

UNIVERSITY OF CALIFORNIA PUBLICATIONS
BULLETIN OF THE
SEISMOGRAPHIC STATIONS

No. 8, pp. 155-168

December 19, 1914

THE REGISTRATION OF EARTHQUAKES
AT THE BERKELEY STATION

AND

AT THE LICK OBSERVATORY STATION

FROM

APRIL 1, 1914, TO SEPTEMBER 30, 1914

BY

E. F. DAVIS

UNIVERSITY OF CALIFORNIA PRESS
BERKELEY

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SYMBOLS AND NOTATION

1. Character of the Earthquake—

| | | | |
|-----------------------------|-----------------------------------------------------------------|------------------------|--------------|
| | I. Perceptible | II. Moderately strong. | III. Strong. |
| d (terrae motus domesticus) | Local shock (origin nearby, perceptible at the station). | | |
| v (terrae motus vicinus) | Near shock (origin less than 1,000 kilometers distant). | | |
| r (terrae motus remotus) | Distant shock (origin from 1,000 to 5,000 kilometers distant). | | |
| u (terrae motus ultimus) | Very distant shock (origin more than 5,000 kilometers distant). | | |

2. Phases of the Seismogram—

| | |
|--------------------|----------------------------------------------------------------------------------------------------------------------|
| P (undae primae) | First phase, or first preliminary tremors. |
| PR _n | Waves n-times reflected at the earth's surface. |
| S (undae secundae) | Second phase, or second preliminary tremors. |
| SR _n | Waves n-times reflected at the earth's surface. |
| PS | Waves changed from longitudinal to transverse oscillation, or vice versa, through reflection at the earth's surface. |
| L (undae longae) | Long waves, chief phase, or principal part. |
| M (undae maximae) | Greatest motion in the chief phase. |
| C (coda) | Tail or end portion. |
| F (finis) | End of discernible movement. |

3. Nature of the Motion—

| | |
|-------------|-----------------------------------|
| i (impetus) | Sudden beginning of the motion. |
| e (emersio) | Gradual beginning of the motion. |
| T (period) | Time of one complete oscillation. |

A amplitude of the motion, measured from the median line in microns ($\mu = 1/1000$ mm.).

A_E E-W component of A.

A_N N-S component of A.

A_V vertical component of A.

THE BERKELEY STATION

CONSTANTS

Latitude and longitude of the center of the seismographic room:

$$\phi = 37^{\circ} 52' 15.9'' \text{ N. Lat.}$$

$$\lambda = 122^{\circ} 15' 36.6'' \text{ W. from Greenwich.}$$

Time. All determinations are reduced to Greenwich mean civil time.

Altitude, 85.4 meters (280 feet) above mean sea level.

CONSTANTS OF THE SEISMOGRAPHS

| | Period | Magnif. | Damping |
|---------------------------------------------|--------|---------|---------|
| Bosch-Omori Seismograph N-S component | 15s | 80 | 8-1 |
| Bosch-Omori Seismograph E-W component | 15s | 80 | 8-1 |
| Weichert Seismograph Vert. component | 6s | 80 | 8-1 |
| Omori Tromometer N-S component | 2s | 60 | |
| Omori Tromometer E-W component | 2.5s | 60 | |
| Marvin Strong-motion Seismograph— | | | |
| E-W component | 6.5s | 5.8 | 1.3-1 |
| N-S component | 6.5s | 5.1 | 1.4-1 |

| No. | Date | Charac. | Phase | Time G. M. C. T. | Period | Amplitude | | | Remarks |
|-----|----------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|------------------------------------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | | | A _E | A _N | A _V | |
| 1 | 1914 6 Apr. | I _v | e _E e _N e _{LE} e _{LN} M _E M _N C F | h m s 9 56 07 9 56 17 9 56 42 9 56 45 9 56 48 9 56 55 indefinite 10 01 05+ | s 3 4 | μ 8 | μ 26 | μ | F lost in microseisms after 10 ^h 01 ^m 05 ^s . Recorded by Vertical but record was illegible on account of overscoring. Recorded by both components of Omori. Origin near Tonopah, Nevada. |
| 2 | 11 Apr. | I _v | e F | 4 51 22 4 57 23 | | | | | Barely discernible trace of a near shock. Recorded on all components. |
| 3 | 11 Apr. | I _u | e P _E i P _V S e L _E e L _V M _E M _V C F | 16 42 42 16 42 43 indefinite 17 08 29 17 08 31 17 15 11 17 16 11 indefinite 18 14+ | 18 14 | 7 | 4 | | Simple sinusoidal waves from 17 ^h 13 ^m to 17 ^h 23 ^m . Long flat waves on North-South record about the time of the maximum. Beginning and ending obscured by strong microseisms. |
| 4 | 20 Apr. | I? | e M _N F | 13 46 40 14 04 42 14 31 30± | 17 | | 4 | | Trace of a distant earthquake. Barely perceptible on East-West record. Not recorded by Vertical. |
| 5 | 24 Apr. | II _v | e P _E e P _V e P _N e S? e L _N e L _V M _N M _V M _E C F | 8 34 43.1 8 34 44.5 8 34 45.5 8 35 22 8 35 39.7 8 35 43.7 8 36 00 8 36 29 8 36 32 8 39 05 8 59 20± | 9½ 5½ 8 | 242 295 | 98 | See discussion in text. Recorded by Omori. Omori records show marked resonance effects. E-W pen on Omori off paper during early part of chief phase. | |
| 6 | 8 May | I _v | e _N e _E M C F | 11 48 54 11 48 59 11 49 20 indefinite 11 55 02 | 2 | 3 | 4 | | Not recorded by Vertical. Recorded by both components of Omori. No phases can be made out. |

| No. | Date | Charac. | Phase | Time G. M. C. T. | Period | Amplitude | | | Remarks |
|-----|----------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|------------------------|----------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | | | A _E | A _N | A _V | |
| 7 | 1914 12 May | I _v | e _N e _E M _N M _E F | h m s 12 12 31 12 12 41 12 13 09 12 13 24 12 16 22 | s 2½ 2 | μ 6 | μ 4 | μ | Horizontal records consist of a series of minute waves in which no phases are discernible. Not recorded by Vertical. Barely perceptible trace on both components of Omori. |
| 8 | 26 May | I _u | e P _E e S e L _N e L _E M _N M _{E1} M _{E2} C F | 14 40 38 indefinite 15 17 58 15 18 06 15 21 33 15 22 06 15 29 22 15 42± 17 07± | 21 20 18 | | 9 100 72 | Chief phase consists of separated groups of large waves of sinusoidal form. Record much stronger on East-West. Preliminaries on North-South much confused by strong microseisms. | |
| 9 | 28 May | I? | e P _{EN} F | 3 32 40 4 31 44 | | | | | Time of beginning sharply marked on both horizontal records. The seismograms consist of barely perceptible waves in which no phases can be recognized. Not recorded by vertical. |
| 10 | 28 May | I? | e _E M _{N1} M _{E1} M _{E2} M _{N2} F | 18 04 13 18 18 15 18 18 55 19 22 23 19 13 08 19 37 13 | 12 13 16 9 | | 4 14 7 5 | Record shows continuous motion from 18 ^h 04 ^m 13 ^s to 19 ^h 37 ^m 13 ^s . There are two periods of maximum motion: first from 18 ^h 14 ^m 58 ^s to 18 ^h 24 ^m 13 ^s , second from 19 ^h 11 ^m 18 ^s to 19 ^h 15 ^m 18 ^s . Apparently the record represents the dying chief phases of two distinct earthquakes. Vertical record illegible on account of overscoring. | |
| 11 | 28 May | I _v | e F | 23 17 07 23 20 58 | | | | | Series of minute waves on horizontal records. No phases apparent. |
| 12 | 16 June | I _v | e _E e _N M _E M _N F | 10 54 27 10 55 00 10 55 49 10 56 04 11 03 30± | 4 3 | 6 | 5 | Origin near Oxnard, Ventura County, California. Horizontal components only. No phases discernible. | |

| No. | Date | Charac. | Phase | Time G. M. C. T. | Period | Amplitude | | | Remarks |
|-----|-----------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------|----------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | | | A _E | A _N | A _V | |
| 13 | 1914 20 June | I _a | eP eS eL M F | h m s 7 32 43 7 43 15 7 58 38 7 58 57 9 01± | s 36 | μ 8 | μ μ | μ μ | Not recorded by the Vertical. Few barely perceptible waves on North-South about time of maximum. Simple sinusoidal waves 8 ^h 01 ^m 28 ^s to 8 ^h 18 ^m 03 ^s . Average period 20 sec. Amplitude 3 microns. East-West record shows a complete dying away of energy before beginning of S and L. |
| 14 | 25 June | I _a | iP _V eP _N eP _E eS eL _E M _V M _{S1} M _E M _{S2} C F | 19 26 30 19 26 32 19 26 34 indefinite 20 09 08 20 09 33 20 09 41 20 10 56 20 35 39 indefinite 21 33± | 26 30 26 18 | 7 | 3 7 | 5 | |
| 15 | 26 June | I? | e F | 5 12 56 6 12 51 | | | | | Simple sinusoidal waves. Period 22 sec. Amplitude 3 microns. Not recorded by East-West or Vertical. |
| 16 | 5 July | I? | e F | 22 45 25 23 12± | | | | | East-West only. Simple sinusoidal waves from 22 ^h 50 ^m 10 ^s to 22 ^h 54 ^m 35 ^s . Period 18 seconds. Amplitude 2 microns. |
| 17 | 17 July | I? | e F | 7 20 32 8 16 52 | | | | | East-West only. Simple sinusoidal waves from 7 ^h 25 ^m 52 ^s to 7 ^h 31 ^m 57 ^s . Period 22 seconds. Amplitude 4 microns. |
| 18 | 21 July | I _a | eP _V iP _E iLM _N iLM _E C F | 17 38 08.7 17 38 09.9 17 38 13.5 17 38 14 17 38 25 17 39 26 | <½ <½ | 11 | 6 | | Vertical record illegible through oversearing. Recorded by both components of Omori seismograph. |

| No. | Date | Charac. | Phase | Time G. M. C. T. | Period | Amplitude | | | Remarks |
|-----|-----------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------|----------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | | | A _E | A _N | A _V | |
| 19 | 1914 21 July | I _r | eP _E eP _V eP _N eS _{EV} eL _V eL _E M _E M _N M _V C F | h m s 22 34 26 22 34 27 22 34 30 22 37 06 22 38 39 22 38 54 22 40 04 22 40 14 22 41 07 22 49 55 23 09± | s 8 8 8 | μ 4 | μ 9 | μ 5 | eS _N and eL _N indefinite. |
| 20 | 4 Aug. | I? | e M F | 23 05 17 23 39 33 24 49± | 18 | 15 | | | Trace of distant shock. Barely perceptible on North-South. Not recorded by Vertical. |
| 21 | 8 Aug. | I _r | eP _N iP _V eP _E eL _E eL _N eL _V M _N M _E M _V C F | 19 13 26 19 13 27 19 13 30 19 17 32 19 17 37 19 17 41 19 17 44 19 17 46 19 22 31 19 31 46 20 41± | 9 9 9 | 34 | 11 | | |
| 22 | 22 Aug. | I _r | eP _{NV} eP _E eL _V eL _E eL _N M _E M _V M _N C F | 5 30 20 5 30 22 5 32 36 5 32 44 5 32 50 5 34 00 5 34 04 5 34 37 indefinite 7 01± | 13 11 12 | 138 | 125 | 20 | |
| 23 | 4 Sept. | I _a | iP _{EN} iLM C F | 8 56 11.7 8 56 16 8 56 26 8 56 49 | <½ | 5 | 6 | | Recorded on Vertical by a thickening of the pen trace. In spite of the small amplitude this earthquake was felt by several persons in Berkeley. |
| 24 | 7 Sept. | I _a | iP _V iP _{EN} eL _V eL _{EN} M _{EN} C F | 18 05 48 18 05 49.5 18 05 58 18 06 00 18 06 01 18 06 20 18 08 10 | <½ | 14 | 10 | — | M _V uncertain on account of confusion with minute mark. |

THE LICK OBSERVATORY STATION

CONSTANTS

CONSTANTS OF THE STATION

Latitude and longitude of the center of the seismographic room:

$\phi = 37^\circ 20' 24.5''$ N. Lat.
 $\lambda = 121^\circ 38' 34''$ W. from Greenwich.

Time. All determinations are reduced to Greenwich mean civil time.

Altitude, 1281.7 meters (4202.25 feet) above mean sea level.

CONSTANTS OF THE SEISMOGRAPHS

| | Period | Magnif. | Damping |
|------------------------------------------|--------|---------|---------|
| Wiechert Seismograph N-S component | 8.0 | 80 | 4:1 |
| Wiechert Seismograph E-W component | 7.0 | 80 | 5:1 |
| Wiechert Seismograph Vertical component | 2.5 | 80 | 2:1 |



| No. | Date | Charac. | Phase | Time G. M. C. T. | | | Period | Amplitude | | | Remarks |
|-----|---------|----------------|----------------------------------------------------------------------------------------|------------------|----|---------------------------------------------|--------|-----------|-------|-------|---------------------------------------------------------------------------------------------------------------|
| | | | | h | m | s | | A_E | A_N | A_V | |
| * | 1914 | | | | | | s | μ | μ | μ | *Vertical seismograph was not in working order during the month of April. |
| 1 | 24 Apr. | I _v | i P _N e S _N ? e L _N M _N C F | 8 | 34 | 49.4 25 31.2 34 21 uncertain | 1½ | | 138 | | F uncertain on account of improper action of damper. Record on East-West very imperfect. |
| 2 | 27 Apr. | I _a | i P _{EN} i LM _{EN} C F | 8 | 51 | 43 44.3 48 04 | <½ | 5 | 19 | | |
| 3 | 17 May | I _a | i P i LM C F | 0 | 56 | 42.2 44.6 indefinite 48 | <½ | 7 | 9 | | Displacement of pen trace on Vertical. |
| 4 | 21 May | I _a | e P i LM C F | 22 | 43 | 59 02.7 05 08 | <½ | 5 | | | Thickening of pen trace on North-South. Not recorded by Vertical. |
| 5 | 22 May | I _a | e F | 21 | 17 | 24 32 | | | | | Thickening of pen traces on horizontal records. Shift of pen on Vertical. |
| 6 | 4 June | I _a | e i LM C F | 10 | 40 | 02 03 indefinite 07 | <½ | | 4 | | Thickening of pen traces on East-West and on Vertical. |
| 7 | 30 June | I _a | e F | 19 | 39 | 03 12 | | | | | Marked thickening of pen traces on horizontal components. Not recorded by Vertical. |
| 8 | 2 July | I _a | i P i L M F | 21 | 07 | 42 52.5 57 37 | <½ | 5 | | | Thickening of pen trace on North-South. Barely perceptible shift of pen trace on Vertical at time of maximum. |

| No. | Date | Charac. | Phase | Time G. M. C. T. | Period | Amplitude | | | Remarks |
|-----|----------------|----------------|-------------------|---------------------|--------|----------------|----------------|----------------|------------------------------------------------------------------------------------|
| | | | | | | A _E | A _N | A _V | |
| 9 | 1914 3 July | I _a | i P | h m s 22 16 54.4 | < 1/2 | 5 | μ | μ | Barely noticeable on North-South and Vertical. |
| | | | i LM | 22 16 56.2 | | | | | |
| | | | C | 22 16 59. | | | | | |
| | | | F | 22 17 03 | | | | | |
| 10 | 3 July | I _a | i P | 22 56 25.1 | < 1/2 | 6 | | | Thickening of pen traces on North-South and Vertical. |
| | | | e L | 22 56 38.9 | | | | | |
| | | | M | 22 56 41 | | | | | |
| | | | C | 22 56 45 | | | | | |
| | | | F | 22 57 23 | | | | | |
| 11 | 4 July | I _a | e | 13 16 38 | < 1/2 | | | | Not recorded by North-South. Barely noticeable on Vertical. |
| | | | F | 13 16 48 | | | | | |
| 12 | 7 July | I _a | i P | 0 27 44.5 | < 1/2 | 5 | | | Thickening of pen trace on North-South. Not recorded by Vertical. |
| | | | i L | 0 27 47 | | | | | |
| | | | M | 0 27 56 | | | | | |
| | | | C | 0 28 02 | | | | | |
| | | | F | 0 28 07 | | | | | |
| 13 | 9 July | I _a | e P _{EN} | 22 40 13.5 | < 1/2 | 4 | | | Barely perceptible disturbance on Vertical. No definite maximum on East-West. |
| | | | e L _{EN} | 22 40 17.2 | | | | | |
| | | | M _N | 22 40 23 | | | | | |
| | | | C | 22 40 27 | | | | | |
| | | | F | 22 40 45 | | | | | |
| 14 | 11 July | I _a | e | 11 31 34 | < 1/2 | | | | Thickening of pen traces on East-West and Vertical. |
| | | | F | 11 31 51 | | | | | |
| 15 | 12 July | I _a | e | 0 12 53 | < 1/2 | | | | Thickening of pen trace on East-West. Barely noticeable on Vertical. |
| | | | F | 0 13 04 | | | | | |
| 16 | 14 July | I _a | e | 3 35 08 | < 1/2 | 6 | | | Thickening of pen trace on North-South. Barely noticeable disturbance on Vertical. |
| | | | M | 3 35 42 | | | | | |
| | | | F | 3 35 56 | | | | | |
| 17 | 16 July | I _a | e P _E | 1 35 21 | < 1/2 | 10 | | | Thickening of pen trace on North-South. Barely noticeable on Vertical. |
| | | | e L _E | 1 35 26 | | | | | |
| | | | e M _E | 1 35 29 | | | | | |
| | | | C | 1 35 32 | | | | | |
| | | | F | 1 35 44 | | | | | |

| No. | Date | Charac. | Phase | Time G. M. C. T. | Period | Amplitude | | | Remarks |
|-----|-----------------|----------------|-------------------|---------------------|--------|----------------|----------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | | | A _E | A _N | A _V | |
| 18 | 1914 17 July | I? | e | h m s 7 15 52 | s | μ | μ | μ | Trace of distant earthquake. North-South only. |
| | | | F | 8 10± | | | | | |
| | | | | | | | | | |
| 19 | 21 July | I? | e | 22 34 38 | 8 | | | 43 | North-South only. |
| | | | e L? | 22 37 54 | | | | | |
| | | | M | 22 41 30 | | | | | |
| | | | F | 22 43 30± | | | | | |
| 20 | 25 July | I _a | e P | 19 49 12.5 | < 1/2 | 5 | | 9 | Slight disturbance on Vertical. |
| | | | e L | 19 49 25 | | | | | |
| | | | M | 19 49 30 | | | | | |
| | | | C | 19 49 33 | | | | | |
| | | | F | 19 49 48 | | | | | |
| 21 | 26 July | I _a | e P | 22 49 44 | < 1/2 | 10 | | 8 | Slight disturbance on Vertical. |
| | | | e L | 22 49 45 | | | | | |
| | | | M | 22 49 46 | | | | | |
| | | | C | 22 49 47 | | | | | |
| | | | F | 22 49 54 | | | | | |
| 22 | 26 July | I _a | e P | 22 50 55 | < 1/2 | | | 13 | East-West record imperfect due to chattering on the pen. Slight disturbance on Vertical. |
| | | | e L | 22 50 56 | | | | | |
| | | | M | 22 50 57 | | | | | |
| | | | C | 22 51 00 | | | | | |
| | | | F | 22 51 05 | | | | | |
| 23 | 27 July | I _v | e P | 5 30 44 | 4 | | | 6 | Phases not discernible on North-South. No definite M _N . Not recorded by Vertical. |
| | | | e S? | 5 30 53 | | | | | |
| | | | e L | 5 30 59 | | | | | |
| | | | M | 5 30 03 | | | | | |
| | | | C | indefinite | | | | | |
| 24 | 28 July | I _a | e P _N | 6 31 38 | < 1/2 | 6 | | 5 | Vertical record poor. |
| | | | i L _{EN} | 6 31 39 | | | | | |
| | | | M _{EN} | 6 31 40 | | | | | |
| | | | C | 6 31 42 | | | | | |
| | | | F | 6 31 49 | | | | | |
| 25 | 28 July | I _a | e P | 19 16 48 | < 1/2 | | | | East-West record imperfect on account of chattering of pen trace. Maximum on North-South confused by minute mark. Barely noticeable thickening of pen trace on Vertical. |
| | | | i LM | 19 17 06 | | | | | |
| | | | C | 19 17 12 | | | | | |
| | | | F | 19 17 22 | | | | | |

| No. | Date | Charac. | Phase | Time | | | Period | Amplitude | | | Remarks |
|-----|-----------------|----------------|-------------------|------------|----|-------|--------|----------------|----------------|----------------|------------------------------------------------------------------------------------------------------------------------------|
| | | | | G. | M. | C. T. | | A _E | A _N | A _V | |
| 26 | 1914 29 July | I _a | e | h | m | s | < 1/2 | μ | μ | μ | East-West record imperfect on account of chattering of the pen. Slight disturbance on Vertical. |
| | | | eL | 19 | 22 | 56 | | | | | |
| | | | M | 19 | 23 | 03 | | | | | |
| | | | C | 19 | 23 | 12 | | | | | |
| | | | F | 19 | 23 | 26 | | | | | |
| 27 | 1 Aug. | I _a | i P | 1 | 02 | 31 | < 1/2 | μ | μ | μ | No phases discernible on East-West. Not recorded by Vertical. |
| | | | i L | 1 | 02 | 33.5 | | | | | |
| | | | M | 1 | 02 | 36 | | | | | |
| | | | C | 1 | 02 | 41 | | | | | |
| | | | F | 1 | 02 | 50 | | | | | |
| 28 | 4 Aug. | I _a | e | 2 | 56 | 39 | | | | | Not recorded by Vertical. Horizontal records confused by minute marks. |
| | | | F | 2 | 56 | 48 | | | | | |
| 29 | 4-5 Aug. | I? | e _N | 23 | 06 | 14 | | | | | Trace of distant earthquake. North-South only. Both e and F confused by microseisms. |
| | | | F _N | 0 | 24 | 30 | | | | | |
| 30 | 8 Aug. | I _r | i P _N | 19 | 13 | 26 | 9 | 95 | μ | μ | Preliminaries not apparent on East-West. Not recorded by Vertical. |
| | | | i L _{EN} | 19 | 17 | 24 | | | | | |
| | | | M _{E1} | 19 | 17 | 50 | | | | | |
| | | | M _{N1} | 19 | 17 | 50 | | | | | |
| | | | M _{N2} | 19 | 23 | 25 | | | | | |
| | | | M _{E2} | 19 | 24 | 52 | | | | | |
| | | | C | 19 | 29 | 15 | | | | | |
| | | | F | 20 | 43 | 30± | | | | | |
| 31 | 12 Aug. | I _a | e | 0 | 23 | 32 | | | | | Thickening of pen traces on all components. |
| | | | F | 0 | 23 | 46 | | | | | |
| 32 | 17 Aug. | I _a | e | 9 | 33 | 38 | | | | | Slight disturbance on all components. |
| | | | F | 9 | 33 | 45 | | | | | |
| 33 | 22 Aug. | I _r | i P _{EN} | 5 | 30 | 21 | 8 | 225 | μ | μ | S not apparent. Not recorded by Vertical. |
| | | | i L _{EN} | 5 | 32 | 59 | | | | | |
| | | | M _{E1} | 5 | 35 | 58 | | | | | |
| | | | M _{N1} | 5 | 36 | 04 | | | | | |
| | | | M _{E2} | 5 | 37 | 28 | | | | | |
| | | | C | 5 | 49 | 40 | | | | | |
| | | | F | 6 | 51 | 30± | | | | | |
| 34 | 7 Sept. | I _a | i P _{EN} | 17 | 17 | 55 | | | | | Maximum uncertain on account of confusion of record by the minute mark. Poorly recorded by the Vertical. No phases apparent. |
| | | | i L _{EN} | 17 | 17 | 57 | | | | | |
| | | | C | indefinite | | | | | | | |
| | | | F | 17 | 18 | 15 | | | | | |

| No. | Date | Charac. | Phase | Time | | | Period | Amplitude | | | Remarks |
|-----|-----------------|------------------|--------------------|------|----|-------|--------|----------------|----------------|----------------|-----------------------------------------------------------------------------------------------------------------------------|
| | | | | G. | M. | C. T. | | A _E | A _N | A _V | |
| 35 | 1914 7 Sept. | III _d | i P _{ENV} | 18 | 05 | 36 | 1/2 | μ | μ | μ | Horizontal records somewhat imperfect on account of chattering of pen. Felt by a few people on mountain. Intensity III R.F. |
| | | | i L _{MNV} | 18 | 05 | 38 | | | | | |
| | | | M _E | 18 | 05 | 41 | | | | | |
| | | | C | 18 | 06 | 05 | | | | | |
| | | | F | 18 | 09 | 05 | | | | | |
| 36 | 7 Sept. | I _a | i P _N | 18 | 35 | 03.5 | < 1/2 | μ | μ | μ | East-West record illegible on account of improper smoking of the sheet. Poorly recorded by Vertical. |
| | | | i L _{MN} | 18 | 35 | 05.3 | | | | | |
| | | | C | 18 | 35 | 11 | | | | | |
| | | | F | 18 | 35 | 21 | | | | | |
| 37 | 7 Sept. | I _a | i P _{ENV} | 21 | 10 | 13.5 | < 1/2 | μ | μ | μ | East-West record illegible in part due to chattering of writing pen. |
| | | | i L _{NV} | 21 | 10 | 14.7 | | | | | |
| | | | M _{NV} | 21 | 10 | 16 | | | | | |
| | | | M _E | 21 | 10 | 20 | | | | | |
| | | | C | 21 | 10 | 41 | | | | | |
| 38 | 23 Sept. | I _{d-v} | e | 4 | 45 | 31 | 2 | μ | μ | μ | Poorly recorded by East-West and by Vertical. |
| | | | M _N | 4 | 51 | 46 | | | | | |
| | | | F | 4 | 52 | 42 | | | | | |

In addition to the earthquakes here tabulated there were a considerable number of disturbances of a doubtful nature. While some of these may be weak earthquakes, it was thought best not to include them in the report. These disturbances were not common during April, May, and June, but were numerous during July, August, and September.

EARTHQUAKE OF APRIL 24, 1914

The records of this earthquake which were obtained at Berkeley were exceptionally well written, while only one component was recorded at the Lick Observatory. The distance of origin from Berkeley was about the same as that of the Reno earthquake of February 18, 1914, but the amplitudes of the vibrations of this earthquake were several times as great at Berkeley as those of the Reno earthquake. When it was remembered that the Reno earthquake was strong enough to produce cracks in masonry walls in the region of its epicenter, it was naturally supposed that this latter earthquake had been one of considerable intensity.

The earthquake was felt at Sacramento, Stockton, Grass Valley, and at many other places in California and Nevada. None of the places which reported this earthquake made mention of any unusual intensity. It was not reported felt either at Berkeley or at Mount Hamilton.

An attempt was made to locate the epicenter from the observations at the University of California stations and at other stations. The observations thus used were obtained at Berkeley, Lick Observatory, St. Louis University, Washington University, Sacred Heart College in Denver, and the Tucson Magnetic Observatory. It was not found possible, however, to locate the position of origin in this way. This was doubtless due to errors in interpretation of the records.

The earthquake was not felt in Southern Oregon, as far as could be judged from reports there. It was not felt at Cedarville, California, yet it was strong enough at Susanville to displace loose objects and to waken sleepers. At Sacramento it was strong enough to cause a few people to run into the streets. At Randsburg and Markleeville the earthquake was reported felt. At Bodie sleepers were awakened. The earthquake was felt at Candelaria, Winnemucca, Genoa, and Belmont in Nevada, but was not severe at any of these points. At Lida, Nevada, two shocks were felt. Newhall, Nordhoff, Piru, Maricopa, and Santa Paula, in Southern California, reported that no shock was felt.

The reports of intensity at various points were not numerous enough nor complete enough to enable the isoseismal lines to be drawn. It was, therefore, not possible to determine the approximate position of the epicenter in that way.

The wide area over which this earthquake was felt, together with the fact that no very high degree of intensity was reported at any point, seems to indicate that it was an earthquake whose depth of origin was greater than is usual for the ordinary earthquakes of this region.