

## THE MINERAL INDUSTRIES EXPERIMENT STATION

College of Mineral Industries

THE PENNSYLVANIA STATE UNIVERSITY

DEPARTMENT OF GEOPHYSICS AND GEOCHEMISTRY

SEISMOLOGICAL OBSERVATORY,

Geophysics Division,  
Dept. of Scientific & Industrial Research,  
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SEISMOGRAPH REPORT XXIII

~~1954~~ - 1955

University Park, Pennsylvania

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| Date          | Phase and component |         | G.M.C.T. | Remarks                                                                                                                        |
|---------------|---------------------|---------|----------|--------------------------------------------------------------------------------------------------------------------------------|
| 3 Jan., 1955  | N                   |         |          | Seismic activity between the hours of 19:15 and 19:21                                                                          |
| 5 Jan., 1955  | eP                  | Z       | 01:09:39 | Epicenter 50°S, 162.5°E<br>Off coast South Island, New Zealand<br>00:50:12 = 0<br>Courtesy U.S.C.G.S.<br>$\Delta = 15,000$ km. |
|               | ePP                 | N, Z    | 01:12:32 |                                                                                                                                |
| 5 Jan., 1955  | N, E, Z             |         |          | Seismic activity between the hours of 18:41 and 19:39                                                                          |
| 6 Jan., 1955  | N, E, Z             |         |          | Seismic activity between the hours of 00:24 and 01:33                                                                          |
| 8 Jan., 1955  | N, E, Z             |         |          | Seismic activity between the hours of 08:23 and 09:14                                                                          |
| 13 Jan., 1955 | iP                  | Z       | 02:13:43 | Epicenter 53°N, 167.5°W<br>Fox Islands, Aleutians<br>02:03:43 = 0<br>Courtesy U.S.C.G.S.<br>$\Delta = 6200$ km.                |
|               | eS                  | N, E, Z | 02:21:46 |                                                                                                                                |
| 28 Jan., 1955 | N                   |         |          | Seismic activity between the hours of 17:59 and 18:37                                                                          |
| 31 Jan., 1955 | N                   |         |          | Seismic activity between the hours of 16:29 and 17:36                                                                          |
| 3 Feb., 1955  | N                   |         |          | Seismic activity between the hours of 13:00 and 13:16                                                                          |
| 6 Feb., 1955  | N, E                |         |          | Seismic activity between the hours of 02:31 and 03:07                                                                          |
| 6 Feb., 1955  | N, E                |         |          | Seismic activity between the hours of 06:20 and 06:27                                                                          |

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| Date          | Phase and component |       | G.M.C.T. | Remarks                                                                                                                                     |
|---------------|---------------------|-------|----------|---------------------------------------------------------------------------------------------------------------------------------------------|
| 27 Feb., 1955 | iP'                 | N,Z   | 21:02:19 | Epicenter 27.5°S, 176°W<br>Kermadec Islands region<br>20:43:24 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 12,750 km.                                 |
|               | i                   | N,E   | 21:02:56 |                                                                                                                                             |
|               | e                   | N,E   | 21:09:13 |                                                                                                                                             |
|               | ePS?                | N,E,Z | 21:12:47 |                                                                                                                                             |
| 1 Mar., 1955  | eP                  | N,E,Z | 04:50:32 | Epicenter 65°N, 133°W<br>Yukon<br>04:42:59 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 4350 km.                                                       |
|               | iPP                 | N,E,Z | 04:51:57 |                                                                                                                                             |
|               | iS                  | N,Z   | 04:56:25 |                                                                                                                                             |
| 1 Mar., 1955  |                     | N,E,Z |          | Seismic activity<br>between the hours of<br>14:21 and 14:40                                                                                 |
| 14 Mar., 1955 | eP                  | N,E,Z | 13:22:16 | Epicenter 52.5°N, 173.5°W<br>Andreanof Islands<br>13:12:04 = 0<br>Depth - 100 km.<br>Courtesy U.S.C.G.S.<br>Δ = 7000 km.                    |
|               | iS                  | N,E   | 13:30:28 |                                                                                                                                             |
|               | isS                 | N,E   | 13:31:11 |                                                                                                                                             |
| 18 Mar., 1955 | iP                  | N,E,Z | 00:18:14 | Epicenter 54.5°N, 161°E<br>Near east coast of<br>Kamchatka<br>00:06:42 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 8180 km.                           |
|               | iS                  | N,E,Z | 00:27:33 |                                                                                                                                             |
| 20 Mar., 1955 |                     | N,E,Z |          | Seismic activity<br>between the hours of<br>20:23 and 20:36                                                                                 |
| 21 Mar., 1955 |                     | N     |          | Seismic activity<br>between the hours of<br>01:52 and 02:00                                                                                 |
| 22 Mar., 1955 | eP'                 | N,Z   | 14:24:55 | Epicenter 8.5°S, 92°E<br>Indian Ocean<br>14:05:04 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 14,700 km.                                              |
|               | ePKS                | N,Z   | 14:28:17 |                                                                                                                                             |
| 31 Mar., 1955 | iP'                 | Z     | 18:36:38 | Epicenter 8°N, 124°E<br>Near northwest coast<br>of Mindanao,<br>Philippine Islands<br>18:17:00 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 14,200 km. |
|               | iPP                 | N,E,Z | 18:38:21 |                                                                                                                                             |
|               | e                   | N,Z   | 18:48:28 |                                                                                                                                             |

| Date          | Phase and component |         | G.M.C.T. | Remarks                                                                                                                          |
|---------------|---------------------|---------|----------|----------------------------------------------------------------------------------------------------------------------------------|
| 4 Apr., 1955  | N                   |         |          | Seismic activity between the hours of 12:10 and 12:37                                                                            |
| 4 Apr., 1955  | N, E, Z             |         |          | Seismic activity between the hours of 19:34 and 20:34                                                                            |
| 5 Apr., 1955  | iP                  | Z       | 15:15:39 | Epicenter 25°N, 110°W<br>Gulf of California<br>15:09:15 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 3400 km.                               |
|               | iPP                 | N, Z    | 15:16:44 |                                                                                                                                  |
|               | iS                  | N, E, Z | 15:20:39 |                                                                                                                                  |
| 10 Apr., 1955 | N, Z                |         |          | Seismic activity between the hours of 18:39 and 19:17                                                                            |
| 14 Apr., 1955 | iPP                 | N, Z    | 01:48:08 | Epicenter 30°N, 101.5°E<br>Sikang Province, China<br>01:28:58 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 12,300 km.                       |
|               | i?                  | N, Z    | 01:48:11 |                                                                                                                                  |
|               | ePPP                | N, Z    | 01:50:17 |                                                                                                                                  |
|               | eSKS?               | N       | 01:54:18 |                                                                                                                                  |
|               | iPS                 | N, Z    | 01:57:39 |                                                                                                                                  |
|               | iPPS                | N, Z    | 01:58:43 |                                                                                                                                  |
| 15 Apr., 1955 | iP                  | N, E, Z | 03:54:21 | Epicenter 40°N, 74.5°E<br>Kirghiz, U.S.S.R.<br>03:40:52 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 10,800 km.                             |
|               | iPP                 | N, Z    | 03:58:18 |                                                                                                                                  |
|               | iSKS                | N, E    | 04:04:59 |                                                                                                                                  |
| 17 Apr., 1955 | iP                  | N, Z    | 18:47:08 | Epicenter 52°N, 159.5°E<br>Off south coast of Kamchatka<br>18:35:27 = 0<br>Depth - 60 km.<br>Courtesy U.S.C.G.S.<br>Δ = 8400 km. |
|               | iPP                 | N, Z    | 18:50:24 |                                                                                                                                  |
|               | iS                  | N, E, Z | 18:56:43 |                                                                                                                                  |
| 19 Apr., 1955 | iP                  | N, Z    | 20:35:26 | Epicenter 30°S, 72°W<br>Near Coast of Central Chile<br>20:24:05 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 8000 km.                       |
|               | iPcP?               | Z       | 20:36:24 |                                                                                                                                  |
|               | iS                  | E, Z    | 20:44:44 |                                                                                                                                  |
|               | iScS                | N, E    | 20:45:38 |                                                                                                                                  |

| Date          | Phase and component |                 | G.M.C.T.                         | Remarks                                                                                                               |
|---------------|---------------------|-----------------|----------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 20 Apr., 1955 | iP                  | N,Z             | 02:23:55                         | Epicenter 30.5°S, 72.5°W<br>Near coast of central Chile<br>02:12:26 = 0<br>Courtesy U.S.C.G.S.<br>$\Delta = 8100$ km. |
| 20 Apr., 1955 | iP<br>iS<br>i       | N,Z<br>N,E<br>Z | 05:59:53<br>06:09:11<br>06:09:19 | Epicenter 30.5°S, 72.5°W<br>Near coast of central Chile<br>05:48:27 = 0<br>Courtesy U.S.C.G.S.<br>$\Delta = 8000$ km. |
| 26 Apr., 1955 |                     | N               |                                  | Seismic activity between the hours of 03:09 and 04:02                                                                 |
| 26 Apr., 1955 |                     | N               |                                  | Seismic activity between the hours of 22:01 and 22:17                                                                 |
| 28 Apr., 1955 | iP<br>iS            | N,Z<br>N,E,Z    | 19:16:09<br>19:24:46             | Epicenter 51°N, 178.5°W<br>Aleutian Islands<br>19:04:59 = 0<br>Courtesy U.S.C.G.S.<br>$\Delta = 7500$ km.             |
| 29 Apr., 1955 | iS                  | N               | 01:44:08                         | Epicenter 12.5°N, 87°W<br>Near coast of Nicaragua<br>01:32:25 = 0<br>Courtesy U.S.C.G.S.<br>$\Delta = 3600$ km.       |
| 1 May, 1955   |                     | N               |                                  | Seismic activity between the hours of 14:43 and 15:35                                                                 |
| 8 May, 1955   |                     | N               |                                  | Seismic activity between the hours of 10:48 and 10:58                                                                 |
| 14 May, 1955  |                     | N               |                                  | Seismic activity between the hours 20:22 and 20:50                                                                    |

| Date         | Phase and component |       | G.M.C.T. | Remarks                                                                                                                           |
|--------------|---------------------|-------|----------|-----------------------------------------------------------------------------------------------------------------------------------|
| 17 May, 1955 | iP'                 | N,Z   | 15:09:16 | Epicenter 7°N, 94.5°E<br>Nicobar Islands<br>14:49:17 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 14,300 km.                                 |
|              | iPP                 | N,Z   | 15:11:29 |                                                                                                                                   |
|              | e                   | Z     | 15:11:41 |                                                                                                                                   |
|              | i                   | N,Z   | 15:12:29 |                                                                                                                                   |
|              | e                   | N,E   | 15:12:41 |                                                                                                                                   |
|              | e                   | Z     | 15:14:01 |                                                                                                                                   |
|              | e                   | N,Z   | 15:18:19 |                                                                                                                                   |
|              | iSS                 | E     | 15:29:18 |                                                                                                                                   |
| 19 May, 1955 |                     | N     |          | Seismic activity<br>between the hours of<br>03:15 and 03:59                                                                       |
| 26 May, 1955 |                     | N     |          | Seismic activity<br>between the hours of<br>16:53 and 18:20                                                                       |
| 28 May, 1955 | iP                  | N,Z   | 06:31:49 | Epicenter 30.5S, 65°W<br>Cordoba Province,<br>Argentina<br>06:20:40 = 0<br>Depth - 200 km.<br>Courtesy U.S.C.G.S.<br>Δ = 8100 km. |
|              | ipP?                | N,Z   | 06:32:29 |                                                                                                                                   |
|              | e                   | N,Z   | 06:32:45 |                                                                                                                                   |
|              | ePP                 | Z     | 06:34:28 |                                                                                                                                   |
|              | iS                  | N,E,Z | 06:40:55 |                                                                                                                                   |
|              | epS                 | N,Z   | 06:41:33 |                                                                                                                                   |
|              | esS                 | N,E   | 06:42:07 |                                                                                                                                   |
| 29 May, 1955 | eS                  | N,E   | 13:47:33 | Epicenter 56°N, 155°W<br>Near south coast of<br>Kodiak Island<br>13:31:26 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 5500 km.              |
| 29 May, 1955 |                     | N     |          | Seismic activity<br>between the hours of<br>15:54 and 18:10                                                                       |
| 29 May, 1955 |                     | N     |          | Seismic activity<br>between the hours of<br>21:29 and 22:12                                                                       |
| 30 May, 1955 |                     | N     |          | Seismic activity<br>between the hours of<br>09:59 and 10:24                                                                       |

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| Date          | Phase and component |       | G.M.C.T. | Remarks                                                                                                                |
|---------------|---------------------|-------|----------|------------------------------------------------------------------------------------------------------------------------|
| 30 May, 1955  | iPP                 | N,E   | 12:49:25 | Epicenter 24.5°N, 142°E<br>Volcano Islands<br>12:31:41 = 0<br>Depth - 600 km.<br>Courtesy U.S.C.G.S.<br>Δ = 11,800 km. |
|               | epPP                | N     | 12:51:15 |                                                                                                                        |
|               | isPP                | N     | 12:52:13 |                                                                                                                        |
|               | iSKS                | N,E   | 12:54:35 |                                                                                                                        |
|               | eS                  | N     | 12:55:59 |                                                                                                                        |
|               | eSP                 | N     | 12:57:49 |                                                                                                                        |
|               | i                   | N     | 12:59:37 |                                                                                                                        |
|               | iSS                 | N     | 13:03:37 |                                                                                                                        |
|               | esSS                | N     | 13:07:04 |                                                                                                                        |
| 30 May, 1955  | eP'                 | Z     | 23:46:07 | Epicenter 3°S, 137°E<br>New Guinea<br>23:26:50 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 14,600 km.                            |
|               | ePP?                | Z     | 23:48:31 |                                                                                                                        |
|               | i?                  | N,E,Z | 23:49:20 |                                                                                                                        |
|               | ePPP                | N     | 23:49:55 |                                                                                                                        |
|               | e                   | N     | 23:55:15 |                                                                                                                        |
| 2 June, 1955  | iP                  | N,E,Z | 00:29:50 | Epicenter 51.5°N, 180°W<br>Andreanof Islands,<br>Aleutians<br>00:18:56 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 7450 km.      |
|               | iS                  | N,E   | 00:38:36 |                                                                                                                        |
|               | iScS                | N     | 00:39:53 |                                                                                                                        |
| 5 June, 1955  | eP                  | Z     | 02:04:22 | Epicenter 51.5°N, 180°W<br>Andreanof Islands,<br>Aleutians<br>01:53:16 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 7500 km.      |
|               | iS                  | N     | 02:12:53 |                                                                                                                        |
|               | i                   | N     | 02:13:29 |                                                                                                                        |
|               | e                   | N     | 02:25:40 |                                                                                                                        |
| 7 June, 1955  |                     | N     |          | Seismic activity<br>between the hours of<br>01:50 and 02:17                                                            |
| 12 June, 1955 | iP                  | N,Z   | 20:42:54 | Epicenter 49°N, 155°E<br>Kurile Islands<br>20:30:45 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 9000 km.                         |
|               | iS                  | E     | 20:53:07 |                                                                                                                        |
| 14 June, 1955 | iP                  | N,E,Z | 06:18:01 | Epicenter 20°N, 107°W<br>Off coast of Colima,<br>Mexico<br>06:11:18 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 3700 km.         |
|               | iPP                 | N,E,Z | 06:19:07 |                                                                                                                        |
|               | iS                  | E     | 06:23:27 |                                                                                                                        |

| Date          | Phase and Component |         | G.M.C.T. | Remarks                                                                                                         |
|---------------|---------------------|---------|----------|-----------------------------------------------------------------------------------------------------------------|
| 14 June, 1955 | N                   |         |          | Seismic activity between the hours of 18:14 and 18:47                                                           |
| 14 June, 1955 | N, Z                |         |          | Seismic activity between the hours of 19:48 and 20:00                                                           |
| 16 June, 1955 | iP                  | Z       | 12:44:03 | Epicenter 25°N, 113.5°W<br>Off coast of Lower California<br>12:37:15 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 3700 km. |
|               | ePP?                | Z       | 12:45:00 |                                                                                                                 |
|               | iPPP                | N, Z    | 12:45:25 |                                                                                                                 |
| 19 June, 1955 | N                   |         |          | Seismic activity between the hours of 19:37 and 19:46                                                           |
| 19 June, 1955 | N                   |         |          | Seismic activity observed between 21:55 and 22:36                                                               |
| 27 June, 1955 | N                   |         |          | Seismic activity between the hours of 02:10 and 02:34                                                           |
| 27 June, 1955 | N                   |         |          | Seismic activity between the hours of 11:00 and 11:34                                                           |
| 28 June, 1955 | iP                  | N, Z    | 04:37:20 | Epicenter 86.5°N, 70°E<br>North Polar Region<br>04:28:07 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 6000 km.             |
|               | iS                  | N, E    | 04:44:51 |                                                                                                                 |
| 11 July, 1955 | N, E                |         |          | Seismic activity between the hours of 20:52 and 21:16                                                           |
| 15 July, 1955 | N, E                |         |          | Seismic activity between the hours of 05:05 and 05:11                                                           |
| 16 July, 1955 | iP                  | N, E, Z | 07:19:01 | Epicenter 37.5°N, 27°E<br>Dodecanese Islands<br>07:07:08 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 8600 km.             |
|               | iPP                 | N, Z    | 07:21:53 |                                                                                                                 |
|               | eS                  | N, E    | 07:28:47 |                                                                                                                 |

| Date          | Phase and component                    |                                | G.M.C.T.                                                             | Remarks                                                                                                                |
|---------------|----------------------------------------|--------------------------------|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| 17 July, 1955 | iP<br>iS                               | N,Z<br>N                       | 22:08:20<br>22:16:24                                                 | Epicenter 54°N, 168°W<br>Fox Islands, Aleutians<br>21:58:25 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 6440 km.                 |
| 19 July, 1955 |                                        | N,E,Z                          |                                                                      | Seismic activity<br>between the hours of<br>16:42 and 16:50                                                            |
| 19 July, 1955 | iP<br>eS                               | N,Z<br>N,E                     | 00:01:17<br>00:08:24                                                 | Epicenter 56.5°N, 153°N<br>Near south coast of<br>Kodiak Island<br>23:52:25 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 5500 km. |
| 20 July, 1955 |                                        | N                              |                                                                      | Seismic activity<br>between the hours of<br>07:03 and 07:11                                                            |
| 20 July, 1955 | iP<br>eS                               | N,Z<br>N,E,Z                   | 21:08:26<br>21:14:37                                                 | Epicenter 0.5°N, 78.5°W<br>Northern Ecuador<br>21:00:43 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 4480 km.                     |
| 21 July, 1955 | iP<br>ipP<br>iPP<br>ePcP?<br>eS<br>isS | Z<br>Z<br>Z<br>Z<br>E,Z<br>E,Z | 11:55:13<br>11:55:33<br>11:57:47<br>12:00:21<br>12:03:08<br>12:03:35 | Epicenter 25°S, 74°W<br>Southern Peru<br>11:45:40 = 0<br>Depth - 100 km.<br>Courtesy U.S.C.G.S.<br>Δ = 6300 km.        |
| 25 July, 1955 | iP<br>eS                               | N,Z<br>N,E                     | 11:33:06<br>11:41:44                                                 | Epicenter 22.5°S, 69.5°W<br>Northern Chile<br>11:22:52 = 0<br>Depth - 200 km.<br>Courtesy U.S.C.G.S.<br>Δ = 7200 km.   |
| 26 July, 1955 | iP<br>eS                               | N,Z<br>N,E                     | 04:13:14<br>04:20:24                                                 | Epicenter 56.5°N, 153°W<br>Kodiak Island<br>foreshock<br>04:04:18 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 6540 km.           |

| Date          | Phase and component |       | G.M.C.T. | Remarks                                                                                                                |
|---------------|---------------------|-------|----------|------------------------------------------------------------------------------------------------------------------------|
| 27 July, 1955 | iP                  | N,E,Z | 18:28:03 | Epicenter 56.5°N, 153°W<br>Near south coast of<br>Kodiak Island<br>18:19:08 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 6560 km. |
|               | eS                  | N,E   | 18:35:09 |                                                                                                                        |
|               |                     |       |          |                                                                                                                        |
|               |                     |       |          |                                                                                                                        |
| 5 Aug., 1955  |                     | N     |          | Seismic activity<br>between the hours of<br>03:30 and 03:45                                                            |
| 6 Aug., 1955  | iP'                 | N,E,Z | 08:50:04 | Epicenter 21.5°S, 177.5°W<br>Tonga Islands<br>08:31:25 = 0<br>Depth - 350 km.<br>Courtesy U.S.C.G.S.<br>Δ = 13,700 km. |
|               | ipP'                | E,Z   | 08:51:16 |                                                                                                                        |
|               | esP'                | Z     | 08:52:00 |                                                                                                                        |
|               | ipPPP               | N,E   | 08:55:30 |                                                                                                                        |
|               | eSKS                | E,Z   | 08:56:32 |                                                                                                                        |
|               | e                   | N,E   | 08:57:18 |                                                                                                                        |
|               | e                   | Z     | 08:59:18 |                                                                                                                        |
|               | iSS?                | Z     | 09:09:31 |                                                                                                                        |
|               |                     | Z     | 09:08:14 |                                                                                                                        |
| 8 Aug., 1955  |                     | N,E   |          | Seismic activity<br>between the hours of<br>08:52 and 08:58                                                            |
| 14 Aug., 1955 |                     | N,E   |          | Seismic activity<br>between the hours of<br>17:41 and 17:58                                                            |
| 16 Aug., 1955 |                     | N,E   |          | Seismic activity<br>between the hours of<br>04:31 and 04:50                                                            |
| 16 Aug., 1955 | iP'                 | Z     | 12:05:41 | Epicenter 6°S, 155°E<br>Solomon Islands<br>11:46:58 = 0<br>Depth - 200 km.<br>Courtesy U.S.C.G.S.<br>Δ = 13,400 km.    |
|               | ipP'                | Z     | 12:06:19 |                                                                                                                        |
|               | ePP                 | Z     | 12:06:57 |                                                                                                                        |
|               | esPP                | Z     | 12:08:12 |                                                                                                                        |
|               | eSS?                | N,E   | 12:23:14 |                                                                                                                        |
|               | eSSS                | N     | 12:27:30 |                                                                                                                        |
| 16 Aug., 1955 |                     | N,E   |          | Seismic activity<br>between the hours of<br>19:24 and 19:39                                                            |

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| Date          | Phase and component |       | G.M.C.T. | Remarks                                                                                                                     |
|---------------|---------------------|-------|----------|-----------------------------------------------------------------------------------------------------------------------------|
| 21 Aug., 1955 | eP'                 | N     | 17:53:16 | Epicenter 3°S, 137.5°E<br>New Guinea<br>17:33:58 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 14,500 km.                               |
|               | ePP                 | N,Z   | 17:55:24 |                                                                                                                             |
|               | i                   | N,Z   | 17:56:36 |                                                                                                                             |
|               | i                   | N,E,Z | 17:56:55 |                                                                                                                             |
|               | eSKS                | N,E   | 18:00:25 |                                                                                                                             |
|               | e                   | N,E   | 18:02:19 |                                                                                                                             |
| 23 Aug., 1955 | iP                  | N,E,Z | 15:39:48 | Epicenter 43.5°N, 128°W<br>About 170 miles off<br>coast of Oregon<br>15:32:40 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 4000 km.    |
|               | iPP                 | N,E,Z | 15:41:09 |                                                                                                                             |
|               | eS                  | N,E,Z | 15:45:32 |                                                                                                                             |
| 23 Aug., 1955 |                     | N,E   |          | Seismic activity<br>between the hours of<br>06:15 and 06:35                                                                 |
| 27 Aug., 1955 |                     | N,E   |          | Seismic activity<br>between the hours of<br>07:20 and 07:26                                                                 |
| 28 Aug., 1955 | iP                  | N,E,Z | 20:19:34 | Epicenter 14°N, 91°W<br>Near coast of<br>Guatemala<br>20:13:20 = 0<br>Depth - 60 km.<br>Courtesy U.S.C.G.S.<br>Δ = 3400 km. |
|               | isP                 | N,Z   | 20:20:19 |                                                                                                                             |
|               | iPP                 | Z     | 20:21:08 |                                                                                                                             |
|               | esPP                | Z     | 20:21:18 |                                                                                                                             |
|               | iPcP                | N     | 20:22:59 |                                                                                                                             |
|               | iS                  | N,E,Z | 20:24:27 |                                                                                                                             |
|               |                     |       |          |                                                                                                                             |
| 29 Aug., 1955 |                     | N,E   |          | Seismic activity<br>between the hours of<br>08:09 and 08:24                                                                 |
| 1 Sept., 1955 |                     | N,E   |          | Seismic activity<br>between the hours of<br>17:45 and 18:14                                                                 |
| 3 Sept., 1955 |                     | N,E   |          | Seismic activity<br>between the hours of<br>05:30 and 05:54                                                                 |
| 3 Sept., 1955 | eP                  | N,E,Z | 12:42:17 | Epicenter 14°N, 91°W<br>Guatemala<br>12:36:20 = 0<br>Depth - 100 km.<br>Courtesy U.S.C.G.S.<br>Δ = 3200 km.                 |
|               | ipP                 | N,Z   | 12:42:29 |                                                                                                                             |
|               | iPP                 | N,Z   | 12:43:03 |                                                                                                                             |
|               | iS                  | N,E,Z | 12:47:11 |                                                                                                                             |

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| Date           | Phase and component |       | G.M.C.T. | Remarks                                                                                                       |
|----------------|---------------------|-------|----------|---------------------------------------------------------------------------------------------------------------|
| 3 Sept., 1955  | iP'                 | Z     | 16:42:11 | Epicenter 1°N, 123°E<br>Celebes<br>16:22:52 = 0<br>Courtesy U.S.C.G.S.<br>$\Delta = 15,000$ km.               |
|                | iPP                 | Z     | 16:45:15 |                                                                                                               |
|                | e                   | N,Z   | 16:45:39 |                                                                                                               |
|                | iPPP?               | Z     | 16:47:29 |                                                                                                               |
|                | e                   | N,E   | 16:50:11 |                                                                                                               |
|                | eSS                 | N,E   | 17:02:11 |                                                                                                               |
| 5 Sept., 1955  |                     | N,Z   |          | Seismic activity<br>between the hours of<br>02:16:03 and 02:20                                                |
| 8 Sept., 1955  | ePP                 | Z     | 02:21:59 | Epicenter<br>South Sandwich<br>Islands region<br>02:03:15 = 0<br>Courtesy U.S.C.G.S.<br>$\Delta = 11,700$ km. |
|                | ePS                 | N,E   | 02:32:02 |                                                                                                               |
| 8 Sept., 1955  |                     | N,E   |          | Seismic activity<br>between the hours of<br>04:31 and 04:55                                                   |
| 11 Sept., 1955 |                     | N,E   |          | Seismic activity<br>between the hours of<br>08:53 and 09:12                                                   |
| 11 Sept., 1955 |                     | N,E   |          | Seismic activity<br>between the hours of<br>18:25 and 19:51                                                   |
| 12 Sept., 1955 | iP                  | N,Z   | 06:21:35 | Epicenter 32.5°N, 30°E<br>Off coast of Egypt<br>06:09:20 = 0<br>Courtesy U.S.C.G.S.<br>$\Delta = 9200$ km.    |
|                | iS                  | N,E,Z | 06:31:47 |                                                                                                               |
| 13 Sept., 1955 |                     | N,E   |          | Seismic activity<br>between the hours of<br>02:32 and 02:51                                                   |
| 13 Sept., 1955 |                     | N,E   |          | Seismic activity<br>between the hours of<br>13:41 and 14:07                                                   |
| 23 Sept., 1955 |                     | N,E   |          | Seismic activity<br>between the hours of<br>15:42 and 16:35                                                   |

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| Date           | Phase and component                                                    | G.M.C.T.                                                                         | Remarks                                                                                                                                  |
|----------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| 25 Sept., 1955 | eP' N,Z<br>iSKP? N,Z<br>epPKS? N,E,Z                                   | 19:18:28<br>19:21:41<br>19:22:12                                                 | Epicenter 6°N, 127.5°E<br>Off coast of<br>Philippine Islands<br>18:59:22 = 0<br>Depth - 100 km.<br>Courtesy U.S.C.G.S.<br>Δ = 14,600 km. |
| 26 Sept., 1955 | iP N,E,Z<br>ipP N,Z<br>eS E                                            | 08:34:00<br>08:34:40<br>08:38:16                                                 | Epicenter 15.5°N, 92.5°W<br>Chiapas, Mexico<br>08:28:20 = 0<br>Depth - 200 km.<br>Courtesy U.S.C.G.S.<br>Δ = 3100 km.                    |
| 28 Sept., 1955 | iP N,E,Z<br>eS N,E                                                     | 18:16:01<br>18:21:06                                                             | Epicenter 15°N, 97.5°W<br>Near coast<br>Oaxaca, Mexico<br>18:09:42 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 3400 km.                            |
| 30 Sept., 1955 | N,E                                                                    |                                                                                  | Seismic activity<br>between the hours of<br>19:52 and 20:05                                                                              |
| 6 Oct., 1955   | iP N,Z<br>ePcP Z<br>isP? Z<br>eS N,E<br>eScS<br>epPS N,E<br>esPS N,E,Z | 11:14:58<br>11:15:07<br>11:15:44<br>11:24:40<br>11:24:58<br>11:25:55<br>11:26:14 | Epicenter 36°S, 70°W<br>Mendoza, Province<br>Argentina<br>11:03:16 = 0<br>Depth - 150 km.<br>Courtesy U.S.C.G.S.<br>Δ = 6600 km.         |
| 9 Oct., 1955   | N,E                                                                    |                                                                                  | Seismic activity<br>between the hours of<br>18:49 and 19:00                                                                              |
| 9 Oct., 1955   | N,E                                                                    |                                                                                  | seismic activity<br>between the hours of<br>23:54 and 00:17                                                                              |
| 10 Oct., 1955  | N,E,Z                                                                  |                                                                                  | Seismic activity<br>between the hours of<br>08:22 and 10:12                                                                              |

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| Date          | Phase and component |                | G.M.C.T.                         | Remarks                                                                                                                                  |
|---------------|---------------------|----------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| 12 Oct., 1955 | N, E, Z             |                |                                  | Seismic activity between the hours of 09:52 and 11:04                                                                                    |
| 13 Oct., 1955 | N, E                |                |                                  | Seismic activity between the hours of 22:01 and 22:18                                                                                    |
| 14 Oct., 1955 | eS                  | N, E, Z        | 08:59:20                         | Epicenter 3°S, 103.5°W<br>Pacific Ocean west of Galapagos<br>08:43:00 = 0<br>Courtesy U.S.C.G.S.<br>$\Delta = 5800$ km.                  |
| 21 Oct., 1955 | N, E                |                |                                  | Seismic activity between the hours of 19:25 and 19:34                                                                                    |
| 24 Oct., 1955 | N, E                |                |                                  | Seismic activity between the hours of 04:29 and 04:37                                                                                    |
| 25 Oct., 1955 | N, E                |                |                                  | Seismic activity between the hours of 16:45 and 17:21                                                                                    |
| 31 Oct., 1955 | iP<br>eS            | N, Z<br>N, E   | 01:16:42<br>01:25:31             | Epicenter 52°N, 175.5°W<br>Andreanof Islands, Aleutians<br>01:05:53 = 0<br>Courtesy U.S.C.G.S.<br>$\Delta = 7400$ km.                    |
| 4 Nov., 1955  | iP<br>eS<br>eSKS    | Z<br>N, E<br>N | 22:55:46<br>23:05:14<br>23:05:43 | Epicenter 35.5°S, 69.5°W<br>Mendoza Province, Argentina<br>22:43:50 = 0<br>Depth - 100 km.<br>Courtesy U.S.C.G.S.<br>$\Delta = 9000$ km. |
| 5 Nov., 1955  | N, E                |                |                                  | Seismic activity between the hours of 07:35 and 07:45                                                                                    |

| Date          | Phase and component |               | G.M.C.T.                         | Remarks                                                                                                                              |
|---------------|---------------------|---------------|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| 10 Nov., 1955 | iPP<br>eSkS         | E,Z<br>N,E    | 02:02:23<br>02:08:35             | Epicenter 15°S, 174°W<br>Samoa Islands<br>01:44:04 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 12,00 km.                                       |
| 15 Nov., 1955 | iP<br>iPP<br>eS     | Z<br>Z<br>N,E | 10:16:06<br>10:18:00<br>10:23:25 | Epicenter 55.5°N, 155°W<br>Off south coast of<br>Alaska<br>10:16:49 = 0<br>Courtesy U.S.C.G.S.<br>Δ = 5800 km.                       |
| 21 Nov., 1955 |                     | N,E           |                                  | Seismic activity<br>between the hours of<br>20:42 and 20:48                                                                          |
| 23 Nov., 1955 | iP<br>eS            | N,E,Z<br>N,E  | 06:41:26<br>06:51:04             | Epicenter 50.5°N, 157°E<br>Near south coast of<br>Kamchatka<br>06:29:29 = 0<br>Depth - 60 km.<br>Courtesy U.S.C.G.S.<br>Δ = 8700 km. |
| 6 Dec., 1955  | iP                  | N,Z           | 04:41:19                         | Epicenter 20°S, 70°W<br>Northern Chile<br>04:31:00 - 0<br>Courtesy U.S.C.G.S.<br>Δ = 5600 km.                                        |
| 17 Dec., 1955 |                     | N,Z           |                                  | Seismic activity<br>between the hours of<br>06:23 and 06:35                                                                          |

We acknowledge with thanks receipt of the following bulletins  
and other publications between 2 November, 1955 and 27 February, 1957.

|                                                                                                    |                                                                          |
|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| American Geophysical Union, Transactions                                                           | Vol. 36, No. 5, Oct., 1955                                               |
| Arkansas Univ., Seis. Bull.                                                                        | July, 1955 - Sept., 1956                                                 |
| Australia Bur. Min. Res. Geoph.<br>Obs. Report<br>Seis. Bull.                                      | June, 1955 - Sept., 1956<br>Feb. - Oct., 1954; Aug., 1955 -<br>May, 1956 |
| Magnetic Results from Heard<br>Island (1953)                                                       | Report No. 30; 1956                                                      |
| Magnetic Results from Macquarie<br>Island (1952) by P.M. McGregor                                  | Report No. 27                                                            |
| Gravity Survey of the Perth Basin,<br>Western Australia by R.F. Thyer<br>and I.B. Everingham       | Bull. No. 33                                                             |
| Seismic Reflection Survey,<br>Darriman, Gippsland, Victoria<br>by M.J. Garrett                     | Report No. 19; 1955                                                      |
| Magnetic Results from Heard Island<br>(1952) by T.N. Ingoll                                        | Report No. 21; 1955                                                      |
| Barcelona, Seis. Bull.                                                                             | 1953                                                                     |
| Bergen Univ., Seis. Bull.                                                                          | 1948 - 1950                                                              |
| Bucarest, Seis. Bull.                                                                              | Apr., 1955 - Oct., 1956                                                  |
| Buenos Aires, Seis. Bull.<br>Anales Sismologicos                                                   | Jan., 1955, Dec., 1955 -<br>Feb., 1957<br>1953                           |
| California Univ., Seis. Bull.                                                                      | Jan., 1 - Sept., 30, 1954                                                |
| Chile, Seis. Bull.                                                                                 | Apr., 1955 - Sept., 1956                                                 |
| Cleveland, Seis. Bull.                                                                             | May - Dec., 1952                                                         |
| Coimbra, Seis. Bull.<br>Magnetismo Terrestre<br>Tempeatura do terrena por<br>J. Custodio De Moraes | July 1 - Dec. 31, 1954; 1955<br>Vol. 81 A&C, 91, 89<br>1955              |
| Normais E. Valores Das Elementos<br>Principais -- Conk do volume<br>publicado in 1942              | 1955                                                                     |

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|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Columbia Univ., Seis. Bull.                                                                                   | Sept. 1 - Dec. 31, 1955                                   |
| Czechoslovakia, Seis. Bull.<br>Preliminary Bull.                                                              | 1954<br>July, 1955 - Dec., 1956                           |
| Djakarta, Preliminary Data                                                                                    | Feb. 7, 1956                                              |
| El Salvador, Seis. Bull.                                                                                      | Jan. - Apr., 1956                                         |
| Fordham Univ., Seis. Bull.                                                                                    | Aug., 1955 - Jan., 1957                                   |
| Granada, Seis. Bull.                                                                                          | Oct., 1955 - Dec., 1956                                   |
| Hamburg Univ., Geophy. Obs. Report                                                                            | 1 Jan. - June 30, 1955                                    |
| Ivigut, Seis. Bull.                                                                                           | 1950, Jan., 1951 - Mar., 1953                             |
| Jerusalem, Seis. Bull.                                                                                        | Oct., 1955 - Dec. 31, 1956                                |
| Jesuit Seis. Asso., Preliminary Bull.                                                                         | May 26, 1955 - May 26, 1956                               |
| Kobe Marine Obs.                                                                                              | 2nd Series, Vol. 6, No. 1,3,<br>4&5; Vol. 7, No. 2 thru 8 |
| La Plata, Seis. Bull.                                                                                         | 1952                                                      |
| Lwire - Uvira - Astrida, Seis. Bull.                                                                          | 1 July, 1954 - 30 June, 1955                              |
| Madagascar, Seis. Bull.                                                                                       | 1954, 1955                                                |
| Manila, Seis. Bull.                                                                                           | Dec., 1954 - Mar., 1956                                   |
| Matsushiro, Seis. Bull.                                                                                       | July 1, 1955 - Aug. 31, 1956                              |
| Milano, Italy<br>Rivista Di Geofisica Applicata                                                               | Anna 16-N. 1-2, 1955                                      |
| New Zealand, Seis. Bull.                                                                                      | 1953                                                      |
| Ottawa, Seis. Bull.<br>Eastern Division<br>Gravity in Sudbury Basin Vicinity<br>by A.H. Miller & M.J.S. Innes | Jan. - June, 1956<br>1954<br>Vol. 18, No. 2               |
| Pacific Science Liaison Comm. of<br>Science Council of Japan - Records<br>of Oceanographic Works in Japan     | Vol. 2, No. 2&3, Oct., 1955                               |
| Pakistan, Seis. Bull.                                                                                         | July, 1955 - July, 1956                                   |

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|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| Pasadena, Preliminary Seis. Bull.<br>Seis. Bull.                                                       | July 27 - Dec., 1955, 1956<br>Sept. 14 - Dec. 31, 1954, 1955 |
| Perth, Western Australia, Seis. Bull.                                                                  | Apr., 1955 - Sept., 1956                                     |
| Potsdam, Seis. Bull.                                                                                   | 1953                                                         |
| Queensland Univ., Seis. Bull.                                                                          | Jan. - June, 1953                                            |
| Rabaul, Seis. Bull.                                                                                    | Apr., 1954 - Sept., 1955                                     |
| Rathfarnham Castle, Seis. Bull.                                                                        | July 1, 1955 - Sept. 30, 1956                                |
| Reykjavik, Seis. Bull.                                                                                 | 1955                                                         |
| Riverview College, Seis. Bull.                                                                         | 1954                                                         |
| Rome, Seis. Bull.                                                                                      | Apr., 1955 - Oct., 1956                                      |
| Santa Clara Univ., Seis. Bull.                                                                         | Oct., 1955 - Dec., 1956                                      |
| Schweizerisches Erdbebenbulletin<br>Jahresbericht des Erdbebendienstes<br>der Schweiz                  | Sept., 1955 - Apr., 1956<br>1954                             |
| Scoresby Sund, Seis. Bull.                                                                             | 1950 - 1954                                                  |
| Strasbourg, Seis. Bull.<br>Annales                                                                     | Mar., 1955 - Jan., 1957<br>1950                              |
| Tacubaya, Seis. Bull.                                                                                  | Jan., 1949; Aug., 1955 -<br>Oct., 1956                       |
| Taiwan, Seis. Bull.                                                                                    | 1955                                                         |
| Tokyo, Central Meteorological Obs.<br>Seis. Bull.<br>The Geophysical Magazine                          | Dec., 1954 - Mar., 1956<br>Vol. 27, No. 1 - 3                |
| Tokyo, Meteorological Research Institute<br>Mabashi, Suginami,<br>Papers in Meteorology and Geophysics | Vol. 6, No. 1 - 4<br>Vol. 7, No. 1                           |
| Trieste, Seis. Bull.                                                                                   | Apr. - Sept., 1955                                           |

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|-----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Uppsala Univ., Seis. Bull.<br>Meddelande No. 48<br>Meddelande No. 49                                                                    | 1954, 1955                                                                                                                                           |
| U.S. Coast and Geodetic Survey,<br>Seis. Bull.<br><br>Preliminary Det. Epicenters<br><br>The Seismograph and the<br>Seismograph Station | Jan. - Mar., Sept., Oct.,<br>1956; Feb., 1951; Oct., 1955<br>87-55 to 106-55, 1-56 to<br>43-56, 45-56 to 107-56,<br>1-57 to 13-57<br><br>Sept., 1956 |
| Washington Univ., Seis. Bull.                                                                                                           | Sept. - Dec., 1952, 1953 -<br>1955                                                                                                                   |
| Wellington, Seis. Bull.                                                                                                                 | July - Sept., 1954<br>Bull. No. S-102 and<br>Bull. S-103                                                                                             |
| West Virginia Univ., Seis. Bull.                                                                                                        | July 1, 1955 - Dec. 31, 1956                                                                                                                         |

The Geophysical Laboratory  
College of Mineral Industries  
University Park, Penna., U.S.A.  
B. F. Howell, Jr., Director  
R. J. Watson, Graduate assistant  
J. A. Ryan, Graduate assistant  
1 April, 1957