<br>- H = 17h, 46m, 44.7s,<br>-h about 25 Kms. (USCGS). |         |            |                      |          |  |
|                       | Chatra  | Z       | eP         | 17 49 18             |          | Feeble, distant.                           |
|                       | Shillong  | Z       | eP         | 17 49 57             |          | Slight, distant.                           |

| DATE                  | STATION   | COMPT.       | PHASE       | G. M. T.<br>h. m. s.       | △<br>km. | REMARKS   |
|-----------------------|---|--------------|-------------|----------------------------|----------|---|
| <u>October, 1961.</u> |   |              |             |                            |          |   |
| 20                    | Dehra Dun<br>(Contd.)   | NE           | e           | 17 51 04<br>54 18          |          | Feeble.   |
|                       | Calcutta  | E            | e           | 17 57 15                   |          | Slight.   |
|                       | Bombay  | E            | e           | 17 57 58<br>18 03 29       |          | Slight.   |
| 20                    | Shillong  | Z            | eP<br>iS    | 18 13 55<br>14 30          | 310      | Slight.   |
| 21                    | Shillong  | Z            | iP<br>iS    | 01 42 32<br>43 12          | 370      | Slight, Rarefaction.                                |
| 21                    | Kodaikanal  | E            | e           | 03 54 21                   |          | -   |
| 21                    | Bokaro  | NE           | eP          | 08 47 55                   |          | Slight, Tremor.                                     |
| 21                    | Chatra  | Z            | iP          | 17 46 54                   |          | Feeble, probably distant.<br>Compression.           |
|                       | Delhi   | Z            | iP          | 17 47 36                   |          | Tremor, Compression.                                |
| 21                    | Delhi   | Z            | iP          | 22 42 30                   |          | Slight, Compression.                                |
| 22                    | Shillong  | Z            | eP          | 07 24 12                   |          | Slight, near.                                       |
| 22                    | Shillong  | Z            | iP          | 07 39 08                   |          | Slight, distant.<br>Compression.                    |
| 22                    | Shillong  | Z            | iP          | 08 52 16                   |          | Slight, distant.<br>Compression.                    |
| 22                    | Epc:- 19.9°S, 172.4°E, New Hebrides Islands.<br>- H = 09h 50m 43.6s, -h about 181 Kms. (USCGS )<br>Mag:- 5½ (Berk). |              |             |                            |          |   |
|                       | Shillong  | Z            | eP          | 10 03 23                   |          | Slight, distant.                                    |
|                       | Bombay  | E<br>NE<br>E | e<br>e<br>e | 10 11 10<br>16 36<br>20 00 |          | Slight.   |
|                       | Madras  | E            | e<br>e      | 10 17 30<br>49 19          |          | Slight, distant. Initial<br>phases not discernable. |
| 22                    | Shillong  | Z            | eP          | 13 27 57                   |          | Slight, distant.                                    |
| 22                    | Shillong  | Z            | eP          | 15 33 03                   |          | Slight, distant.                                    |
| 22                    | Shillong  | Z            | eP          | 16 55 02                   |          | Slight, near.                                       |
| 22                    | Shillong  | Z            | eP          | 18 53 06                   |          | Slight, distant.                                    |
| 22                    | Shillong  | Z            | eP          | 19 09 39                   |          | Slight, distant.                                    |
|                       | Delhi   | Z            | eP          | 19 10 52                   |          | Tremor, Rarefaction.                                |



| DATE                  | STATION   | COMPT   | PHASE  | G. M. T.<br>h. m. s.   | △<br>km. | REMARKS.   |
|-----------------------|---|---------|--|--|----------|--|
| <u>October, 1961.</u> |   |         |  |  |          |  |
| 22                    | Bombay  | E       | e  | 23 00 54   |          | Slight.  |
|                       | Poona   | Z       | eP   | 23 01 07   |          | Slight.  |
|                       | Delhi   | Z       | eP   | 23 01 07   |          | Slight. Initial ground motion towards East and compression.    |
|                       | Chatra  | Z       | iP   | 23 02 22   |          | Feeble, distant.   |
|                       | Shillong  | Z       | P  | 23 03 08   |          | Rarefaction. Slight, distant compression.                      |
| 23                    | Epc: 60.4° S, 35.4° W. Sandwich Islands Region.<br>- H = 00 h 08 m 33.3 s. about 25 Kms. (USCGS). |         |  |  |          |  |
|                       | Poona   | Z       | PKP1<br>PPP  | 00 27 13<br>28 16  |          | Moderate   |
|                       | Dehra Dun   | Z       | e  | 00 27 36   |          | Slight.  |
|                       | Delhi   | Z       | ePKP   | 00 27 37   |          | Slight, compression.   |
|                       |   | E       | i  | 36 00  |          |  |
|                       | Shillong  | Z       | iPKP<br>i<br>M   | 00 27 42<br>29 32<br>01 25 -   |          | Moderate, distant compression. Period = 15 sec. Gr. dis = 2 u. |
|                       | Chatra  | Z       | ePKP   | 00 27 43   |          | Feeble, distant.   |
|                       | Madras  | E       | ePKP<br>e<br>e<br>e<br>e<br>e<br>e<br>e<br>e<br>e<br>M | 00 28 03<br>28 12<br>30 48<br>32 38<br>37 38<br>37 57<br>38 08<br>38 16<br>38 20<br>47 38<br>57 22 |          | Slight.  |
|                       | Tocklai   | E       | e  | 00 28 20   |          | Slight.  |
|                       | Kodaikanal  | E       | e  | 00 31 30   |          | -  |
|                       | Bombay  | E       | e<br>e<br>i  | 00 36 06<br>38 32<br>40 00   |          | Slight.  |
|                       | Hyderabad   | NE<br>E | e<br>M   | 43 00<br>01 03 50  |          | Period = 10 sec<br>Gr. dis = 7 u.                              |

| DATE                  | STATION  | COMPT. | PHASE    | G. M. T.<br>h. m. s. | △<br>km. | REMARKS  |
|-----------------------|--|--------|----------|----------------------|----------|--|
| <u>October, 1961.</u> |  |        |          |                      |          |  |
| 23                    | Poona  | Z      | iP       | 01 43 30             |          | Tremor. Rarefaction.   |
|                       | Delhi  | Z      | iP<br>i  | 01 43 43<br>43 49    |          | Slight, Compression.   |
|                       | Shillong   | Z      | iP       | 01 43 54             |          | Slight, distant. Rarefaction.                                      |
| 23                    | Shillong   | Z      | iP       | 03 11 28             |          | Slight, distant. Compression.                                      |
| 23                    | Shillong   | Z      | e<br>i   | 04 28 54<br>30 19    |          | Slight; near.  |
| 23                    | Shillong   | Z      | eP       | 04 38 05             |          | Slight, distant.   |
| 23                    | Epc: - 27.9° N, 54.4° E, Iran.<br>- H = 04h 40m 20.7s,<br>- about 43 Kms. (USCGS). |        |          |                      |          |  |
|                       | Bombay   | NE     | eP<br>eS | 04 44 44<br>48 23    | 2200     | Slight.  |
|                       | Poona  | Z      | eP       | 04 44 57             |          | Feeble.  |
|                       | Delhi  | ZNE    | iP<br>iS | 04 44 57<br>48 47    | 2330     | Slight, initial ground motion towards North, East and Compression. |
|                       | Dehra Dun  | NE     | e<br>e   | 04 45 15<br>48 52    |          | Feeble.  |
|                       | Shillong   | Z      | eP       | 04 46 56             |          | Slight, distant.   |
| 23                    | Shillong   | Z      | eP       | 06 11 56             |          | Slight, distant. Compression.                                      |
| 23                    | Shillong   | Z      | iP       | 08 06 55             |          | Slight, distant. Compression.                                      |
| 23                    | Shillong   | Z      | e<br>i   | 08 40 12<br>40 31    |          | Tremor.  |
|                       | Dehra Dun  | NE     | e        | 08 49 49             |          | Feeble.  |
| 23                    | Shillong   | Z      | eP       | 09 24 50             |          | Slight, distant.   |
| 23                    | Shillong   | N      | i        | 09 33 15             |          | Slight.  |
|                       | Visakhapatnam  | E      | e        | 09 34 34             |          | Slight, tremor.  |
|                       | Dehra Dun  | NE     | e        | 09 35 52             |          | Tremor.  |
|                       | Delhi  | ZNE    | eP       | 09 35 59             |          | Slight, initial ground motion towards North and East.              |
|                       | Bombay   | NE     | e        | 09 36 17             |          | Slight.  |

| DATE                  | STATION   | COMPT. | PHASE | G. M. T. | △    | REMARKS                        |
|-----------------------|---|--------|-------|----------|------|--------------------------------|
|                       |   |        |       | h m s.   | km.  |                                |
| <u>October, 1961.</u> |   |        |       |          |      |                                |
| 23                    | Delhi   | Z      | eP    | 10 39 01 |      | Slight, Compression.           |
|                       | Chatra  | Z      | iP    | 10 39 26 |      | Feeble, distant                |
|                       | Shillong  | Z      | iP    | 10 39 43 |      | Slight, distant Compression.   |
| 23                    | Chatra  | Z      | e     | 11 54 19 |      | Motion of an uncertain nature. |
| 23                    | Shillong  | Z      | e     | 13 48 21 |      | Slight, near.                  |
|                       |   |        | i     | 48 40    |      |                                |
| 23                    | Epc:- 2.5°N, 125.7°E, North West of Halmahera.<br>- H = 14h 39m 30s. (Shillong)<br>3.5°N, 126.4°E, Molucca Passage<br>-H = 14h 39m 35.5s, - h about 25 Kms. (USCGS)<br>Mag:- 6½ (Pas), 6¼ (Berk). |        |       |          |      |                                |
|                       | Port Blair  | E      | eP    | 14 46 56 |      |                                |
|                       |   |        | e     | 49 52    |      |                                |
|                       |   |        | e     | 51 40    |      |                                |
|                       | Tocklai   | E      | iP    | 14 46 57 |      |                                |
|                       | Shillong  | Z      | iP    | 14 47 07 | 4450 |                                |
|                       |   | E      | i     | 48 07    |      |                                |
|                       |   |        | PPP   | 49 00    |      |                                |
|                       |   |        | iS    | 53 13    |      |                                |
|                       |   |        | i     | 57 15    |      |                                |
|                       | Calcutta  | NE     | eP    | 14 47 26 | 4620 |                                |
|                       |   |        | iS    | 53 43    |      |                                |
|                       | Chatra  | Z      | iP    | 14 47 44 | 4860 | Compression.                   |
|                       |   |        | eS    | 54 15    |      |                                |
|                       |   |        | i     | 57 41    |      |                                |
|                       | Bokaro  | NE     | eP    | 14 47 48 | 4860 |                                |
|                       |   |        | eS    | 54 19    |      |                                |
|                       |   |        | PPS   | 54 31    |      |                                |
|                       |   |        | e     | 57 44    |      |                                |
|                       |   |        | SSS   | 58 23    |      |                                |
|                       |   |        | LR    | 15 00 15 |      |                                |
|                       |   |        | M     | 03 44    |      |                                |
|                       | Visakhapatnam   | E      | eP    | 14 47 52 | 4940 |                                |
|                       |   |        | PcP   | 49 15    |      |                                |
|                       |   |        | PP    | 49 40    |      |                                |
|                       |   |        | PPP   | 50 24    |      |                                |
|                       |   |        | e     | 53 03    |      |                                |
|                       |   | NE     | iS    | 54 28    |      |                                |
|                       |   | E      | PS    | 54 40    |      |                                |
|                       |   |        | PPS   | 54 51    |      |                                |
|                       |   |        | SS    | 57 56    |      |                                |
|                       |   |        | SSS   | 59 10    |      |                                |



| DATE                  | STATION    | COMPT. | PHASE  | G. M. T. | △    | REMARKS   |
|-----------------------|------------|--------|--------|----------|------|---|
|                       |            |        |        | h m s.   | km.  |   |
| <u>October, 1961.</u> |            |        |        |          |      |   |
| 23                    | Madras     | E      | iP     | 14 48 07 | 5190 | Initial ground motion towards East.                 |
| (Contd.)              |            |        | e      | 48 19    |      |   |
|                       |            |        | PcP    | 49 46    |      |   |
|                       |            |        | PP     | 50 04    |      |   |
|                       |            |        | PPP    | 50 38    |      |   |
|                       |            |        | iS     | 54 57    |      |   |
|                       |            |        | PS     | 55 06    |      |   |
|                       |            |        | PPS    | 55 12    |      |   |
|                       |            |        | e      | 55 31    |      |   |
|                       |            |        | e      | 56 06    |      |   |
|                       |            |        | SS     | 58 15    |      |   |
|                       |            |        | LQ     | 59 06    |      |   |
|                       |            |        | LR     | 15 01 29 |      |   |
|                       |            |        | M      | 05 21    |      |   |
|                       | Hyderabad  | E      | eP     | 14 48 23 | 5440 |   |
|                       |            |        | PcS    | 53 46    |      |   |
|                       |            |        | iS     | 55 27    |      |   |
|                       |            |        | PS     | 55 50    |      |   |
|                       |            |        | ScS    | 58 10    |      |   |
|                       |            |        | e      | 59 19    |      |   |
|                       |            |        | LQ     | 15 00 27 |      |   |
|                       |            |        | LR     | 02 29    |      |   |
|                       |            |        | M      | 07 34    |      | Period = 21 secs., Gr. dis. = 11 μ                  |
|                       | Kodaikanal | E      | e      | 14 48 48 |      | -   |
|                       | Delhi      | ZNE    | iP     | 14 48 54 | 5800 | Initial ground movement towards North, West.        |
|                       |            | E      | i      | 49 07    |      |   |
|                       |            | Z      | PcP    | 50 08    |      |   |
|                       |            | NE     | e      | 52 28    |      |   |
|                       |            | N      | e      | 53 29    |      |   |
|                       |            | ZNE    | iS     | 56 18    |      |   |
|                       |            | NE     | PS     | 56 27    |      |   |
|                       |            |        | PPS    | 56 34    |      |   |
|                       |            | E      | i      | 57 08    |      |   |
|                       |            | NE     | ScS    | 58 40    |      |   |
|                       |            |        | SS     | 59 56    |      |   |
|                       |            |        | i      | 15 01 14 |      |   |
|                       |            |        | LR     | 03 30    |      |   |
|                       | Dehra Dun  | NE     | eP     | 14 48 55 | 5810 |   |
|                       |            | N      | PP     | 50 45    |      |   |
|                       |            |        | iS     | 56 20    |      |   |
|                       |            |        | SS     | 59 54    |      |   |
|                       |            |        | SSS    | 15 01 18 |      |   |
|                       |            |        | LR     | 03 47    |      |   |
|                       |            |        | M      | 08 15    |      |   |
|                       | Poona      | Z      | iP     | 14 48 57 | 5890 | Initial ground motion towards West and Compression. |
|                       |            | N      | PcS    | 54 03    |      |   |
|                       |            |        | iS     | 56 26    |      |   |
|                       |            |        | ScS    | 58 40    |      |   |
|                       |            |        | SS     | 59 51    |      |   |
|                       |            |        | LQ/SSS | 15 01 50 |      |   |
|                       |            |        | LR     | 04 31    |      |   |
|                       |            |        | M      | 08 31    |      |   |



| DATE                  | STATION            | COMPT   | PHASE                         | G. M. T.<br>h. m. s.                         | Δ<br>km. | REMARKS  |
|-----------------------|--------------------|---------|-------------------------------|--|----------|--|
| <u>October, 1961.</u> |                    |         |                               |  |          |  |
| 23                    | Bombay<br>(Contd.) | NE<br>E | eP<br>PeP<br>PP<br>PPP<br>SeP | 14 49 05<br>50 00<br>51 10<br>52 11<br>54 00 | 6050     |  |
|                       |                    | NE      | iS<br>i<br>SeS                | 56 45<br>57 55<br>58 58                      |          |  |
|                       |                    | E       | i<br>e                        | 59 39<br>15 01 29                            |          |  |
|                       |                    | N       | M                             | 11 29  |          |  |
|                       |                    | E       | M                             | 21 37  |          | Period = 15 sec<br>Gr. dis. = 4<br>Period = 15 sec<br>Gr. dis. = 2 |
| 23                    | Shillong           | Z       | iP                            | 14 55 02                                     |          | Slight, distant<br>Compression.                                    |
| 23                    | Delhi              | NE      | iP                            | 14 58 46                                     |          | Slight, Initial<br>ground motion<br>towards East<br>and North.     |
| 23                    | Shillong           | Z       | iP                            | 15 00 01                                     |          | Slight, distant<br>Compression.                                    |
|                       | Chatra             | Z       | eP                            | 15 00 38                                     |          | Feeble, distant  |
|                       | Delhi              | Z       | iP<br>i                       | 15 01 49<br>06 40                            |          | Slight, Compression  |
|                       | Poona              | Z       | iP                            | 15 01 51                                     |          | Feeble, Compression  |
| 23                    | Shillong           | Z       | eP                            | 15 05 57                                     |          | Slight, distant  |
|                       | Poona              | Z       | iP                            | 15 06 03                                     |          | Feeble, Compression  |
| 23                    | Shillong           | Z       | iP                            | 15 14 12                                     |          | Slight, distant<br>Rarefaction.                                    |
| 23                    | Shillong           | Z       | iP                            | 15 17 22                                     |          | Slight, distant<br>Compression.                                    |
| 23                    | Shillong           | Z       | iP                            | 15 19 19                                     |          | Slight, distant<br>Rarefaction.                                    |
| 23                    | Shillong           | Z       | iP                            | 15 26 52                                     |          | Slight, distant<br>Compression.                                    |
| 23                    | Shillong           | Z       | eP                            | 15 33 43                                     |          | Slight, distant  |
| 23                    | Shillong           | Z       | iP                            | 15 36 25                                     |          | Slight, distant<br>Rarefaction.                                    |
| 23                    | Shillong           | Z       | iP                            | 15 42 55                                     |          | Slight, distant<br>Compression.                                    |
| 23                    | Shillong           | Z       | eP                            | 15 47 08                                     |          | Slight, distant  |

| DATE                  | STATION  | COMPT | PHASE | G. M. T.<br>h. m. s. | Δ<br>km. | REMARKS                          |
|-----------------------|----------|-------|-------|----------------------|----------|----------------------------------|
| <u>October, 1961.</u> |          |       |       |                      |          |                                  |
| 23                    | Shillong | Z     | iP    | 16 04 58             |          | Slight, distant.<br>Compression. |
| 23                    | Shillong | Z     | iP    | 16 11 15             |          | Slight, distant.<br>Compression. |
| 23                    | Shillong | Z     | iP    | 17 37 22             |          | Slight, distant.<br>Rarefaction. |
| 23                    | Shillong | Z     | iP    | 17 52 47             |          | Slight, distant.<br>Compression. |
| 23                    | Shillong | Z     | iP    | 18 30 12             |          | Slight, distant.<br>Compression. |
| 23                    | Shillong | Z     | iP    | 18 53 09             |          | Slight, distant.<br>Rarefaction. |
| 23                    | Shillong | Z     | iP    | 19 05 25             |          | Slight, distant.<br>Compression. |
| 23                    | Shillong | Z     | iP    | 19 16 10             |          | Slight, distant.<br>Compression. |
| 23                    | Shillong | Z     | iP    | 19 44 47             |          | Slight, distant.<br>Rarefaction. |
| 23                    | Shillong | Z     | iP    | 20 39 05             |          | Slight, distant.<br>Compression. |
| 23                    | Shillong | Z     | iP    | 20 45 58             |          | Slight, distant.<br>Compression. |
|                       | Chatra   | Z     | eP    | 20 46 33             |          | Feeble, distant.                 |
|                       | Poona    | Z     | iP    | 20 47 47             |          | Tremor, Rarefaction.             |
| 23                    | Shillong | Z     | iP    | 20 50 45             |          | Slight, distant.<br>Rarefaction. |
| 23                    | Shillong | Z     | iP    | 21 12 01             |          | Slight, distant.<br>Rarefaction. |
| 23                    | Shillong | Z     | iP    | 21 15 59             |          | Slight, distant.<br>Compression. |
| 23                    | Chatra   | Z     | eP    | 21 33 49             |          | Feeble, distant.                 |
| 23                    | Shillong | Z     | iP    | 22 05 18             |          | Slight, distant.<br>Compression. |
| 23                    | Shillong | Z     | iP    | 22 20 47             |          | Slight, distant.<br>Compression. |
| 23                    | Shillong | Z     | iP    | 22 42 26             |          | Slight, distant.<br>Rarefaction. |
| 23                    | Shillong | Z     | iP    | 23 09 17             |          | Slight, distant.<br>Compression. |

| DATE                  | STATION  | COMPT. | PHASE                      | G.<br>h. | M.<br>m. | T.<br>s. | △<br>km. | REMARKS                                      |
|-----------------------|--|--------|----------------------------|----------|----------|----------|----------|--|
| <u>October, 1961.</u> |  |        |                            |          |          |          |          |  |
| 23                    | Shillong   | Z      | iP                         | 23       | 19       | 35       |          | Slight, distant<br>Compression.              |
| 23                    | Shillong   | Z      | eP                         | 23       | 38       | 15       |          | Slight, distant                              |
| 24                    | Shillong   | Z      | iP                         | 01       | 08       | 34       |          | Slight, distant<br>Rarefaction.              |
| 24                    | Shillong   | Z      | iP                         | 01       | 27       | 06       |          | Slight, distant<br>Compression.              |
| 24                    | Chatra   | Z      | ePg<br>Sg                  | 05       | 20       | 52       | 90       | Very mild.                                   |
| 24                    | Chatra   | Z      | eP<br>i                    | 05       | 22       | 59       |          | Very weak,<br>probably near                  |
| 24                    | Epc: - 45.0°N, 146.4°E, Off North coast of Hokkaido, Japan.<br>-H = 07h 25m 19.9s, -h about 82 Kms. (USCGS). |        |                            |          |          |          |          |  |
| 24                    | Chatra   | Z      | iP<br>PP<br>e<br>NE<br>ZNE | 07       | 34       | 11       | 5450     | Feeble, Raref                                |
| 24                    | Bokaro   | NE     | eP                         | 09       | 32       | 41       |          | Slight, tremor                               |
| 24                    | Dehra Dun  | NE     | e                          | 14       | 39       | 46       |          | Tremor.                                      |
| 24                    | Chatra   | Z      | e<br>e                     | 14       | 40       | 25       |          | Very weak, ne                                |
| 24                    | Chatra   | Z      | iP                         | 14       | 50       | 21       |          | Very weak,<br>probably dist<br>Rarefaction.  |
| 24                    | Chatra   | Z      | eP                         | 15       | 19       | 51       |          | Very weak,<br>probably dist                  |
| 24                    | Chatra   | Z      | iP                         | 15       | 38       | 12       |          | Weak, Compress<br>Probably dist              |
| 24                    | Chatra   | Z      | eP                         | 18       | 23       | 26       |          | Very weak,<br>probably dist                  |
| 24                    | Chatra   | Z      | iP                         | 20       | 08       | 18       |          | Very slight,<br>Compression<br>probably dist |
| 24                    | Poona  | Z      | eP                         | 22       | 47       | 37       |          | Tremor.                                      |
| 25                    | Chatra   | Z      | iPg<br>i<br>e              | 01       | 13       | 32       |          | Very mild, ph<br>not certain.                |
| 25                    | Shillong   | Z      | eP                         | 05       | 58       | 25       |          | Slight, distant                              |
| 25                    | Shillong   | Z      | i                          | 06       | 50       | 46       |          | -  |
| 25                    | Delhi  | Z      | iP<br>i                    | 09       | 14       | 13       |          | Slight, Raref                                |

| DATE                  | STATION  | COMPT.  | PHASE                           | G.<br>h. | M.<br>m. | T.<br>s. | △<br>km. | REMARKS  |
|-----------------------|--|---------|---------------------------------|----------|----------|----------|----------|--|
| <u>October, 1961.</u> |  |         |                                 |          |          |          |          |  |
| 25                    | Chatra   | Z       | e                               | 09       | 14       | 23       |          | Weak, distant.   |
| 25                    | Shillong   | Z       | iP                              | 09       | 24       | 27       |          | Slight, distant.<br>Compression.   |
| 25                    | Shillong   | Z       | iP                              | 14       | 02       | 02       |          | Slight, distant.<br>Compression.   |
| 25                    | Chatra   | Z       | iP                              | 14       | 02       | 41       |          | Feeble, distant.<br>Compression.   |
| 25                    | Delhi  | Z       | iP                              | 14       | 03       | 53       |          | Slight, Compression.   |
| 25                    | Shillong   | Z       | iP                              | 14       | 45       | 00       |          | Slight, distant.<br>Compression.   |
| 25                    | Chatra   | E       | e                               | 16       | 21       | 54       |          | Slight.  |
| 25                    | Epc: - 14.0°N, 55.0°E, Arabian Sea.<br>- H = 16h. 24m. 00s. (Shillong).<br>14.4°N, 56.7°E Gulf of Aden.<br>- H = 16h. 24m. 16.3s. - h about 40 Kms. (USCGS). |         |                                 |          |          |          |          |  |
| 25                    | Bombay   | NE<br>E | iP<br>PPP<br>e<br>e             | 16       | 28       | 04       | 1920     | Slight.  |
| 25                    | Poona  | NE<br>E | eS<br>SS<br>LR                  | 16       | 28       | 04       | 2010     | Slight, Rarefaction.   |
| 25                    | Hyderabad  | E       | iP<br>iS<br>LQ<br>SS<br>LR<br>M | 16       | 28       | 01       | 2550     | Slight, initial<br>ground movement<br>towards East.<br><br>Period = 16 secs.,<br>Gr. dis. = 8 μ. |



| DATE                  | STATION  | COMPT.   | PHASE   | G. M. T.<br>h. m. s.   | △<br>km. | REMARKS   |
|-----------------------|--|--|---|--|----------|---|
| <u>October, 1961.</u> |  |  |   |  |          |   |
| 25                    | Madras<br>(Contd.)   | E  | iP<br>PP<br>PPP<br>iS<br>LQ<br>SS<br>SSS<br>LR<br>M | 16 29 23<br>30 03<br>30 13<br>33 46<br>34 26<br>34 38<br>35 06<br>35 35<br>37 38                   | 2790     | Slight, initial ground motion towards East.                           |
|                       | Delhi  | ZNE<br><br>NE<br>E<br>ZNE<br>N<br>E<br>NE<br>N<br>NE | iP<br>i<br>i<br>i<br>iS<br>LQ<br>e<br>SS<br>LR      | 16 29 33<br>29 43<br>30 01<br>30 53<br>31 48<br>33 54<br>34 04<br>34 42<br>35 02<br>35 18<br>35 54 | 2910     | Moderate, initial ground movement towards North East and Compression. |
|                       | Visakhapatnam  | E  | eP<br>PP<br>PPP<br>eS<br>SS<br>SSS<br>LR            | 16 29 47<br>30 39<br>30 55<br>34 31<br>36 02<br>36 23<br>37 12                                     | 3110     | Moderate.   |
|                       | Dehra Dun  | NE<br>N  | e<br>PP<br>iS<br>LQ<br>SSS<br>M                     | 16 29 50<br>30 19<br>34 15<br>35 12<br>35 43<br>38 18  |          | Slight.   |
|                       | Chatra   | Z<br>N   | iP<br>e   | 16 30 36<br>35 32  |          | Rarefaction.  |
|                       | Shillong   | Z<br>E   | iP<br>iS  | 16 31 07<br>36 43  | 3960     | Slight, Raref.  |
| 25                    | Shillong   | Z  | iP  | 16 36 11   |          | Slight, distant Compression.  |
| 25                    | Shillong   | Z  | eP  | 22 23 36   |          | Slight, distant   |
| 26                    | Epc:- 3.5°S, 148.3°E, Bismarck Archipelago Region.<br>-H = 00h 38m 15s.<br>3.1°S, 147.4°E, Bismarck Sea.<br>-H = 00h 38m 20.3s, -h about 14 Kms (USCGS)<br>Mag:- 6 $\frac{1}{4}$ (Pas) 6 $\frac{1}{4}$ (Berk). |  |   |  |          |   |
|                       | Port Blair   | E  | i<br>e  | 00 48 17<br>53 46  |          | -   |
|                       | Tocklai  | E  | e   | 00 48 27   |          | -   |

| DATE                  | STATION              | COMPT.        | PHASE   | G. M. T.<br>h. m. s.   | △<br>km. | REMARKS   |
|-----------------------|----------------------|---------------|---|--|----------|---|
| <u>October, 1961.</u> |                      |               |   |  |          |   |
| 26                    | Shillong<br>(Contd.) | Z<br>E        | iP<br>e<br>PPP<br>iS  | 00 48 38<br>50 43<br>52 26<br>57 03  | 6910     | Compression   |
|                       | Calcutta             | E             | SS<br>i<br>eP<br>iS   | 01 00 51<br>02 29<br>00 48 57<br>57 35   | 7150     |   |
|                       | Chatra               | ZNE           | iP<br>PcP<br>PP<br>PPP<br>S<br>PS<br>PPS<br>SS<br>SSS<br>LQ<br>LR<br>M              | 00 49 08<br>49 25<br>51 47<br>53 25<br>57 57<br>58 29<br>58 40<br>01 02 29<br>05 27<br>07 19<br>10 38<br>16/17-                  | 7370     | Compression   |
|                       | Bokaro               | NE            | eP<br>i   | 00 49 10<br>58 04  |          |   |
|                       | Visakhapatnam        | NE<br>E<br>NE | iP<br>PcP<br>PP<br>PPP<br>iS<br>PS<br>PPS<br>SS<br>SSS                              | 00 49 19<br>49 44<br>51 50<br>53 28<br>58 17<br>58 43<br>58 55<br>01 02 32<br>05 28  | 7530     | First round motion towards East.  |
|                       | Madras               | E             | iP<br>PcP<br>PP<br>PPP<br>iS<br>PS<br>PPS<br>ScS<br>e<br>SS<br>SSS<br>LQ<br>LR<br>M | 00 49 30<br>49 54<br>52 18<br>53 44<br>58 40<br>59 02<br>59 21<br>59 32<br>01 01 05<br>03 14<br>06 11<br>07 34<br>10 50<br>16 41 | 7780     | Initial ground motion towards East.   |
|                       | Hyderabad            | E             | iP<br>iS<br>PS<br>PPS<br>SS<br>SSS<br>LR<br>M                                       | 00 49 40<br>59 04<br>59 35<br>59 49<br>01 03 46<br>07 22<br>12 52<br>17 27   | 8050     | Initial ground movement towards West.<br><br>Period = 18 secs.,<br>Gr. dis. = 8 $\mu$ . |

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

October, 1961.

|    |                                 |     |      |          |      |  |
|----|---------------------------------|-----|------|----------|------|--|
| 26 | Kodaikanal<br>(Contd.)<br>Delhi | E   | e    | 00 49 62 | -    |  |
|    |                                 | ZNE | iP   | 00 50 03 | 8300 | Initial ground movement towards North, West Compression. |
|    |                                 | Z   | PcP  | 50 19    |      |  |
|    |                                 | ZNE | PP   | 53 07    |      |  |
|    |                                 |     | iS   | 59 40    |      |  |
|    |                                 |     | SKS  | 59 52    |      |  |
|    |                                 | N   | PS   | 01 00 04 |      |  |
|    |                                 |     | i    | 01 56    |      |  |
|    |                                 |     | SS   | 04 34    |      |  |
|    |                                 | NE  | SSS  | 08 28    |      |  |
|    |                                 | N   | LQ   | 10 17    |      |  |
|    |                                 |     | LR   | 13 41    |      |  |
|    | Dehra Dun                       | NE  | eP   | 00 50 06 | 8250 |  |
|    |                                 | N   | PP   | 52 58    |      |  |
|    |                                 |     | iS   | 59 40    |      |  |
|    |                                 |     | SS   | 01 40 32 |      |  |
|    |                                 |     | LQ   | 09 31    |      |  |
|    |                                 |     | M    | 19 07    |      |  |
|    | Poona                           | Z   | iP   | 00 50 09 | 8490 |  |
|    |                                 | N   | PP   | 53 05    |      |  |
|    |                                 |     | iS   | 59 54    |      |  |
|    |                                 |     | SKS1 | 01 00 05 |      |  |
|    |                                 |     | PS   | 00 31    |      |  |
|    |                                 |     | PPS  | 00 45    |      |  |
|    |                                 |     | SS   | 04 43    |      |  |
|    |                                 |     | SSS  | 08 05    |      |  |
|    |                                 |     | LQ   | 10 36    |      |  |
|    | Bombay                          | NE  | iP   | 00 50 16 | 8610 |  |
|    |                                 | E   | i    | 51 36    |      |  |
|    |                                 |     | e    | 52 54    |      |  |
|    |                                 |     | PPP  | 54 47    |      |  |
|    |                                 |     | i    | 56 08    |      |  |
|    |                                 | NE  | iS   | 01 00 07 |      |  |
|    |                                 | E   | ScS  | 00 22    |      |  |
|    |                                 | NE  | PS   | 00 50    |      |  |
|    |                                 | E   | PPS  | 01 14    |      |  |
|    |                                 |     | i    | 01 44    |      |  |
|    |                                 | NE  | SS   | 05 12    |      |  |

26 Epc:- 0.5°S, 99.0°E, West Coast of Sumatra.  
 -H = 15h 27m 00s (Shillong)  
 0.4°S, 98.6°E.  
 -H = 15h 27m 02.0s, - h about 18 Kms. (USCGS)  
 Mag : 6 (Pas).

|  |            |   |     |          |      |                                       |
|--|------------|---|-----|----------|------|---------------------------------------|
|  | Port Blair | E | iP  | 15 30 20 |      |                                       |
|  |            |   | i   | 33 12    |      |                                       |
|  | Tocklai    | E | eP  | 15 32 05 |      |                                       |
|  | Madras     | E | iP  | 15 32 07 | 2550 | Initial ground movement towards West. |
|  |            |   | PP  | 32 36    |      |                                       |
|  |            |   | PPP | 32 48    |      |                                       |

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

October, 1961.

|    |                             |     |     |          |      |  |   |
|----|-----------------------------|-----|-----|----------|------|--|---|
| 26 | Madras<br>(Contd.) (Contd.) | E   | i   | 15 33 12 |      |  |   |
|    |                             |     | e   | 34 07    |      |  |   |
|    |                             |     | iS  | 36 14    |      |  |   |
|    |                             |     | LQ  | 36 41    |      |  |   |
|    |                             |     | SS  | 36 58    |      |  |   |
|    |                             |     | SSS | 37 12    |      |  |   |
|    |                             |     | LR  | 37 53    |      |  |   |
|    |                             |     | M   | 39 40    |      |  |   |
|    | Visakhapatnam               | NE  | iP  | 15 32 15 | 2770 | Initial ground motion towards North and West.<br><br>Period = 7 secs.  |   |
|    |                             |     | PP  | 32 57    |      |  |   |
|    |                             |     | PPP | 33 10    |      |  |   |
|    |                             |     | PcP | 35 38    |      |  |   |
|    |                             |     | iS  | 36 36    |      |  |   |
|    |                             |     | LQ  | 37 33    |      |  |   |
|    |                             |     | SS  | 37 48    |      |  |   |
|    |                             |     | SSS | 38 05    |      |  |   |
|    |                             |     | LR  | 38 48    |      |  |   |
|    |                             |     | M   | 41 27    |      |  |   |
|    | Calcutta                    | E   | iP  | 15 32 29 | 2880 |  |   |
|    |                             |     | e   | 32 59    |      |  |   |
|    |                             |     | iS  | 36 57    |      |  |   |
|    | Hyderabad                   | E   | iP  | 15 32 43 | 2940 | Initial ground motion towards North and West.<br><br>Period = 20 secs.,<br>Gr. dis. = 29 μ<br>Period = 21 secs.,<br>Gr. dis = 32 μ |   |
|    |                             |     | iS  | 37 16    |      |  |   |
|    |                             | N   | SS  | 38 37    |      |  |   |
|    |                             |     | PcS | 39 30    |      |  |   |
|    |                             |     | LR  | 39 52    |      |  |   |
|    |                             | E   | LR  | 40 01    |      |  |   |
|    |                             | N   | M   | 41 31    |      |  |   |
|    |                             | E   | M   | 41 37    |      |  |   |
|    | Shillong                    | ZNE | iP  | 15 32 43 | 2930 | Initial ground movement towards North and West and Compression.  |   |
|    |                             | E   | i   | 33 08    |      |  |   |
|    |                             |     | PPP | 33 34    |      |  |   |
|    |                             |     | i   | 34 29    |      |  |   |
|    |                             |     | i   | 35 16    |      |  |   |
|    |                             | NE  | iS  | 37 15    |      |  |   |
|    |                             |     | i   | 38 08    |      |  |   |
|    |                             |     | i   | 38 24    |      |  |   |
|    | Bokaro                      | NE  | iP  | 15 32 51 | 3030 |  | Initial ground movement towards North and West. |
|    |                             |     | PPP | 33 45    |      |  |   |
|    |                             |     | e   | 37 20    |      |  |   |
|    |                             |     | eS  | 37 30    |      |  |   |
|    |                             |     | LQ  | 38 23    |      |  |   |
|    |                             |     | SSS | 38 55    |      |  |   |
|    |                             |     | LR  | 39 41    |      |  |   |
|    |                             |     | M   | 41 53    |      |  |   |
|    | Chatra                      | ZNE | P   | 15 33 08 | 3220 | Initial ground motion towards North, West and Compression.   |   |
|    |                             |     | PPP | 34 16    |      |  |   |
|    |                             |     | S   | 37 59    |      |  |   |
|    |                             |     | SS  | 39 23    |      |  |   |

| DATE                 | STATION           | COMPT.                             | PHASE   | G. M. T.<br>h. m. s.  | △<br>km. | REMARKS  |
|----------------------|-------------------|------------------------------------|---|---|----------|--|
| <u>October, 1961</u> |                   |                                    |   |   |          |  |
| 26                   | Poona<br>(Contd.) | Z<br>N                             | iP<br>PcP<br>iS<br>SSS<br>LR<br>M/ScS                       | 15 33 20<br>36 17<br>38 23<br>40 21<br>41 17<br>43 43                                     | 3420     | Initial ground movement toward North, West and Compression.        |
|                      | Bombay            | N<br>E                             | eP<br>iP<br>PP<br>PPP<br>e                                  | 15 33 31<br>34 17<br>35 05<br>37 10<br>38 40  | 3510     |  |
|                      |                   | N<br>E<br>NE<br>E<br>N<br>E<br>N   | eS<br>iS<br>SS<br>SSS<br>LR<br>LR<br>M                      | 40 42<br>40 57<br>41 22<br>41 31<br>46 10   |          | Period = 17 sec<br>Gr. dis. = 17<br>Period = 16 sec<br>Gr. dis = 6 |
|                      | Delhi             | ZNE<br>NE<br>ZNE<br>N<br>ZNE<br>NE | iP<br>i<br>PP<br>PPP<br>PcP<br>iS<br>i<br>PcS/ScP<br>i<br>i | 15 34 02<br>34 18<br>35 22<br>35 42<br>36 10<br>39 33<br>39 53<br>40 19<br>40 50<br>41 21 | 3880     | Initial ground movement toward North, West and Compression.        |
|                      |                   | E<br>NE<br>Z<br>NE<br>N<br>ZNE     | SS<br>SSS<br>i<br>LR<br>i<br>ScS<br>M                       | 41 43<br>42 13<br>42 37<br>43 13<br>43 40<br>43 59<br>47 17                               |          | Period = 16 sec  |
|                      | Dehra Dun         | NE<br>N                            | eP<br>PP<br>PPP<br>iS<br>SS<br>LQ<br>SSS<br>LR<br>M         | 15 34 11<br>35 26<br>35 56<br>39 51<br>42 27<br>42 44<br>43 14<br>44 23<br>47 26          | 4010     |  |
| 26                   | Shillong          | Z                                  | iP  | 15 53 33  |          | Slight, distant Compression.                                       |

26 Epc:- 0.1°S, 98.6°E, Off West Coast of Sumatra.  
- H = 16h 05m 49.5s, - h about 87 Kms. (USCGS).

| DATE                 | STATION  | COMPT. | PHASE   | G. M. T.<br>h. m. s.   | △<br>km. | REMARKS   |
|----------------------|--|--------|---|--|----------|---|
| <u>October, 1961</u> |  |        |   |  |          |   |
| 26                   | Tocklai<br>(Contd.)<br>Visakhapatnam   | E      | eP<br>iP  | 16 10 46<br>16 10 56   |          | Slight<br>Initial ground movement towards East.         |
|                      | Shillong   | Z      | iP  | 16 11 22   |          | Slight, distant Compression.                            |
|                      | Chatra   | Z      | iP  | 16 11 46   |          | Feeble, distant Compression.                            |
|                      | Delhi  | Z      | iP  | 16 12 40   |          | Slight, Compression.                                    |
| 26                   | Shillong   | Z      | e<br>i  | 17 08 38<br>08 41  |          | -   |
| 26                   | Chatra   | Z      | iP  | 18 09 12   |          | Very feeble motion of an uncertain nature, Rarefaction. |
|                      | Shillong   | Z      | iP  | 18 10 08   |          | Slight, distant Rarefaction.                            |
| 26                   | Shillong   | Z      | eP  | 18 40 46   |          | Slight, distant.  |
| 26                   | Epc:- 0.3°S, 99.2°E. - H = 19h 28m 32s (Shillong)<br>0.3°S, 98.5°E, Off West coast of Sumatra.<br>-H = 19h 28m 37.3s, - h about 58 Kms. (USCGS). |        |   |  |          |   |
|                      | Madras   | E      | eP<br>PP<br>PPP<br>e<br>eS<br>LQ<br>SS<br>LR<br>M | 19 33 38<br>34 05<br>34 18<br>34 42<br>37 45<br>38 12<br>38 31<br>39 21<br>41 07 | 2550     | Slight, Presumably after shock.                         |
|                      | Visakhapatnam  | NE     | iP<br>PP<br>PPP<br>iS                             | 19 33 46<br>34 28<br>34 40<br>38 03  | 2700     | Moderate, initial ground movement towards East.         |
|                      |  | E      | SS<br>SSS   | 39 09<br>39 26   |          |   |
|                      | Shillong   | Z      | iP<br>iS  | 19 34 12<br>38 44  | 2930     | Slight, Compression                                     |
|                      | Bokaro   | E      | eP  | 19 34 20   |          | Slight, other phases not clear                          |
|                      | Tocklai  | E      | eP  | 19 34 22   |          | Slight  |
|                      | Chatra   | Z      | iP  | 19 34 37   |          | Feeble, distant Compression.                            |

| DATE           | STATION           | COMPT. | PHASE | G. M. T.<br>h. m. s. | km.  | REMARKS  |
|----------------|-------------------|--------|-------|----------------------|------|--|
| October, 1961. |                   |        |       |                      |      |  |
| 26             | Poona<br>(Contd.) | Z      | iP    | 19 34 50             |      | Slight, other not clear. Rarefaction.                            |
|                | Bombay            | E      | eP    | 19 35 01             | 3490 | Slight.  |
|                |                   | NE     | eS    | 40 09                |      |  |
|                |                   | E      | SS    | 42 28                |      |  |
|                |                   |        | SSS   | 42 56                |      |  |
|                |                   |        | LR    | 43 15                |      |  |
|                | Delhi             | Z      | iP    | 19 35 29             |      | Slight, Compression.   |
|                | Dehra Dun         | NE     | eP    | 19 35 49             | 4140 | Slight.  |
|                |                   | N      | PPP   | 37 33                |      |  |
|                |                   |        | eS    | 41 37                |      |  |
|                |                   |        | SSS   | 44 56                |      |  |
|                |                   |        | LR    | 45 53                |      |  |
|                |                   |        | M     | 49 25                |      |  |
|                | Hyderabad         | NE     | e     | 19 39 05             |      |  |
|                |                   |        | LR    | 40 28                |      |  |
|                |                   | E      | LR    | 40 29                |      |  |
|                |                   |        | M     | 43 37                |      |  |
|                |                   | N      | M     | 43 46                |      | Period = 21 s<br>Gr. dis = 8 s<br>Period = 18 s<br>Gr. dis = 7 s |
|                | Calcutta          | E      | e     | 20 38 29             |      | Slight.  |
| 26             | Shillong          | Z      | iP    | 22 15 35             |      | Slight, distant. Compression.                                    |
| 27             | Delhi             | Z      | iP    | 10 38 48             |      | Tremor, Compression.   |
|                | Shillong          | Z      | eP    | 10 40 04             |      | Slight, distant.   |
| 27             | Shillong          | Z      | iP    | 12 00 28             | 190  | Slight, Rarefaction.   |
|                |                   |        | eS    | 00 50                |      |  |
| 27             | Shillong          | Z      | iP    | 12 08 09             |      | Slight, distant. Compression.                                    |
|                | Delhi             | Z      | iP    | 12 09 32             |      | Slight, Compression.   |
| 27             | Shillong          | Z      | iP    | 14 20 04             |      | Slight, distant. Rarefaction.                                    |
| 27             | Shillong          | Z      | e     | 15 24 15             |      | Slight, probably near.   |
| 27             | Chatra            | Z      | iPg   | 15 38 22             | 100  | Feeble, Compression.   |
|                |                   |        | Sg    | 38 33                |      |  |
| 27             | Shillong          | Z      | iPg   | 21 56 23             |      | Slight, local. Rarefaction.                                      |
| 28             | Shillong          | Z      | iP    | 03 12 52             |      | Slight, distant. Rarefaction.                                    |

| DATE           | STATION   | COMPT. | PHASE | G. M. T.<br>h. m. s. | km.  | REMARKS                       |
|----------------|---|--------|-------|----------------------|------|-------------------------------|
| October, 1961. |   |        |       |                      |      |                               |
| 28             | Shillong  | Z      | iP    | 06 12 48             |      | Slight, distant. Compression. |
|                | Chatra  | Z      | iP    | 06 13 12             |      | Feeble, distant.              |
|                | Delhi   | Z      | iP    | 06 13 53             |      | Tremor, Compression.          |
| 28             | Shillong  | Z      | iP    | 06 32 46             |      | Slight, distant. Compression. |
| 28             | Shillong  | Z      | iP    | 08 11 58             |      | Slight, distant. Rarefaction. |
| 28             | Shillong  | Z      | iP    | 10 04 10             |      | Slight, distant. Compression. |
| 28             | Epc: - 33.7°N, 48.5°E, Iran. - h = 34 Km.<br>- H = 10h 46m 40.2s (USCGS). |        |       |                      |      |                               |
|                | Delhi   | ZNE    | iP    | 10 52 05             | 2910 | Slight.                       |
|                |   | NE     | iS    | 56 36                |      |                               |
|                | Dehra Dun   | Z      | e     | 10 52 08             |      | Slight, phases not clear.     |
|                |   |        | e     | 56 39                |      |                               |
|                | Bombay  | E      | eP    | 10 52 15             | 2930 | Slight.                       |
|                |   |        | PPP   | 53 08                |      |                               |
|                |   | NE     | eS    | 56 46                |      |                               |
|                | Poona   | Z      | eP    | 10 52 22             |      | Slight, phases not clear.     |
|                | Chatra  | Z      | iP    | 10 53 26             |      | Feeble, distant. Compression. |
|                | Shillong  | Z      | iP    | 10 54 01             |      | Slight, distant. Rarefaction. |
| 28             | Shillong  | Z      | iP    | 12 42 38             |      | Slight, distant. Rarefaction. |
| 28             | Felt at Shillong.   |        |       |                      |      |                               |
|                | Shillong  | ZNE    | iPg   | 13 02 57             | 20   | Slight.                       |
|                |   | E      | iSg   | 02 59                |      |                               |
|                | Chatra  | Z      | eP    | 13 04 17             | 510  | Feeble.                       |
|                |   |        | eS    | 05 12                |      |                               |
| 28             | Shillong  | Z      | iP    | 14 50 22             |      | Slight, distant. Rarefaction. |
| 28             | Poona   | Z      | iP    | 15 08 50             |      | Tremor.                       |
|                | Shillong  | Z      | iP    | 15 09 13             |      | Slight, distant. Compression. |
|                | Chatra  | Z      | i     | 15 09 52             |      | Feeble, distant. Rarefaction. |
|                |   |        | iP    | 10 23                |      |                               |

International  
Seismological  
Centre

| DATE           | STATION   | COMPT. | PHASE   | G. M. T.<br>h m s   | △<br>km. | REMARKS                         |
|----------------|---|--------|---|---|----------|---------------------------------|
| October, 1961. |   |        |   |   |          |                                 |
| 28             | Shillong  | Z      | eP<br>i   | 15 10 37<br>10 55   |          | Slight, near                    |
| 28             | Shillong  | Z      | eP  | 15 18 29  |          | Slight, near                    |
| 28             | Shillong  | Z      | iP  | 16 49 25  |          | Slight, distant<br>Compression. |
| 28             | Shillong  | Z      | iP  | 17 28 45  |          | Slight, distant<br>Compression. |
| 28             | Shillong  | Z      | iP<br>PP<br>Pg<br>PPP<br>S<br>S*<br>Sg                | 18 17 59<br>18 02<br>18 06<br>18 10<br>18 29<br>18 33<br>18 37                      | 270      | Slight.                         |
|                | Chatra  | Z      | eP<br>eS  | 18 18 59<br>20 11   | 690      | Feeble.                         |
| 28             | Shillong  | Z      | eP  | 20 01 43  |          | Slight, distant                 |
| 28             | Shillong  | Z      | e   | 20 29 56  |          | Slight, near                    |
| 28             | Shillong  | Z      | iP  | 21 36 27  |          | Slight, distant<br>Compression. |
| 28             | Shillong  | Z      | iP  | 22 30 31  |          | Slight, near<br>Rarefaction.    |
| 28             | Shillong  | Z      | iP  | 22 50 23  |          | Slight, distant<br>Compression. |
| 28             | Shillong  | Z      | eP  | 22 51 59  |          | Slight, distant                 |
| 28             | Epc: - 13.9°S, 166.0°E, New Hebrides Islands.<br>-h = 89 Km. + H = 12h 44m 33.6s (USCGS). |        |   |   |          |                                 |
|                | Shillong  | Z      | iP  | 22 56 49  |          | Slight, distant<br>Rarefaction. |
|                | Chatra  | Z      | iP  | 22 57 11  |          | Feeble, distant<br>Rarefaction. |
|                | Madras  | E      | eP<br>PP<br>PPP<br>SKS<br>iS<br>ScS<br>PS<br>PPS<br>M | 22 57 30<br>23 00 57<br>02 50<br>07 57<br>08 13<br>08 20<br>09 07<br>09 39<br>33 17 | 9780     | Slight.                         |
|                | Poona   | Z      | eP  | 22 57 56  |          | Feeble, phases<br>not clear.    |

| DATE           | STATION               | COMPT. | PHASE         | G. M. T.<br>h. m. s.       | △<br>km. | REMARKS                          |
|----------------|-----------------------|--------|---------------|----------------------------|----------|----------------------------------|
| October, 1961. |                       |        |               |                            |          |                                  |
| 28             | Dehra Dun<br>(Contd.) | NE     | e<br>e        | 22 58 13<br>23 02 15       |          | Feeble.                          |
|                | Bombay                | E      | e<br>e        | 23 00 40<br>07 45          |          | Slight.                          |
|                |                       | NE     | e             | 08 41                      |          |                                  |
|                |                       | E      | e             | 09 28                      |          |                                  |
|                |                       |        | e             | 20 04                      |          |                                  |
| 28             | Shillong              | Z      | e             | 23 02 41                   |          | Slight, near.                    |
| 28             | Shillong              | Z      | eP<br>eS      | 23 03 27<br>03 46          | 150      | Slight.                          |
| 28             | Port Blair            | E      | i             | 23 06 13                   |          | Slight.                          |
| 28             | Kodaikanal            | E      | e             | 23 09 17                   |          | -                                |
| 28             | Shillong              | Z      | eP            | 23 36 52                   |          | Slight, distant.                 |
| 28             | Shillong              | Z      | iP            | 23 43 32                   |          | Slight, distant.<br>Compression. |
| 28             | Shillong              | Z      | eP            | 23 56 04                   |          | Slight, distant.                 |
| 29             | Shillong              | Z      | eP            | 23 56 04                   |          | Slight, distant.                 |
| 29             | Shillong              | Z      | iP            | 00 08 19                   |          | Slight, distant.<br>Compression. |
| 29             | Shillong              | Z      | iP<br>i<br>iS | 04 07 00<br>07 03<br>07 31 | 280      | Slight, Rarefaction.             |
|                | Tocklai               | E      | ePg           | 04 07 15                   |          | Tremor.                          |
| 29             | Shillong              | Z      | eP            | 09 25 51                   |          | Slight, distant.                 |
| 29             | Shillong              | Z      | iP<br>ZE<br>E | 09 28 09<br>28 19<br>29 01 | 480      | Slight, Compression.             |
|                | Tocklai               | E      | eP<br>iS      | 09 28 30<br>28 55          |          | Slight.                          |
|                | Chatra                | Z      | eP            | 09 29 15                   |          | Feeble, distant.                 |
|                | Dehra Dun             | NE     | e             | 09 37 09                   |          | Feeble, phases<br>not clear.     |
|                | Bombay                | E<br>N | e<br>M        | 09 46 48<br>10 20 00       |          | -                                |
|                | Kodaikanal            | E      | e             | 10 11 21                   |          | -                                |
| 29             | Shillong              | Z      | iP            | 11 15 53                   |          | Slight, distant.<br>Rarefaction. |

| DATE           | STATION  | COMPT | PHASE         | G. M. T.<br>h. m. s.       | Δ<br>km. | REMARKS                     |
|----------------|----------|-------|---------------|----------------------------|----------|-----------------------------|
| October, 1961. |          |       |               |                            |          |                             |
| 29             | Shillong | Z     | iP            | 11 22 31                   |          | Slight, near<br>Rarefaction |
| 29             | Shillong | Z     | iPg<br>iSg    | 15 03 57<br>04 02          | 50       | Slight,<br>Rarefaction      |
| 29             | Shillong | Z     | iP            | 17 20 24                   |          | Slight, near<br>Rarefaction |
| 29             | Shillong | Z     | eP            | 18 55 58                   |          | Slight, dist                |
|                | Chatra   | Z     | iP            | 18 56 34                   |          | Feeble, dist<br>Rarefaction |
|                | Delhi    | Z     | iP            | 18 57 44                   |          | Tremor,<br>Compression      |
| 29             | Shillong | Z     | eP            | 19 05 48                   |          | Slight, dist                |
| 29             | Shillong | Z     | iP            | 19 37 06                   |          | Slight, dist<br>Compression |
|                | Delhi    | Z     | iP            | 19 38 09                   |          | Tremor,<br>Compression      |
| 29             | Chatra   | Z     | iP<br>eS      | 19 49 47<br>49 59          | 100      | Very feeble<br>local.       |
| 29             | Shillong | Z     | iP            | 23 35 42                   |          | Slight, dist<br>Compression |
| 30             | Delhi    | Z     | iP            | 00 38 07                   |          | Slight,<br>Compression      |
| 30             | Shillong | Z     | e             | 00 53 01                   |          | Slight, near                |
| 30             | Shillong | Z     | i             | 00 54 31                   |          | -                           |
| 30             | Shillong | Z     | eP            | 01 03 49                   |          | Slight, near                |
| 30             | Shillong | Z     | eP            | 01 16 59                   |          | Slight, dist                |
| 30             | Shillong | Z     | iP            | 03 26 04                   |          | Slight, near<br>Rarefaction |
| 30             | Shillong | Z     | i             | 03 40 34                   |          | Slight, near                |
| 30             | Delhi    | Z     | iP<br>i<br>iS | 04 42 36<br>43 26<br>43 51 | 720      | Slight,<br>Rarefaction      |
| 30             | Shillong | Z     | iP            | 04 57 36                   |          | Slight, dist<br>Compression |
|                | Chatra   | Z     | iP            | 04 57 53                   |          | Feeble, dist<br>Compression |

| DATE           | STATION   | COMPT   | PHASE   | G. M. T.<br>h. m. s. | Δ<br>km. | REMARKS  |
|----------------|---|---------|---------|----------------------|----------|--|
| October, 1961. |   |         |         |                      |          |  |
| 30             | Delhi   | Z       | eP      | 08 42 00             |          | Compression,<br>Russian 50 megato<br>explosion.<br>Period = 18 secs.<br>Amp. = 9.5 mm. |
|                |   |         | M       | -                    |          |  |
|                | Chatra  | Z<br>NE | iP<br>M | 08 42 25<br>09 00 -  |          | Feeble, distant.<br>Compression.   |
|                | Shillong  | Z<br>N  | iP<br>M | 08 42 38<br>09 09 -  |          | Slight, distant.<br>Compression.<br>Period = 10 secs.<br>Gr. dis. = 1 μ                |
|                | Bombay  | N<br>E  | e<br>i  | 08 57 18<br>57 42    |          | Very feeble.   |
|                |   |         | e       | 09 00 20             |          |  |
|                |   |         | M       | 08 52                |          | Period = 15 secs.<br>Gr. dis. = 3 μ  |
|                | Madras  | E       | e       | 09 08 07             |          | Presumably M wave<br>of atomic<br>explosion.   |
|                | Kodaikanal  | E       | e       | 09 08 13             |          | -  |
| 30             | Shillong  | Z       | iP      | 16 08 02             |          | Slight, distant.<br>Compression.   |
|                | Chatra  | Z       | iP      | 16 08 14             |          | Feeble, distant.<br>Compression.   |
|                | Poona   | Z       | iP      | 16 09 30             |          | Feeble,<br>Compression.  |
| 30             | Shillong  | Z       | e       | 16 17 20             |          | -  |
| 30             | Shillong  | Z       | iP      | 17 25 13             |          | Slight, distant.<br>Compression.   |
| 30             | Shillong  | Z       | e       | 19 52 08             |          | -  |
| 30             | Shillong  | Z       | eP      | 19 53 09             |          | Slight, distant.   |
| 30             | Shillong  | Z       | iP<br>i | 20 17 20<br>17 53    |          | Slight, near.<br>Compression.  |
| 30             | Epc:- 28.9°N, 141.8°E, South of Honshu, Japan.<br>- h = 31 Km. - H = 21h 15m 35.2s (USCGS). |         |         |                      |          |  |
|                | Shillong  | ZE      | iP<br>e | 21 25 47<br>33 43    |          | Moderate,<br>Compression.<br>Period = 15 secs.<br>Gr. dis = 1 μ.                       |
|                |   |         | M       | - 46 -               |          |  |
|                | Chatra  | Z       | iP<br>M | 21 24 17<br>47 49    |          | Feeble, distant.<br>Compression.   |

| DATE                  | STATION            | COMPT. | PHASE | G. M. T.<br>h. m. s. | △<br>km. | REMARKS  |
|-----------------------|--------------------|--------|-------|----------------------|----------|--|
| <u>October, 1961.</u> |                    |        |       |                      |          |  |
| 30                    | Bokaro<br>(Contd.) | NE     | eP    | 21 24 36             |          | Slight.  |
|                       | Visakhapatnam      | E      | e     | 21 25 09             |          | Slight, distant.   |
|                       |                    |        | e     | 28 37                |          |  |
|                       | Delhi              | ZNE    | iP    | 21 25 19             |          | Slight, initial ground motion towards South and Compression. |
|                       | Madras             | E      | i     | 21 25 39             |          | Slight, initial ground motion towards West.                  |
|                       |                    |        | e     | 26 03                |          |  |
|                       |                    |        | e     | 29 30                |          |  |
|                       |                    |        | M     | 32 26                |          |  |
|                       | Poona              | Z      | iP    | 21 26 00             |          | Feeble, Compression.   |
|                       | Bombay             | NE     | eP    | 21 26 05             | 7200     | Slight.  |
|                       |                    | N      | eS    | 34 46                |          |  |
|                       |                    | NE     | PPS   | 35 46                |          |  |
|                       |                    | N      | M     | - 56 -               |          |  |
| 30                    | Shillong           | Z      | iP    | 22 44 22             |          | Slight, distant. Rarefaction.                                |
|                       | Delhi              | Z      | iP    | 22 45 52             |          | Slight, Compression.   |
| 30                    | Shillong           | Z      | i     | 22 46 06             |          | -  |
| 30                    | Shillong           | Z      | e     | 23 18 30             |          | -  |
| 31                    | Chatra             | Z      | eP    | 00 05 10             | 490      | Feeble.  |
|                       |                    |        | eS    | 06 03                |          |  |
|                       | Shillong           | Z      | iP    | 00 05 12             | 200      | Slight, Compression.   |
|                       |                    |        | i     | 05 13                |          |  |
|                       |                    | NE     | iS    | 05 35                |          | Mag : 3.7  |
| 31                    | Delhi              | Z      | iP    | 01 40 23             |          | Slight, Compression.   |
| 31                    | Shillong           | Z      | iP    | 01 54 44             |          | Slight, distant. Compression.                                |
|                       | Chatra             | Z      | iP    | 01 54 57             |          | Very weak, probably distant. Compression.                    |
|                       | Poona              | Z      | iP    | 01 56 17             |          | Feeble, Compression.   |
| 31                    | Shillong           | Z      | eP    | 02 23 10             |          | Slight, distant.   |
| 31                    | Shillong           | Z      | iP    | 03 25 59             |          | Slight, distant. Compression.                                |
|                       | Delhi              | Z      | iP    | 03 27 22             |          | Slight, Rarefaction.   |



| DATE                  | STATION  | COMPT. | PHASE | G. M. T.<br>h. m. s. | △<br>km. | REMARKS                       |
|-----------------------|----------|--------|-------|----------------------|----------|-------------------------------|
| <u>October, 1961.</u> |          |        |       |                      |          |                               |
| 31                    | Shillong | Z      | iP    | 03 32 19             |          | Slight, distant. Compression. |
| 31                    | Delhi    | Z      | iP    | 07 40 31             |          | Slight, Compression.          |
|                       | Shillong | Z      | iP    | 07 41 46             |          | Slight, distant. Rarefaction. |
| 31                    | Shillong | Z      | e     | 07 44 18             |          | Slight, near.                 |
| 31                    | Shillong | Z      | e     | 07 52 35             |          | -                             |
| 31                    | Shillong | Z      | iP    | 08 47 15             |          | Slight, distant. Rarefaction. |
| 31                    | Shillong | Z      | iP    | 12 05 58             |          | Slight, distant. Rarefaction. |
| 31                    | Shillong | Z      | iP    | 15 13 06             |          | Slight, near. Compression.    |
| 31                    | Shillong | Z      | e     | 16 18 15             |          | Slight, near.                 |
| 31                    | Chatra   | Z      | e     | 18 16 44             |          | Very mild minor disturbances. |
|                       |          |        | e     | 17 07                |          |                               |
|                       | Shillong | Z      | e     | 18 17 51             |          | -                             |
| 31                    | Shillong | Z      | e     | 20 17 48             |          | -                             |
| 31                    | Shillong | Z      | iP    | 20 36 12             |          | Slight, distant. Compression. |
| 31                    | Shillong | Z      | iP    | 22 27 37             | 200      | Slight, Compression.          |
|                       |          |        | eS    | 28 01                |          |                               |

Non-Instrumental Reports.

The following is the list of Earthquakes that have reported by voluntary observer from one station during the month of October, 1961:

| Place at which felt | Date in G. M. T. | Time in G. M. T. | Number of shocks in secs. | Duration of shocks in secs. | Intensity in R.F. Scale | Remarks |
|---------------------|------------------|------------------|---------------------------|-----------------------------|-------------------------|---------|
| Shillong            | 4                | 07 27            | 1                         | 5                           | III                     | -       |
| Shillong            | 28               | 13 01            | 1                         | 6                           | III                     | -       |

.....

| Date               | Hour | K   | Mean amplitude in m.m. | Mean period in sec. | Date | Hour | K   | Mean amplitude in m.m. | Mean period in sec. |
|--------------------|------|-----|------------------------|---------------------|------|------|-----|------------------------|---------------------|
| Station : Shillong |      |     |                        |                     |      |      |     |                        |                     |
| October, 1961      |      |     |                        |                     |      |      |     |                        |                     |
| Component : E-W.   |      |     |                        |                     |      |      |     |                        |                     |
| 01                 | 00   | ... | -                      | -                   | 12   | 00   | 0,0 | -                      | -                   |
|                    | 06   | ... | -                      | -                   |      | 06   | 1   | 0.2                    | 5                   |
|                    | 12   | ... | -                      | -                   |      | 12   | 1   | 0.1                    | 5                   |
|                    | 18   | ... | -                      | -                   |      | 18   | 1   | 0.2                    | 5                   |
| 02                 | 00   | ... | -                      | -                   | 13   | 00   | 1   | 0.2                    | 5                   |
|                    | 06   | ... | -                      | -                   |      | 06   | 1   | 0.2                    | 5                   |
|                    | 12   | ... | -                      | -                   |      | 12   | 1   | 0.2                    | 5                   |
|                    | 18   | ... | -                      | -                   |      | 18   | 1   | 0.1                    | 5                   |
| 03                 | 00   | ... | -                      | -                   | 14   | 00   | 0,0 | -                      | -                   |
|                    | 06   | ... | -                      | -                   |      | 06   | 0,0 | -                      | -                   |
|                    | 12   | 1   | 0.2                    | 6                   |      | 12   | 0,0 | -                      | -                   |
|                    | 18   | 1   | 0.2                    | 5                   |      | 18   | 0,0 | -                      | -                   |
| 04                 | 00   | 1   | 0.1                    | 5                   | 15   | 00   | 0,0 | -                      | -                   |
|                    | 06   | 1   | 0.1                    | 5                   |      | 06   | 0,0 | -                      | -                   |
|                    | 12   | 0,0 | -                      | -                   |      | 12   | 0,0 | -                      | -                   |
|                    | 18   | 0,0 | -                      | -                   |      | 18   | 0,0 | -                      | -                   |
| 05                 | 00   | 0,0 | -                      | -                   | 16   | 00   | 0,0 | -                      | -                   |
|                    | 06   | 0,0 | -                      | -                   |      | 06   | 0,0 | -                      | -                   |
|                    | 12   | 1   | 0.1                    | 4                   |      | 12   | 0,0 | -                      | -                   |
|                    | 18   | 3   | 0.1                    | 4                   |      | 18   | 0,0 | -                      | -                   |
| 06                 | 00   | 0,0 | -                      | -                   | 17   | 00   | 0,0 | -                      | -                   |
|                    | 06   | 0,0 | -                      | -                   |      | 06   | 0,0 | -                      | -                   |
|                    | 12   | 3   | 0.2                    | 5                   |      | 12   | 0,0 | -                      | -                   |
|                    | 18   | 3   | 0.3                    | 4                   |      | 18   | 0,0 | -                      | -                   |
| 07                 | 00   | 3   | 0.3                    | 4                   | 18   | 00   | 0,0 | -                      | -                   |
|                    | 06   | 0,0 | -                      | -                   |      | 06   | 0,0 | -                      | -                   |
|                    | 12   | 0,0 | -                      | -                   |      | 12   | 0,0 | -                      | -                   |
|                    | 18   | 0,0 | -                      | -                   |      | 18   | ... | -                      | -                   |
| 08                 | 00   | 1   | 0.1                    | 5                   | 19   | 00   | 1   | 0.2                    | 5                   |
|                    | 06   | 0,0 | -                      | -                   |      | 06   | 3   | 0.2                    | 5                   |
|                    | 12   | 1   | 0.1                    | 4                   |      | 12   | ... | -                      | -                   |
|                    | 18   | 1   | 0.1                    | 4                   |      | 18   | 3   | 0.2                    | 5                   |
| 09                 | 00   | ... | -                      | -                   | 20   | 00   | 3   | 0.2                    | 5                   |
|                    | 06   | 3   | 0.2                    | 5                   |      | 06   | 3   | 0.1                    | 5                   |
|                    | 12   | 3   | 0.2                    | 6                   |      | 12   | 3   | 0.2                    | 5                   |
|                    | 18   | 3   | 0.1                    | 5                   |      | 18   | ... | -                      | -                   |
| 10                 | 00   | 1   | 0.2                    | 6                   | 21   | 00   | 3   | 0.1                    | 4                   |
|                    | 06   | 1   | 0.1                    | 5                   |      | 06   | 0,0 | -                      | -                   |
|                    | 12   | 1   | 0.1                    | 5                   |      | 12   | 3   | 0.1                    | 4                   |
|                    | 18   | 1   | 0.1                    | 6                   |      | 18   | ... | -                      | -                   |
| 11                 | 00   | 1   | 0.1                    | 4                   | 22   | 00   | ... | -                      | -                   |
|                    | 06   | 1   | 0.1                    | 5                   |      | 06   | 3   | 0.1                    | 4                   |
|                    | 12   | 0,0 | -                      | -                   |      | 12   | 3   | 0.1                    | 4                   |
|                    | 18   | 0,0 | -                      | -                   |      | 18   | 3   | 0.1                    | 4                   |

| Date                      | Hour | K   | Mean amplitude in m.m. | Mean period in sec. | Date | Hour | K   | Mean amplitude in m.m. | Mean period in sec. |
|---------------------------|------|-----|------------------------|---------------------|------|------|-----|------------------------|---------------------|
| Station : Shillong        |      |     |                        |                     |      |      |     |                        |                     |
| October, 1961             |      |     |                        |                     |      |      |     |                        |                     |
| Component : E-W.          |      |     |                        |                     |      |      |     |                        |                     |
| 23                        | 00   | 3   | 0.1                    | 4                   | 02   | 00   | 3   | 0.7                    | 4.4                 |
|                           | 06   | 1   | 0.1                    | 4                   |      | 06   | 3   | 0.3                    | 2.0                 |
|                           | 12   | 1   | 0.1                    | 4                   |      | 12   | 3   | 0.7                    | 5.1                 |
|                           | 18   | 3   | 0.1                    | 4                   |      | 18   | 3   | 0.5                    | 2.5                 |
| 24                        | 00   | 3   | 0.1                    | 5                   |      | 12   | 3   | 0.6                    | 4.9                 |
|                           | 06   | 3   | 0.2                    | 5                   |      | 18   | 3   | 0.9                    | 5.3                 |
|                           | 12   | 3   | 0.2                    | 5                   |      |      |     | 0.7                    | 2.8                 |
|                           | 18   | ... | -                      | -                   | 03   | 00   | ... | -                      | -                   |
| 25                        | 00   | ... | -                      | -                   |      | 06   | ... | -                      | -                   |
|                           | 06   | 3   | 0.2                    | 4                   |      | 12   | ... | -                      | -                   |
|                           | 12   | 3   | 0.2                    | 5                   |      | 18   | 3   | 0.6                    | 4.7                 |
|                           | 18   | 3   | 0.2                    | 5                   |      |      |     | 0.3                    | 2.7                 |
| 26                        | 00   | 3   | 0.2                    | 5                   | 04   | 00   | 3   | 0.7                    | 5.2                 |
|                           | 06   | 3   | 0.2                    | 5                   |      | 06   | ... | -                      | -                   |
|                           | 12   | 3   | 0.2                    | 5                   |      | 12   | ... | -                      | -                   |
|                           | 18   | 3   | 0.2                    | 5                   |      | 18   | ... | -                      | -                   |
| 27                        | 00   | 3   | 0.2                    | 5                   | 05   | 00   | ... | -                      | -                   |
|                           | 06   | 3   | 0.2                    | 6                   |      | 06   | ... | -                      | -                   |
|                           | 12   | 3   | 0.2                    | 5                   |      | 12   | ... | -                      | -                   |
|                           | 18   | 3   | 0.2                    | 5                   |      | 18   | ... | -                      | -                   |
| 28                        | 00   | 3   | 0.2                    | 5                   | 06   | 00   | ... | -                      | -                   |
|                           | 06   | ... | -                      | -                   |      | 06   | ... | -                      | -                   |
|                           | 12   | 3   | 0.2                    | 5                   |      | 12   | ... | -                      | -                   |
|                           | 18   | 3   | 0.2                    | 5                   |      | 18   | ... | -                      | -                   |
| 29                        | 00   | 3   | 0.2                    | 5                   | 07   | 00   | ... | -                      | -                   |
|                           | 06   | 3   | 0.2                    | 5                   |      | 06   | ... | -                      | -                   |
|                           | 12   | 1   | 0.2                    | 5                   |      | 12   | 3   | 0.5                    | 6.0                 |
|                           | 18   | 1   | 0.1                    | 5                   |      | 18   | 3   | 0.5                    | 2.8                 |
| 30                        | 00   | 1   | 0.1                    | 5                   |      | 18   | 3   | 0.5                    | 5.7                 |
|                           | 06   | 1   | 0.1                    | 5                   |      | 21   | 1   | 0.7                    | 2.6                 |
|                           | 12   | 1   | 0.2                    | 5                   |      |      |     | 0.7                    | 2.6                 |
|                           | 18   | 1   | 0.1                    | 5                   | 08   | 00   | 1   | 0.9                    | 2.9                 |
| 31                        | 00   | 1   | 0.2                    | 5                   |      | 03   | 1   | 1.3                    | 3.1                 |
|                           | 06   | 1   | 0.1                    | 5                   |      | 06   | 1   | 1.3                    | 3.0                 |
|                           | 12   | 1   | 0.1                    | 5                   |      | 09   | 1   | 1.1                    | 2.9                 |
|                           | 18   | 3   | 0.1                    | 5                   |      | 12   | 1   | 1.1                    | 3.0                 |
| .....                     |      |     |                        |                     |      |      |     |                        |                     |
| Station : Bombay (Colaba) |      |     |                        |                     |      |      |     |                        |                     |
| 01                        | 00   | 3   | 0.7                    | 3.7                 | 09   | 00   | ... | -                      | -                   |
|                           |      |     | 0.4                    | 2.0                 |      | 03   | 1   | 1.3                    | 3.0                 |
|                           | 06   | 3   | 0.8                    | 4.3                 |      | 06   | 1   | 1.3                    | 3.1                 |
|                           |      |     | 0.3                    | 2.0                 |      | 09   | ... | -                      | -                   |
|                           | 12   | 3   | 0.7                    | 3.9                 |      | 12   | 1   | 1.1                    | 2.9                 |
|                           |      |     | 0.3                    | 2.0                 |      | 15   | 1   | 1.1                    | 3.1                 |
|                           | 18   | 3   | 0.7                    | 4.4                 |      | 18   | ... | -                      | -                   |
|                           |      |     | 0.4                    | 2.2                 |      | 21   | 1   | 1.2                    | 3.1                 |





Date Hour K Mean amplitude in m.m. Mean period in sec.  
 Date Hour K Mean amplitude in m.m. Mean period in sec.

Component : E-W.

| Station : Madras |    |     |     |     | October, 1961 |    |   |     |     |
|------------------|----|-----|-----|-----|---------------|----|---|-----|-----|
| 12               | 00 | 3   | 0.3 | 3.1 | 20            | 18 | 3 | 0.2 | 2.7 |
|                  | 03 | 3   | 0.3 | 3.3 | (Contd.)      |    | 3 | 0.3 | 5.4 |
|                  | 06 | 3   | 0.2 | 3.2 | 21            | 00 | 3 | 0.2 | 2.7 |
|                  | 12 | 3   | 0.2 | 3.3 |               |    | 3 | 0.2 | 4.9 |
|                  | 18 | 3   | 0.2 | 3.1 |               | 03 | 3 | 0.3 | 2.7 |
| 13               | 00 | 3   | 0.2 | 3.0 |               | 06 | 1 | 0.3 | 2.9 |
|                  | 03 | 3   | 0.2 | 3.0 |               | 12 | 1 | 0.3 | 3.0 |
|                  | 06 | 3   | 0.2 | 2.9 |               | 18 | 1 | 0.4 | 3.0 |
|                  | 12 | 3   | 0.2 | 3.0 | 22            | 00 | 1 | 0.3 | 2.9 |
|                  | 18 | 3   | 0.2 | 3.1 |               | 03 | 1 | 0.3 | 3.0 |
| 14               | 00 | 3   | 0.1 | 3.0 |               | 06 | 1 | 0.3 | 2.9 |
|                  | 03 | ... | -   | -   |               | 12 | 1 | 0.3 | 2.8 |
|                  | 06 | ... | -   | -   |               | 18 | 1 | 0.3 | 2.8 |
|                  | 12 | 3   | 0.1 | 2.9 | 23            | 00 | 1 | 0.3 | 2.8 |
|                  | 18 | 3   | 0.1 | 2.7 |               | 03 | 1 | 0.3 | 2.9 |
| 15               | 00 | 3   | 0.2 | 2.7 |               | 06 | 1 | 0.3 | 2.8 |
|                  | 03 | 3   | 0.1 | 2.6 |               | 12 | 1 | 0.3 | 2.8 |
|                  | 06 | 3   | 0.1 | 2.7 |               | 18 | 1 | 0.3 | 2.8 |
|                  | 12 | 3   | 0.2 | 2.6 | 24            | 00 | 1 | 0.4 | 2.8 |
|                  | 18 | 3   | 0.2 | 2.6 |               | 03 | 1 | 0.4 | 2.7 |
| 16               | 00 | 3   | 0.2 | 2.7 |               | 06 | 1 | 0.5 | 2.8 |
|                  | 03 | 1   | 0.3 | 2.7 |               | 12 | 1 | 0.6 | 2.9 |
|                  | 06 | 1   | 0.4 | 2.5 |               | 18 | 1 | 0.5 | 2.8 |
|                  | 12 | 1   | 0.5 | 2.8 | 25            | 00 | 1 | 0.5 | 2.7 |
|                  | 18 | 1   | 0.6 | 2.8 |               | 03 | 1 | 0.5 | 2.6 |
| 17               | 00 | 1   | 0.5 | 2.8 |               | 06 | 3 | 0.4 | 2.7 |
|                  | 03 | 1   | 0.4 | 2.7 |               | 12 | 3 | 0.4 | 2.7 |
|                  | 06 | 1   | 0.4 | 2.5 |               | 18 | 3 | 0.3 | 2.7 |
|                  | 12 | 1   | 0.3 | 2.5 | 26            | 00 | 3 | 0.3 | 2.6 |
|                  | 18 | 3   | 0.2 | 2.4 |               |    | 3 | 0.5 | 5.4 |
| 18               | 00 | 3   | 0.1 | 2.4 |               | 03 | 3 | 0.2 | 2.6 |
|                  | 03 | 3   | 0.2 | 2.3 |               |    | 3 | 0.5 | 5.7 |
|                  | 06 | 3   | 0.2 | 2.3 |               | 06 | 3 | 0.2 | 2.4 |
|                  | 12 | 3   | 0.2 | 2.4 |               |    | 3 | 0.6 | 5.9 |
|                  | 18 | ... | -   | -   |               | 12 | 3 | 0.5 | 5.7 |
| 19               | 00 | 3   | 0.1 | 2.4 |               | 18 | 3 | 0.5 | 5.8 |
|                  |    | 3   | 0.2 | 5.1 | 27            | 00 | 3 | 0.5 | 5.9 |
|                  | 03 | 3   | 0.3 | 5.5 |               | 03 | 3 | 0.5 | 5.7 |
|                  | 06 | 3   | 0.3 | 5.8 |               | 06 | 3 | 0.5 | 5.8 |
|                  | 12 | 3   | 0.1 | 1.1 |               | 12 | 3 | 0.5 | 6.0 |
|                  | 18 | 3   | 0.1 | 1.2 |               | 18 | 3 | 0.4 | 5.3 |
|                  |    | 3   | 0.3 | 5.4 | 28            | 00 | 3 | 0.5 | 5.1 |
| 20               | 00 | 3   | 0.1 | 1.4 |               | 03 | 3 | 0.5 | 5.3 |
|                  |    | 3   | 0.2 | 4.9 |               | 06 | 3 | 0.5 | 5.3 |
|                  | 03 | 3   | 0.2 | 2.5 |               | 12 | 3 | 0.4 | 5.2 |
|                  |    | 3   | 0.3 | 4.6 |               | 18 | 3 | 0.5 | 5.3 |
|                  | 06 | 3   | 0.2 | 2.6 | 29            | 00 | 3 | 0.2 | 2.0 |
|                  |    | 3   | 0.3 | 4.9 |               | 03 | 3 | 0.2 | 1.6 |
|                  | 12 | 3   | 0.2 | 2.8 |               | 06 | 3 | 0.2 | 1.6 |
|                  |    | 3   | 0.3 | 5.1 |               |    | 3 | 0.4 | 4.9 |



Date Hour K Mean amplitude in m.m. Mean period in sec.  
 Date Hour K Mean amplitude in m.m. Mean period in sec.

Station : Madras October, 1961 Component : E-W.

|          |    |   |     |     |    |    |     |     |     |
|----------|----|---|-----|-----|----|----|-----|-----|-----|
| 29       | 12 | 3 | 0.4 | 5.1 | 07 | 00 | 3   | 0.4 | 7.2 |
| (Contd.) |    |   |     |     |    | 06 | 3   | 0.4 | 7.2 |
|          | 18 | 3 | 0.4 | 5.4 |    | 12 | 3   | 0.4 | 7.2 |
| 30       | 00 | 3 | 0.4 | 6.2 |    | 18 | 3   | 0.4 | 7.2 |
|          | 03 | 3 | 0.4 | 4.9 | 08 | 00 | 3   | 0.4 | 7.2 |
|          |    | 3 | 0.2 | 2.6 |    | 06 | ... | -   | -   |
|          | 06 | 3 | 0.4 | 5.1 |    | 12 | 3   | 0.4 | 7.2 |
|          |    | 3 | 0.2 | 2.6 |    | 18 | 3   | 0.4 | 7.2 |
|          | 12 | 3 | 0.4 | 5.0 | 09 | 00 | 3   | 0.8 | 7.2 |
|          |    | 3 | 0.2 | 2.7 |    | 06 | ... | -   | -   |
|          | 18 | 3 | 0.4 | 5.0 |    | 12 | ... | -   | -   |
|          |    | 3 | 0.2 | 2.7 |    | 18 | ... | -   | -   |
| 31       | 00 | 3 | 0.3 | 4.9 | 10 | 00 | ... | -   | -   |
|          |    | 3 | 0.2 | 2.7 |    | 06 | 3   | 0.4 | 7.2 |
|          | 03 | 3 | 0.2 | 2.8 |    | 12 | 3   | 0.4 | 7.2 |
|          |    | 3 | 0.3 | 4.6 |    | 18 | 3   | 0.4 | 7.2 |
|          | 06 | 3 | 0.3 | 2.7 | 11 | 00 | 3   | 0.4 | 7.2 |
|          |    | 3 | 0.3 | 2.7 |    | 06 | 0.. | -   | -   |
|          | 12 | 3 | 0.3 | 2.7 |    | 12 | 0.. | -   | -   |
|          | 18 | 3 | 0.3 | 2.6 |    | 18 | 0.. | -   | -   |

.....

Station : Port Blair

|    |    |     |     |     |    |    |     |     |     |
|----|----|-----|-----|-----|----|----|-----|-----|-----|
| 01 | 00 | ... | -   | -   | 12 | 00 | 0.. | -   | -   |
|    | 06 | 0.. | -   | -   |    | 06 | 0.. | -   | -   |
|    | 12 | 0.. | -   | -   |    | 12 | 0.. | -   | -   |
|    | 18 | 0.. | -   | -   |    | 18 | 0.. | -   | -   |
|    |    | 0.. | -   | -   | 13 | 00 | 0.. | -   | -   |
|    |    | 0.. | -   | -   |    | 06 | 0.. | -   | -   |
| 02 | 00 | 0.. | -   | -   |    | 12 | 0.. | -   | -   |
|    | 06 | 0.. | -   | -   |    | 18 | 0.. | -   | -   |
|    | 12 | 0.. | -   | -   | 14 | 00 | 0.. | -   | -   |
|    | 18 | 0.. | -   | -   |    | 06 | 0.. | -   | -   |
| 03 | 00 | 0.. | -   | -   |    | 12 | 0.. | -   | -   |
|    | 06 | ... | -   | -   |    | 18 | 0.. | -   | -   |
|    | 12 | ... | -   | -   | 15 | 00 | 0.. | -   | -   |
|    | 18 | ... | -   | -   |    | 06 | ... | -   | -   |
| 04 | 00 | ... | -   | -   |    | 12 | ... | -   | -   |
|    | 06 | 0,0 | -   | -   |    | 18 | ... | -   | -   |
|    | 12 | 0,0 | -   | -   | 16 | 00 | ... | -   | -   |
|    | 18 | 0,0 | -   | -   |    | 06 | 2   | 0.4 | 7.2 |
| 05 | 00 | 0,0 | -   | -   |    | 12 | 2   | 0.4 | 7.2 |
|    | 06 | 3   | 0.4 | 7.2 |    | 18 | 2   | 0.4 | 7.2 |
|    | 12 | 3   | 0.4 | 7.2 | 17 | 00 | 2   | 0.4 | 7.2 |
|    | 18 | 3   | 0.4 | 7.2 |    | 06 | 2   | 0.8 | 7.2 |
| 06 | 00 | 3   | 0.4 | 7.2 |    | 12 | 2   | 0.8 | 7.2 |
|    | 06 | 3   | 0.4 | 7.2 |    | 18 | 2   | 0.8 | 7.2 |
|    | 12 | 3   | 0.4 | 7.2 | 18 | 00 | 2   | 0.8 | 7.2 |
|    | 18 | 3   | 0.4 | 7.2 |    | 06 | 0.. | -   | -   |

Date Hour K Mean amplitude in micron Date Hour K Mean amplitude in micron  
 G.M.T. in micron in sec. G.M.T. in micron in sec.



Station : Port Blair      October, 1961      Component : E-W.

| Date     | Hour G.M.T. | K   | Mean amplitude in micron | Mean period in sec. | Date | Hour G.M.T. | K   | Mean amplitude in micron | Mean period in sec. |
|----------|-------------|-----|--------------------------|---------------------|------|-------------|-----|--------------------------|---------------------|
| 18       | 12          | 0.. | -                        | -                   | 30   | 00          | 0.. | -                        | -                   |
| (Contd.) | 18          | 0.. | -                        | -                   |      | 06          | 0.. | -                        | -                   |
|          |             |     |                          |                     |      | 12          | 0.. | -                        | -                   |
|          |             |     |                          |                     |      | 18          | 0.. | -                        | -                   |
| 19       | 00          | 0.. | -                        | -                   |      |             |     |                          |                     |
|          | 06          | 0.. | -                        | -                   | 31   | 00          | 0.. | -                        | -                   |
|          | 12          | 0.. | -                        | -                   |      | 06          | 0.. | -                        | -                   |
|          | 18          | 0.. | -                        | -                   |      | 12          | 0.. | -                        | -                   |
| 20       | 00          | 0.. | -                        | -                   |      | 18          | 0.. | -                        | -                   |
|          | 06          | 0.. | -                        | -                   |      |             |     |                          |                     |
|          | 12          | 0.. | -                        | -                   |      |             |     |                          |                     |
|          | 18          | 0.. | -                        | -                   |      |             |     |                          |                     |

Station : Visakhapatnam

| Date | Hour G.M.T. | K   | Mean amplitude in micron | Mean period in sec. | Date | Hour G.M.T. | K   | Mean amplitude in micron | Mean period in sec. |
|------|-------------|-----|--------------------------|---------------------|------|-------------|-----|--------------------------|---------------------|
| 21   | 00          | 0.. | -                        | -                   | 01   | 00          | 1   | 0.5                      | 3.3                 |
|      | 06          | 0.. | -                        | -                   |      | 06          | 1   | 0.5                      | 3.4                 |
|      | 12          | 0.. | -                        | -                   |      | 12          | 1   | 0.5                      | 3.3                 |
|      | 18          | 0.. | -                        | -                   |      | 18          | 1   | 0.5                      | 3.0                 |
| 22   | 00          | 0.. | -                        | -                   | 02   | 00          | 1   | 0.6                      | 3.1                 |
|      | 06          | 0.. | -                        | -                   |      | 06          | 2   | 0.4                      | 3.4                 |
|      | 12          | 0.. | -                        | -                   |      | 12          | 2   | 0.5                      | 3.3                 |
|      | 18          | 0.. | -                        | -                   |      | 18          | 2   | 0.4                      | 3.6                 |
| 23   | 00          | 0.. | -                        | -                   | 03   | 00          | 2   | 0.5                      | 3.5                 |
|      | 06          | 0.. | -                        | -                   |      | 06          | 2   | 0.4                      | 3.4                 |
|      | 12          | 0.. | -                        | -                   |      | 12          | 2   | 0.4                      | 3.2                 |
|      | 18          | 0.. | -                        | -                   |      | 18          | 2   | 0.5                      | 4.2                 |
| 24   | 00          | 0.. | -                        | -                   | 04   | 00          | 2   | 0.5                      | 3.3                 |
|      | 06          | 2   | 1.2                      | 7.3                 |      | 06          | 2   | 0.4                      | 3.4                 |
|      | 12          | 2   | 1.2                      | 7.2                 |      | 12          | 2   | 0.5                      | 4.2                 |
|      | 18          | 2   | 1.2                      | 7.3                 |      | 18          | 2   | 0.4                      | 3.7                 |
| 25   | 00          | 2   | 1.2                      | 7.3                 | 05   | 00          | 2   | 0.5                      | 4.3                 |
|      | 06          | 2   | 1.2                      | 7.2                 |      | 06          | 2   | 0.4                      | 3.7                 |
|      | 12          | 2   | 1.2                      | 7.2                 |      | 12          | 1   | 0.4                      | 2.6                 |
|      | 18          | 2   | 1.2                      | 7.3                 |      | 18          | 1   | 0.5                      | 2.6                 |
| 26   | 00          | 2   | 1.2                      | 7.2                 | 06   | 00          | 1   | 0.4                      | 2.3                 |
|      | 06          | ... | -                        | -                   |      | 06          | 1   | 0.6                      | 2.7                 |
|      | 12          | 2   | 0.4                      | 7.2                 |      | 12          | 1   | 0.6                      | 2.6                 |
|      | 18          | 2   | 0.4                      | 7.2                 |      | 18          | 1   | 0.6                      | 2.6                 |
| 27   | 00          | 2   | 0.4                      | 7.2                 | 07   | 00          | 1   | 0.6                      | 2.7                 |
|      | 06          | ... | -                        | -                   |      | 06          | 1   | 0.6                      | 2.9                 |
|      | 12          | ... | -                        | -                   |      | 12          | 1   | 0.5                      | 2.8                 |
|      | 18          | ... | -                        | -                   |      | 18          | 1   | 0.6                      | 3.0                 |
| 28   | 00          | ... | -                        | -                   | 08   | 00          | 1   | 0.6                      | 2.9                 |
|      | 06          | 0.. | -                        | -                   |      | 06          | 1   | 0.6                      | 3.0                 |
|      | 12          | 0.. | -                        | -                   |      | 12          | 3   | 0.4                      | 3.6                 |
|      | 18          | 0.. | -                        | -                   |      | 18          | 3   | 0.5                      | 3.4                 |
| 29   | 00          | 0.. | -                        | -                   | 09   | 00          | ... | -                        | -                   |
|      | 06          | 0.. | -                        | -                   |      | 06          | 3   | 0.6                      | 3.0                 |
|      | 12          | 0.. | -                        | -                   |      | 12          | 3   | 0.5                      | 3.1                 |
|      | 18          | 0.. | -                        | -                   |      | 18          | 3   | 0.5                      | 3.2                 |

| Date | Hour<br>G.M.T. | K | Mean<br>amplitude<br>in m.m. | Mean<br>period<br>in sec. | Date | Hour<br>G.M.T. | K | Mean<br>amplitude<br>in m.m. | Mean<br>period<br>in sec. |
|------|----------------|---|------------------------------|---------------------------|------|----------------|---|------------------------------|---------------------------|
|------|----------------|---|------------------------------|---------------------------|------|----------------|---|------------------------------|---------------------------|



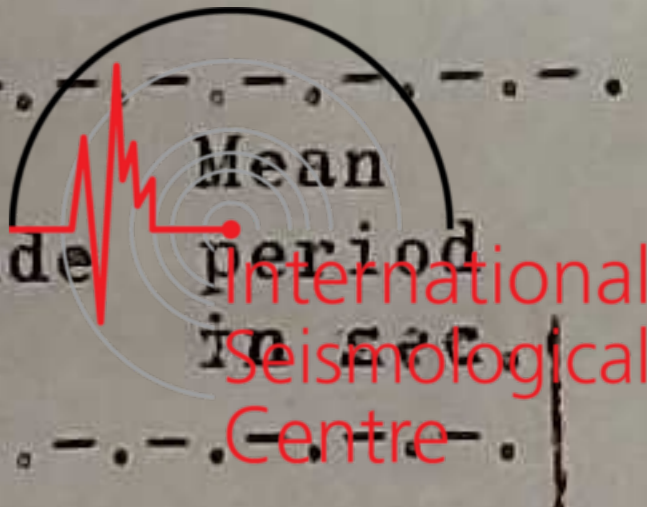
Station : Visakhapatnam                      October, 1961                      Component : E-W.

|    |    |     |     |     |    |    |     |     |     |
|----|----|-----|-----|-----|----|----|-----|-----|-----|
| 10 | 00 | 3   | 0.4 | 3.1 | 22 | 00 | 3   | 0.3 | 3.7 |
|    | 06 | 3   | 0.4 | 2.7 |    | 06 | 3   | 0.3 | 4.1 |
|    | 12 | 3   | 0.3 | 2.9 |    | 12 | 3   | 0.3 | 4.8 |
|    | 18 | 3   | 0.4 | 2.9 |    | 18 | 3   | 0.4 | 4.4 |
| 11 | 00 | 3   | 0.3 | 3.1 | 23 | 00 | 3   | 0.3 | 3.5 |
|    | 06 | 3   | 0.3 | 2.9 |    | 06 | 3   | 0.4 | 4.0 |
|    | 12 | 3   | 0.3 | 3.0 |    | 12 | 3   | 0.4 | 4.9 |
|    | 18 | 3   | 0.4 | 3.4 |    | 18 | 3   | 0.5 | 4.4 |
| 12 | 00 | 3   | 0.3 | 3.4 | 24 | 00 | 3   | 0.5 | 4.9 |
|    | 06 | 2   | 0.4 | 4.3 |    | 06 | 3   | 0.5 | 4.9 |
|    | 12 | 2   | 0.3 | 4.6 |    | 12 | 3   | 0.4 | 4.7 |
|    | 18 | 2   | 0.3 | 3.8 |    | 18 | 3   | 0.5 | 4.7 |
| 13 | 00 | 3   | 0.5 | 5.0 | 25 | 00 | 3   | 0.5 | 4.0 |
|    | 06 | 3   | 0.4 | 4.7 |    | 06 | 3   | 0.7 | 4.6 |
|    | 12 | 3   | 0.3 | 4.5 |    | 12 | 3   | 0.5 | 4.8 |
|    | 18 | 3   | 0.4 | 4.3 |    | 18 | 3   | 0.7 | 4.5 |
| 14 | 00 | 3   | 0.3 | 4.9 | 26 | 00 | 3   | 0.5 | 4.6 |
|    | 06 | 2   | 0.3 | 3.0 |    | 06 | 3   | 0.7 | 4.9 |
|    | 12 | 2   | 0.3 | 2.5 |    | 12 | 3   | 0.5 | 5.2 |
|    | 18 | 2   | 0.4 | 2.5 |    | 18 | 3   | 0.6 | 5.3 |
| 15 | 00 | 2   | 0.4 | 3.2 | 27 | 00 | 3   | 0.5 | 5.0 |
|    | 06 | 2   | 0.4 | 4.2 |    | 06 | 1   | 0.6 | 5.1 |
|    | 12 | 2   | 0.4 | 3.4 |    | 12 | 1   | 0.5 | 5.5 |
|    | 18 | 2   | 0.5 | 3.8 |    | 18 | 1   | 0.6 | 5.2 |
| 16 | 00 | 2   | 0.4 | 3.4 | 28 | 00 | 1   | 0.5 | 5.3 |
|    | 06 | 2   | 0.3 | 3.4 |    | 06 | 1   | 0.6 | 5.5 |
|    | 12 | 2   | 0.3 | 2.6 |    | 12 | ... | -   | -   |
|    | 18 | 2   | 0.3 | 3.0 |    | 18 | 1   | 0.5 | 5.1 |
| 17 | 00 | 2   | 0.5 | 4.1 | 29 | 00 | 1   | 0.5 | 5.1 |
|    | 06 | 1   | 0.3 | 1.9 |    | 06 | 3   | 0.5 | 5.1 |
|    | 12 | 1   | 0.3 | 2.4 |    | 12 | ... | -   | -   |
|    | 18 | 1   | 0.4 | 2.3 |    | 18 | 3   | 0.4 | 5.3 |
| 18 | 00 | 1   | 0.4 | 1.9 | 30 | 00 | 3   | 0.5 | 4.9 |
|    | 06 | 1   | 0.4 | 2.3 |    | 06 | -   | -   | -   |
|    | 12 | 1   | 0.5 | 2.2 |    | 12 | -   | -   | -   |
|    | 18 | ... | -   | -   |    | 18 | 3   | 0.4 | 5.0 |
| 19 | 00 | 1   | 0.3 | 2.1 | 31 | 00 | 3   | 0.4 | 5.7 |
|    | 06 | 1   | 0.3 | 2.2 |    | 06 | 3   | 0.4 | 5.0 |
|    | 12 | ... | -   | -   |    | 12 | 3   | 0.4 | 5.7 |
|    | 18 | 3   | 0.3 | 2.6 |    | 18 | 3   | 0.5 | 6.0 |

Station : Bokaro

|    |    |   |     |     |    |    |     |   |   |
|----|----|---|-----|-----|----|----|-----|---|---|
| 20 | 00 | 3 | 0.4 | 2.8 |    |    |     |   |   |
|    | 06 | 1 | 0.4 | 2.7 |    |    |     |   |   |
|    | 12 | 1 | 0.4 | 2.8 |    |    |     |   |   |
|    | 18 | 1 | 0.5 | 3.7 |    |    |     |   |   |
| 21 | 00 | 1 | 0.4 | 3.2 | 10 | 06 | 0,0 | - | - |
|    | 06 | 3 | 0.4 | 3.9 |    | 12 | 0,0 | - | - |
|    | 12 | 3 | 0.4 | 4.3 |    | 18 | 0,0 | - | - |
|    | 18 | 3 | 0.4 | 3.6 | 11 | 00 | 0,0 | - | - |
|    |    |   |     |     |    | 06 | 0,0 | - | - |

.....  
 Date Hour K Mean Mean Date Hour K Mean Mean  
 G.M.T. amplitude period G.M.T. amplitude period  
 in m.m. in sec. in m.m. in sec.  
 .....



Station : Bokaro

October, 1961

Component : E-W.

| Date | Hour | K   | Mean amplitude in m.m. | Mean period in sec. | Date           | Hour  | K     | Mean amplitude in m.m. | Mean period in sec. |
|------|------|-----|------------------------|---------------------|----------------|-------|-------|------------------------|---------------------|
| 12   | 00   | 0,0 | -                      | -                   | 22<br>(Contd.) | 12    | 0,0   | -                      | -                   |
|      | 06   | 0,0 | -                      | -                   |                | 18    | 0,0   | -                      | -                   |
|      | 12   | 0,0 | -                      | -                   | 23             | 00    | 0,0   | -                      | -                   |
|      | 18   | 0,0 | -                      | -                   |                | 06    | 0,0   | -                      | -                   |
| 13   | 00   | 0,0 | -                      | -                   |                | 12    | 0,0   | -                      | -                   |
|      | 06   | 0,0 | -                      | -                   |                | 18    | 0,0   | -                      | -                   |
|      | 12   | 0,0 | -                      | -                   | 24             | 00    | ...   | -                      | -                   |
|      | 18   | 0,0 | -                      | -                   |                | 06    | 3     | 0.4                    | 2.2                 |
| 14   | 00   | 0,0 | -                      | -                   |                | 12    | 0,0   | -                      | -                   |
|      | 06   | 0,0 | -                      | -                   |                | 18    | 3     | 0.4                    | 2.0                 |
|      | 12   | 0,0 | -                      | -                   | 25             | 00    | 0,0   | -                      | -                   |
|      | 18   | 0,0 | -                      | -                   |                | 06    | 0,0   | -                      | -                   |
| 15   | 00   | 0,0 | -                      | -                   |                | 12    | 0,0   | -                      | -                   |
|      | 06   | 0,0 | -                      | -                   |                | 18    | 0,0   | -                      | -                   |
|      | 12   | 0,0 | -                      | -                   | 26             | 00    | 0,0   | -                      | -                   |
|      | 18   | 0,0 | -                      | -                   |                | 06    | 0,0   | -                      | -                   |
| 16   | 00   | 0,0 | -                      | -                   |                | 12    | 0,0   | -                      | -                   |
|      | 06   | 0,0 | -                      | -                   |                | 18    | 0,0   | -                      | -                   |
|      | 12   | 0,0 | -                      | -                   | 27             | 00    | 0..   | -                      | -                   |
|      | 18   | 0,0 | -                      | -                   |                | 06    | 0..   | -                      | -                   |
| 17   | 00   | 0,0 | -                      | -                   |                | 12    | 0..   | -                      | -                   |
|      | 06   | 0,0 | -                      | -                   |                | 18    | 0..   | -                      | -                   |
|      | 12   | 0,0 | -                      | -                   | 28             | 00    | ...   | -                      | -                   |
|      | 18   | 0,0 | -                      | -                   |                | 06    | 0,0   | -                      | -                   |
| 18   | 00   | 0,0 | -                      | -                   |                | 12    | 0,0   | -                      | -                   |
|      | 06   | 0,0 | -                      | -                   |                | 18    | 0,0   | -                      | -                   |
|      | 12   | 0,0 | -                      | -                   | 29             | 00    | 0,0   | -                      | -                   |
|      | 18   | 0,0 | -                      | -                   |                | 06    | 0,0   | -                      | -                   |
| 19   | 00   | 0,0 | -                      | -                   |                | 12    | 0,0   | -                      | -                   |
|      | 06   | 0,0 | -                      | -                   |                | 18    | 0,0   | -                      | -                   |
|      | 12   | 0,0 | -                      | -                   | 30             | 00    | 0,0   | -                      | -                   |
|      | 18   | 0,0 | -                      | -                   |                | 06    | 0,0   | -                      | -                   |
| 20   | 00   | 0,0 | -                      | -                   |                | 12    | 0,0   | -                      | -                   |
|      | 06   | 0,0 | -                      | -                   |                | 18    | 0,0   | -                      | -                   |
|      | 12   | 0,0 | -                      | -                   | 31             | 00    | 0,0   | -                      | -                   |
|      | 18   | 0,0 | -                      | -                   |                | 06    | 0,0   | -                      | -                   |
| 21   | 00   | 0,0 | -                      | -                   |                | 12    | 0,0   | -                      | -                   |
|      | 06   | 0,0 | -                      | -                   |                | 18    | 0,0   | -                      | -                   |
|      | 12   | 0,0 | -                      | -                   | .....          | ..... | ..... | .....                  |                     |
| 22   | 00   | 0,0 | -                      | -                   | .....          | ..... | ..... | .....                  |                     |
|      | 06   | 0,0 | -                      | -                   | .....          | ..... | ..... | .....                  |                     |