

KG  
11366  
v. 623

Observations of the Sun  
Feb 15, 1879 to Sept 4<sup>th</sup> 1880

|       |       |       | Dates / # |        |
|-------|-------|-------|-----------|--------|
|       |       |       | Obs       | Series |
| Feb   | 22    | 60    | 4         | 1879   |
| "     | 18    | 22 11 | 5         | July 9 |
| 21    | 22 18 | 10    |           |        |
| 23    | 22 26 | 16    |           |        |
| 24    | 22 30 | 21    |           |        |
| 25    | 22 34 | 26    |           |        |
| 26    | 22 37 | 30    | ) sheets  | 1      |
| 27    | 22 41 | 30    |           |        |
| Mar   | 22 53 | 37    |           |        |
| Mar   | 22 56 | 41    |           |        |
| 4     | 23 00 | 46    |           |        |
| 5     | 23 4  | 48    |           |        |
| 7     | 23 11 | 51    |           |        |
| 13    | 23 23 | 71    |           |        |
| 16    | 23 44 | 76    | Sheet     |        |
| 18    | 23 51 | 79    | Sheet     |        |
| 19    | 23 55 | 84    | "         |        |
| 20    | " 59  | 92    | "         |        |
| 23    | 0 9   | 94    | "         |        |
| 24    | 0 13  | 96    | "         |        |
| 25    | 0 17  | 98    | "         |        |
| 26    | 0 20  | 101   | "         |        |
| 30    | 0 35  | 107   | "         |        |
| apr 1 | 0 42  | 113   |           |        |
| apr 2 | 0 46  | 118   |           |        |
| 3     | 0 49  | 120   |           |        |
| 6     | 1 0   | 128   |           |        |
| 8     | 1 8   | 135   |           |        |
| 9     | 1 11  | 140   |           |        |
| 13    | 1 26  | 145   |           |        |
| 14    | 1 30  | 151   |           |        |
| 15    | 1 33  | 158   |           |        |
| 19    | 1 48  | 167   |           |        |
| 21    | 1 56  | 172   |           |        |
| 22    | 1 59  |       |           |        |

not on sheet 104  
not on sheet 105 + 106 @ not observed on Mar 30

used observations Apr 22 to July 9<sup>th</sup> 1879 (see pp 2+3 in next  
 of list of dates on which @ has been observed)



1979 (HSA, Proj. 1983)

Observations of the Sun  
from Feb 15<sup>th</sup> 1879 —

S.W. reader A.W. reader to p 29

Feb 16 1879

Two readings of 1st set of Feb 16

| S.W. reader                       |    |    |       | A.W. reader          |       |    |    | to p 29          |    |                  |          |
|-----------------------------------|----|----|-------|----------------------|-------|----|----|------------------|----|------------------|----------|
| Feb 16 1879                       |    |    |       | Feb 19 <sup>th</sup> |       |    |    |                  |    |                  |          |
| Two readings of 1st set of Feb 16 |    |    |       |                      |       |    |    |                  |    |                  |          |
| h m s                             |    |    |       | h m s                |       |    |    | h m s            |    |                  |          |
| 0                                 | 21 | 58 | 28.25 | 58                   | 28.22 | 22 | 10 | 5.80             | 12 | <del>24.20</del> |          |
| 1                                 |    |    | 30.27 |                      | 30.30 | 10 |    | 4.98 (in rattle) |    | <del>26.40</del> |          |
| 2                                 |    |    | 32.30 |                      | 32.30 | 11 |    | 6.50             |    | —                |          |
| 3                                 |    |    | 34.48 |                      | 34.50 | 12 |    | 8.68             |    | 24.20            |          |
| 4                                 |    |    | 36.65 |                      | 36.65 | 13 |    | 10.90            |    | 26.40            |          |
| 5                                 |    |    | 40.76 |                      | 40.80 | 14 |    | 14.90            |    | 18.20            | 30.30    |
| 6                                 |    |    | 43.00 |                      | 42.95 | 15 |    | 16.92            |    | 20.35            | 32.55    |
| 7                                 |    |    | 44.94 |                      | 44.90 | 16 |    | 19.35            |    | 22.42            | 34.80    |
| 8                                 |    |    | 46.95 |                      | 46.96 | 17 |    | 21.50            |    | 24.50            | 36.76    |
| 9                                 |    |    | 49.26 |                      | 49.30 | 18 |    | 23.52            |    | 26.50            | 39.22    |
| 10                                |    |    | 51.34 |                      | 51.35 |    |    |                  |    | 28.60            | 41.18    |
| 11                                |    |    | 53.53 |                      | 53.60 |    |    |                  |    | 30.75            | 43.30    |
| 12                                |    |    | 55.65 |                      | 55.68 |    |    |                  |    | 32.80            | 45.28    |
| 13                                |    |    | 57.80 |                      | 57.80 |    |    |                  |    | 34.95            | 47.35    |
| 14                                | 21 | 59 | 1.98  | 59                   | 1.95  |    |    |                  |    | 39.28            | 51.55    |
| 15                                |    |    | 4.12  |                      | 4.18  |    |    |                  |    | 41.35            | 53.65    |
| 16                                |    |    | 6.28  |                      | 6.30  |    |    |                  |    | 43.50            | 55.95    |
| 17                                |    |    | 8.40  |                      | 8.45  |    |    |                  |    | 45.75            | 57.92    |
| 18                                |    |    | 10.46 |                      | 10.40 |    |    |                  |    | 47.85            | 13 00.00 |

Note: For incomplete observations the wires are numbered.  
and are not always in proper place in groups  
of 5 - 9 - 5

Feb. 21<sup>st</sup>Feb. 23<sup>d</sup>Feb. 24<sup>th</sup>

| 0 22 <sup>h</sup> | 17 <sup>h</sup> 47.30 <sup>s</sup> | 22 <sup>h</sup> 19 <sup>h</sup> 59.62 <sup>s</sup> | 22 <sup>h</sup> 25 <sup>h</sup> 26.60 <sup>s</sup> | 22 <sup>h</sup> 27 <sup>h</sup> 38.00 <sup>s</sup> | 22 <sup>h</sup> 29 <sup>h</sup> 15.40 <sup>s</sup> | 31 26.78 <sup>s</sup> |
|-------------------|------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|-----------------------|
| 1                 | 49.50                              | 20 1.52                                            | 28.62                                              | 40.18                                              | 17.80                                              | 29.15                 |
| 2                 | 51.52                              | 3.50                                               | 30.70                                              | 42.30                                              | 19.90                                              | 31.30                 |
| 3                 | 53.45                              | 5.50                                               | 32.70                                              | 44.40                                              | 21.95                                              | 33.20                 |
| 4                 | 55.60                              | 7.78                                               | 34.90                                              | 46.50                                              | 23.75                                              | 35.28                 |
|                   | 59.85                              | 11.85                                              | 39.20                                              | 50.70                                              | 28.00                                              | 39.60                 |
| 18                | 1.80                               | 13.70                                              | 41.35                                              | 52.85                                              | 30.22                                              | 41.75                 |
|                   | 3.88                               | 15.98                                              | 43.40                                              | 54.80                                              | 32.40                                              | 43.80                 |
|                   | 6.20                               | 18.30                                              | 45.25                                              | 57.10                                              | 35.65                                              | 45.80                 |
|                   | 7.90                               | 20.20                                              | 47.55                                              | 59.00                                              | 36.60                                              | 48.22                 |
|                   | 9.85                               | 22.40                                              | 49.65                                              | 28 1.20                                            | 38.60                                              | 50.00                 |
|                   | 12.00                              | 24.65                                              | 51.82                                              | 3.25                                               | 40.78                                              | 52.12                 |
|                   | 14.50                              | 26.60                                              | 53.88                                              | 5.50                                               | 42.70                                              | 54.50                 |
|                   | 16.66                              | 28.90                                              | 55.92                                              | 7.55                                               | 44.88                                              | 56.35                 |
|                   | 20.75                              | 32.90                                              | 26 0.15                                            | 11.65                                              | 49.20                                              | 32 0.70               |
|                   | 22.95                              | 35.30                                              | 2.18                                               | 13.90                                              | 50.90                                              | 2.75                  |
|                   | 24.90                              | 37.30                                              | 4.20                                               | 16.00                                              | 52.95                                              | 4.80                  |
|                   | 27.06                              | 39.56                                              | 6.40                                               | 18.02                                              | 55.50                                              | 6.80                  |
|                   | 29.20                              | 41.50                                              | 8.56                                               | 20.20                                              | 57.52                                              | 9.00                  |

4

1879.

~~"Inia to be exp"~~Feb. 25<sup>th</sup># order 7<sup>th</sup>  
Feb 26<sup>th</sup>Feb 28<sup>th</sup>

|                                   | $\odot$ | $\odot$  |                                 | $\odot$ | $\odot$         |       | $\odot$                         | $\odot$ |                 | $\odot$ |
|-----------------------------------|---------|----------|---------------------------------|---------|-----------------|-------|---------------------------------|---------|-----------------|---------|
| 0 22 <sup>h</sup> 33 <sup>m</sup> | 3.80    | 35 14.90 | 22 <sup>h</sup> 40 <sup>m</sup> | 38.00   | 42 <sup>m</sup> | 48.80 | 22 <sup>h</sup> 36 <sup>m</sup> | 51.20   | 39 <sup>m</sup> | 2.50    |
| 1                                 | 5.70    | 17.25    |                                 | 39.92   |                 | 50.80 |                                 | 53.40   |                 | 4.60    |
| 2                                 | 8.15    | 19.20    |                                 | 42.20   |                 | 53.12 |                                 | 55.60   |                 | 6.60    |
| 3                                 | 10.30   | 21.30    |                                 | 44.35   |                 | 55.20 |                                 | 57.65   |                 | 8.65    |
| 4                                 | —       | —        |                                 | 46.40   |                 | 57.30 |                                 | 59.70   |                 | 10.75   |
| 5                                 | 16.40   |          |                                 | 50.40   | 43              | 1.30  | 37                              | 3.80    |                 | 14.90   |
| 6                                 | 18.72   |          |                                 | 52.50   |                 | 5.60  |                                 | 5.80    |                 | 17.20   |
| 7                                 | 20.70   |          |                                 | 55.60   |                 | 5.70  |                                 | 7.80    |                 | 19.20   |
| 8                                 | 22.50   |          |                                 | 56.72   |                 | 7.70  |                                 | 10.20   |                 | 21.40   |
| 9                                 | 24.85   |          |                                 | 58.90   |                 | 9.85  |                                 | 11.98   |                 | 23.55   |
| 10                                | 26.95   |          | 41                              | 0.95    |                 | 11.95 |                                 | 14.15   |                 | 24.65   |
| 11                                | 28.98   |          |                                 | 2.90    |                 | 13.98 |                                 | 16.30   |                 | 27.80   |
| 12                                | 31.56   |          |                                 | 5.18    |                 | 16.20 |                                 | 18.45   |                 | 29.82   |
| 13                                | 33.28   |          |                                 | 7.20    |                 | 18.30 |                                 | 20.48   |                 | 32.00   |
| 14                                | 37.50   |          |                                 | 11.40   |                 | 22.40 |                                 | 24.50   |                 | 36.00   |
| 15                                | 39.50   |          |                                 | 13.60   |                 | 22.25 |                                 | 26.65   |                 | 37.95   |
| 16                                | 41.55   |          |                                 | 15.52   |                 | 26.50 |                                 | 28.55   |                 | 40.12   |
| 17                                | 43.70   |          |                                 | 17.55   |                 | 28.60 |                                 | 30.70   |                 | 42.20   |
| 18                                | 45.80   |          |                                 | 19.50   |                 | 30.70 |                                 | 33.00   |                 | 44.20   |

Feb 27<sup>th</sup> read before Feb 26<sup>th</sup>

"min to be ex"

Mar 2<sup>d</sup>Mar 3<sup>d</sup>Mar 4<sup>th</sup>

|   | 0                               | 0                              | 0             | 0                               | 0                     | 0  | 0     | 0                               | 0                                    |        |
|---|---------------------------------|--------------------------------|---------------|---------------------------------|-----------------------|----|-------|---------------------------------|--------------------------------------|--------|
| 0 | —                               | <sup>54</sup><br><del>53</del> | 4.85          | 22 <sup>h</sup> 55 <sup>m</sup> | <sup>s</sup><br>38.20 | 57 | 48.75 | 22 <sup>h</sup> 58 <sup>m</sup> | <sup>m</sup> <sup>s</sup><br>1 31.90 |        |
| 0 | 22 <sup>h</sup> 51 <sup>m</sup> | 56.80                          | 7.20          |                                 | 40.45                 |    | 51.20 |                                 | 24.16                                | 34.10  |
| 0 |                                 | 58.85                          | 9.40          |                                 | 42.70                 |    | 52.85 |                                 | 26.30                                | 36.25  |
| 5 | 52                              | 0.90                           | 11.40         |                                 | 44.80                 |    | 54.88 |                                 | 28.35                                | 38.30  |
| 5 |                                 | 2.88                           | 13.40         |                                 | 46.90                 |    | 57.15 |                                 | 30.45                                | 40.40  |
|   |                                 |                                |               |                                 |                       |    |       |                                 |                                      |        |
|   |                                 | 6.95                           | 17.80         |                                 | 50.88                 | 58 | 1.38  |                                 | 34.65                                | 44.65  |
|   |                                 | 9.20                           | 19.85         |                                 | 52.90                 |    | 3.55  |                                 | 36.65                                | 46.80  |
|   |                                 | 11.40                          | 21.75         |                                 | 55.25                 |    | 5.80  |                                 | 38.78                                | 48.70  |
|   |                                 | 13.25                          | 23.90         |                                 | 57.35                 |    | 7.90  |                                 | 40.88                                | 50.55  |
|   |                                 | 15.40                          | 25.95         |                                 | 59.45                 |    | 9.80  |                                 | 42.75                                | 52.80  |
|   |                                 | 17.45                          | 28.10         | 56                              | 1.42                  |    | 11.92 |                                 | 44.85                                | 54.90  |
|   |                                 | 19.56                          | 30.18         |                                 | 3.70                  |    | 14.00 |                                 | 47.00                                | 56.95  |
| 2 |                                 | 21.45                          | 32.20         |                                 | 5.70                  |    | 15.98 |                                 | 48.90                                | 59.25  |
| 0 |                                 | 23.80                          | 34.25         |                                 | 7.70                  |    | 18.30 |                                 | 51.00                                | 2 1.40 |
|   |                                 |                                |               |                                 |                       |    |       |                                 |                                      |        |
|   |                                 | 27.70                          | 38.35         |                                 | 11.90                 |    | 22.35 |                                 | 55.10                                | 5.50   |
|   |                                 | 29.70                          | 40.90 (Blots) |                                 | 13.90                 |    | 24.50 |                                 | 57.25                                | 7.60   |
|   |                                 | 32.00                          | — (Blots)     |                                 | 15.95                 |    | 26.45 |                                 | 59.40                                | 9.70   |
| 0 |                                 | 33.90                          | 44.50         |                                 | 18.22                 |    | 28.65 | 23 0                            | 1.60                                 | 11.80  |
| 0 |                                 | 36.20                          | 46.70         |                                 | 20.30                 |    | 30.70 |                                 | 3.60                                 | 13.80  |

G. W. Hubbard Sheet  
no hours given

6

Mar 5<sup>th</sup>

| O                |    |   | Q     |            |       |
|------------------|----|---|-------|------------|-------|
|                  | h  | m | s     | m          | s     |
| 0                | 23 | 3 | 4.96  | 5          | 15.20 |
| 1                |    |   | 7.30  |            | 17.40 |
| 2                |    |   | 9.50  |            | 19.40 |
| 3                |    |   | 11.50 |            | 21.40 |
| 4                |    |   | 13.45 |            | 23.70 |
| 5                |    |   | —     |            | —     |
| 5 <sup>6</sup>   |    |   | 19.45 | wires. (5) | 27.90 |
| 6 <sup>7</sup>   |    |   | 21.80 | (6)        | 31.90 |
| 7 <sup>8</sup>   |    |   | 23.98 | (7)        | 34.45 |
| 8 <sup>9</sup>   |    |   | 26.20 | (8)        | 36.20 |
| 9 <sup>10</sup>  |    |   | 28.15 | (9)        | 38.35 |
| 10 <sup>11</sup> |    |   | 30.20 | (10)       | 40.35 |
| 11 <sup>12</sup> |    |   | 32.20 | (11)       | 42.28 |
| 12 <sup>13</sup> |    |   | 34.30 | (12)       | 44.60 |
| 13 <sup>14</sup> |    |   |       | (13)       | 48.50 |
| 14               | 3  |   | 38.60 |            |       |
| 15               |    |   | 40.45 |            |       |
| 16               |    |   | 42.60 |            |       |
| 17               |    |   | 44.70 |            |       |
| 18               |    |   | 46.78 |            |       |

Mar 7<sup>th</sup>

| O  |    |       |
|----|----|-------|
|    | h  | m     |
| 23 | 12 | 39.80 |
|    |    | 42.00 |
|    |    | 44.10 |
|    |    | 46.16 |
|    |    | 48.30 |
|    |    | 52.15 |
|    |    | 54.20 |
|    |    | 56.50 |
|    |    | 58.65 |
| 13 | 0  | 7.5   |
|    |    | 2.86  |
|    |    | 4.80  |
|    |    | 6.90  |
|    |    | 9.20  |

Mar 13<sup>th</sup>

| O  |       |
|----|-------|
|    |       |
| 33 | 45.50 |
|    | 47.45 |
|    | 49.40 |
|    | 51.60 |
|    | 53.70 |
|    | 57.80 |
|    | 59.92 |
| 34 | 1.98  |
|    | 3.90  |
|    | 6.00  |
|    | 8.20  |
|    | 10.30 |
|    | 12.45 |
|    | 14.52 |
|    | 18.50 |
|    | 20.60 |
|    | 22.60 |
|    | 24.90 |
|    | 26.80 |

| Mar. 16 <sup>th</sup><br>0 | Mar 18 <sup>th</sup><br>0             | Mar. 19 <sup>th</sup><br>0 |
|----------------------------|---------------------------------------|----------------------------|
| 5 wires only.              | 23 <sup>h</sup> 50 <sup>m</sup> 54.55 | 23 54 33.40                |
|                            | 56.60                                 | 35.45                      |
|                            | 58.70                                 | 37.50                      |
|                            | 51 0.70                               | 39.65                      |
|                            | 2.70                                  | 41.65                      |
|                            | 6.90                                  | 45.78                      |
|                            | 8.90                                  | 48.00                      |
|                            | 10.95                                 | 49.00                      |
|                            | 12.98                                 | 52.05                      |
|                            | 15.20                                 | 54.00                      |
|                            | 17.28                                 | 56.10                      |
|                            | 19.40                                 | 58.25                      |
|                            | 21.40                                 | 55 0.40                    |
|                            | 23.60                                 | 2.60                       |
|                            | 27.65                                 | 6.50                       |
|                            | 29.65                                 | 8.50                       |
|                            | 31.70                                 | 10.65                      |
|                            | 33.80                                 | 12.75                      |
|                            | 35.95                                 | 14.75                      |

Mar. 20<sup>th</sup>

|    | O <sub>1</sub> |          | O <sub>2</sub> |         |
|----|----------------|----------|----------------|---------|
|    | h              | m        | h              | m       |
| 0  | 23             | 58.12.45 | 0              | 0 21.00 |
| 1  |                | 14.40    |                | 22.98   |
| 2  |                | 16.40    |                | 25.15   |
| 3  |                | 18.55    |                | 27.18   |
| 4  |                | 20.60    |                | 29.10   |
| 5  |                | 24.65    |                | 33.40   |
| 6  |                | 26.80    |                | 35.45   |
| 7  |                | 28.90    |                | 37.50   |
| 8  |                | 30.90    |                | 39.70   |
| 9  |                | 32.90    |                | 41.70   |
| 10 |                | 35.00    |                | 43.70   |
| 11 |                | 37.10    |                | 45.90   |
| 12 |                | 39.15    |                | 48.00   |
| 13 |                | 41.30    |                | 50.00   |
| 14 |                | 45.40    |                | 54.20   |
| 15 |                | 47.45    |                | 56.25   |
| 16 |                | 49.50    |                | 58.30   |
| 17 |                | 51.60    | 1              | 0.35    |
| 18 |                | 53.65    |                | 2.50    |

Mar. 23<sup>d</sup>

|   | O <sub>1</sub> |   | O <sub>2</sub> |          |
|---|----------------|---|----------------|----------|
|   | h              | m | s              |          |
| 0 | 0              | 9 | 8.80           | —        |
|   |                |   | 11.10          | —        |
|   |                |   | 13.20          | —        |
|   |                |   | 15.25          | 11 23.85 |
|   |                |   | 17.28          | 25.80    |
|   |                |   | 21.40          | 29.82    |
|   |                |   | 23.50          | 31.95    |
|   |                |   | 25.60          | 34.32    |
|   |                |   | 27.80          | 36.20    |
|   |                |   | 29.65          | 38.30    |
|   |                |   | 31.75          | 40.40    |
|   |                |   | 33.85          | 42.45    |
|   |                |   | 35.90          | 44.50    |
|   |                |   | 37.88          | 46.50    |
|   |                |   | 42.00          | 50.52    |
|   |                |   | 44.05          | 52.65    |
|   |                |   | 46.20          | 54.80    |
|   |                |   | 48.15          | 56.90    |
|   |                |   | 50.30          | 58.92    |

Mar 24

|  | O <sub>1</sub> |    | O <sub>2</sub> |  |
|--|----------------|----|----------------|--|
|  | h              | m  | s              |  |
|  | 0              | 14 | 14.45          |  |
|  |                |    | 16.70          |  |
|  |                |    | 18.88          |  |
|  |                |    | 20.85          |  |
|  |                |    | 23.00          |  |
|  |                |    | 25.20          |  |
|  |                |    | 28.95          |  |
|  |                |    | 31.20          |  |
|  |                |    | 33.30          |  |
|  |                |    | 35.48          |  |
|  |                |    | 37.40          |  |

Mar. 25<sup>th</sup>

Mar. 26

Mar. 30

No. Obs.

No. Obs.

| $\theta$                             | $\alpha$                | $\theta$ |
|--------------------------------------|-------------------------|----------|
| 0 <sup>h</sup> 16 <sup>m</sup> 25.70 | 0 18 <sup>m</sup> 34.70 |          |
| 27.80                                | 36.30                   |          |
| 29.90                                | 38.60                   |          |
| 32.00                                | 40.50                   |          |
| 34.02                                | 42.60                   |          |
| 38.20                                | 46.90                   |          |
| 40.05                                | 48.85                   |          |
| 42.20 <sup>5</sup>                   | 50.88                   |          |
| 44.30                                | 52.92                   |          |
| 46.40                                | 54.95                   |          |
| 48.70                                | 57.15                   |          |
| 50.70                                | 59.18                   |          |
| 52.60                                | 19 1.20                 |          |
| 54.70                                | 3.30                    |          |
| 58.75                                | 7.50                    |          |
| 17 0.90                              | 9.48                    |          |
| 2.95                                 | 11.60                   |          |
| 5.18                                 | 13.60                   |          |
| 6.98                                 | 15.80                   |          |

10

Apr. 1

Apr. 2.

Apr. 3

|    | <u>0</u>              |                       | <u>0</u>              |                      | <u>0</u>              |  | <u>0</u> |
|----|-----------------------|-----------------------|-----------------------|----------------------|-----------------------|--|----------|
| 0  | <sup>R</sup> 41 52.90 | <sup>R</sup> 45 30.85 | <sup>R</sup> 47 39.60 | <sup>R</sup> 49 8.70 | <sup>R</sup> 51 17.60 |  |          |
| 1  | 54.95                 | 32.88                 | 41.70                 | 10.72                | 19.65                 |  |          |
| 2  | 57.30                 | 34.90                 | 43.80                 | 12.80                | 21.70                 |  |          |
| 3  | 59.40                 | 36.90                 | 46.00                 | 14.95                | 23.80                 |  |          |
| 4  | 42 1.40               | 38.90                 | 48.02                 | 17.00                | 25.80                 |  |          |
| 5  | 5.60                  | 43.30                 | 52.10                 | 21.15                | 29.98                 |  |          |
| 6  | 7.70                  | 45.40                 | 54.20                 | 23.10                | 32.00                 |  |          |
| 7  | —                     | 47.40                 | 56.28                 | 25.40                | 34.20                 |  |          |
| 8  | —                     | 49.65                 | 58.35                 | 27.50                | 36.25                 |  |          |
| 9  | —                     | 51.68 <sup>5</sup>    | 48 0.80               | 29.50                | 38.30                 |  |          |
| 10 | —                     | 54.25<br>rattle       | 2.50                  | 31.50                | 40.40                 |  |          |
| 11 | —                     | 55.80                 | 4.50                  | 33.70                | 42.50                 |  |          |
| 12 | —                     | 57.90                 | 6.65                  | 35.75                | 44.70                 |  |          |
| 13 | 23.70                 | 46 0.00               | 8.80                  | 37.90                | 46.70                 |  |          |
| 14 | 26.92                 | —                     | —                     | 41.90                | 50.70                 |  |          |
| 15 | —                     | 6.20                  | —                     | 44.00                | 52.80                 |  |          |
| 16 | —                     | 8.15                  | 16.98                 | 46.00                | 55.00                 |  |          |
| 17 | —                     | 10.18                 | 19.10                 | 48.10                | 56.00                 |  |          |
| 18 | —                     | 12.45                 | —                     | 50.20                | 58.95                 |  |          |

Apr. 6

| $\overline{O}$                     | $\underline{O}$                     |
|------------------------------------|-------------------------------------|
| 1 <sup>h</sup> 0 <sup>m</sup> 2.98 | 1 <sup>h</sup> 2 <sup>m</sup> 12.15 |
| 4.95                               | 14.00                               |
| 7.15                               | 16.20                               |
| 9.15                               | 18.20                               |
| 11.20                              | 20.30                               |
| 14.90                              | 24.40                               |
| 17.40                              | 26.35                               |
| 19.68                              | 28.65                               |
| 21.70                              | 30.70                               |
| 23.75                              | 32.70                               |
| 25.85                              | 34.80                               |
| 27.85                              | 36.80                               |
| 29.90                              | 38.90                               |
| 31.90                              | 41.12                               |
| 36.00                              | 45.15                               |
| 38.30                              | 47.30                               |
| 40.30                              | 49.30                               |
| 42.40                              | 51.35                               |
| 44.40                              | 53.60                               |

Apr. 8

| $\overline{O}$ | $\underline{O}$ |
|----------------|-----------------|
| 1 7 19.30      | 9 28.25         |
|                | 30.40           |
| 21.35          | 32.50           |
| 23.50          | 34.50           |
| 25.70          | 36.55           |
| 27.65          | 40.75           |
| 31.70          | 40.75           |
|                | 42.80           |
| 33.80          | 44.90           |
| 35.90          | 46.90           |
| 37.90          | 49.00           |
| 40.00          | 51.20           |
| 42.20          | 53.30           |
| 44.20          | 55.55           |
| 46.20          | 57.35           |
| 48.40          | 10 1.58         |
| 52.50          | 10 1.58         |
|                | 3.72            |
| 54.60          | 5.80            |
| 56.65          | 7.90            |
| 58.85          | 10.20           |
| 8 0.96         |                 |

Apr. 9

| $\overline{O}$                       | $\underline{O}$ |
|--------------------------------------|-----------------|
| 1 <sup>h</sup> 10 <sup>m</sup> 58.00 | 12 7.20         |
| 59.98                                | 9.10            |
| 11 2.00                              | 11.30           |
| 4.00                                 | 13.30           |
| 6.20                                 | 15.50           |
| 10.40                                | 19.65           |
| 12.50                                | 21.75           |
| 14.50                                | 23.90           |
| 16.70                                | 26.00           |
| 18.90                                | 28.02           |
| 20.90                                | 30.10           |
| 23.00                                | 32.20           |
| 25.18                                | 34.20           |
| 27.25                                | 36.35           |
| 31.30                                | 40.48           |
| 33.50                                | 42.60           |
| 35.40                                | 44.65           |
| 37.65                                | 46.75           |
| 39.75                                | 48.90           |

12

Apr 13<sup>th</sup>

0

0

0 1<sup>h</sup> 25 37.40  
 1 39.20  
 2 41.35  
 3 43.20  
 4 45.60

5 49.95  
 6 51.85  
 7 54.00  
 8 56.00  
 9 —  
 10 —  
 11 26 2.50  
 12 4.60  
 13 —  
 14 —  
 15 —  
 16 14.60  
 17 17.20  
 18 19.30

~~Apr 14<sup>th</sup>~~  
 Lines very heavy.  
 Apr. 14<sup>th</sup>

0

0

1 ~~29~~ 17.40 31 26.70  
 19.40 29.00  
 21.30 31.00  
 23.70 33.10  
 25.80 35.20

29.80 39.50  
 31.90 41.70  
 34.00 43.60  
 36.10 45.70  
 38.30 47.80  
 40.30 50.00  
 42.60 52.00  
 44.50 54.20  
 46.70 56.20

50.90 32 0.50  
 52.90 2.50  
 55.00 4.70  
 57.15 6.70  
 59.25 8.80

Apr. 16<sup>th</sup>

0

0

1 36 40.00 38 49.95  
 42.25 52.00  
 44.40 54.10  
 46.60 56.20  
 48.50 58.35

52.65 39 2.50  
 55.00 4.70  
 57.30 6.80  
 59.00 8.90  
 37 1.30 10.95  
 3.35 12.92  
 5.40 15.20  
 7.55 17.20  
 9.55 19.30

13.60 23.40  
 15.80 25.60  
 17.90 27.70  
 20.00 30.00  
 22.05 31.98

Sheet 151

Apr 20<sup>th</sup>  
19

Apr. 21

Apr 22.

|                   |       |    |       |
|-------------------|-------|----|-------|
| 1 <sup>h</sup> 51 | 31.20 | 53 | 41.40 |
|                   | 33.30 |    | 43.50 |
|                   | 35.45 |    | 45.60 |
|                   | 37.60 |    | 47.75 |
|                   | 39.80 |    | 49.90 |

|                   |       |    |       |
|-------------------|-------|----|-------|
| 1 <sup>h</sup> 55 | 14.90 | 57 | 25.10 |
|                   | 16.95 |    | 27.50 |
|                   | 18.98 |    | 29.60 |
|                   | 21.20 |    | 31.50 |
|                   | 23.30 |    | 33.80 |

|      |       |     |       |
|------|-------|-----|-------|
| 1 58 | 58.95 | 2 1 | 9.20  |
| 59   | 0.98  |     | 11.40 |
|      | 3.10  |     | 13.50 |
|      | 5.30  |     | 15.80 |
|      | 7.40  |     | 17.80 |

|         |         |
|---------|---------|
| 43.85   | 54.00   |
| 46.00   | 56.30   |
| 48.00   | 58.40   |
| 49.98   | 54 0.45 |
| 52.20   | 2.60    |
| 54.40   | 4.70    |
| 56.50   | 6.85    |
| 58.65   | 8.85    |
| 52 0.75 | 11.15   |

|       |       |
|-------|-------|
| 27.50 | 37.90 |
| 29.65 | 40.00 |
| 31.70 | 42.20 |
| 33.85 | 44.30 |
| 35.90 | 46.40 |
| 38.00 | 48.60 |
| 40.00 | 50.60 |
| 42.30 | 52.80 |
| 44.50 | 54.85 |

|       |       |
|-------|-------|
| 11.45 | 22.00 |
| 13.70 | 24.00 |
| 15.70 | 26.00 |
| 18.00 | 28.20 |
| 20.10 | 30.35 |
| 22.10 | 32.50 |
| 24.20 | 34.65 |
| 26.20 | 36.80 |
| 28.50 | 39.00 |

|       |       |
|-------|-------|
| 4.98  | 15.25 |
| 6.98  | 17.50 |
| 9.25  | 19.50 |
| 11.40 | 21.50 |
| 13.50 | 23.70 |

|       |         |
|-------|---------|
| 48.50 | 59.15   |
| 50.70 | 58 1.30 |
| 52.80 | 3.40    |
| 54.90 | 5.50    |
| 57.20 | 7.60    |

|       |       |
|-------|-------|
| 32.60 | 43.25 |
| 34.60 | 45.30 |
| 36.65 | 47.50 |
| 38.90 | 49.55 |
| 40.90 | 51.80 |

Apr 22, See Sheet 173

14

Apr. 23<sup>d</sup>

0

0

|   | l | m | s     |   | l     | m | s |
|---|---|---|-------|---|-------|---|---|
| 0 | 2 | 2 | 43.45 | 4 | 54.00 |   |   |
| 1 |   |   | 45.50 |   | 55.95 |   |   |
| 2 |   |   | 47.60 |   | 58.10 |   |   |
| 3 |   |   | 49.80 | 5 | 0.30  |   |   |
| 4 |   |   | 51.85 |   | 2.45  |   |   |

|    |   |  |       |  |       |  |  |
|----|---|--|-------|--|-------|--|--|
| 5  |   |  | 56.00 |  | 6.75  |  |  |
| 6  |   |  | 58.10 |  | 8.90  |  |  |
| 7  | 3 |  | 0.25  |  | 10.00 |  |  |
| 8  |   |  | 2.40  |  | 13.00 |  |  |
| 9  |   |  | 4.45  |  | 15.10 |  |  |
| 10 |   |  | 6.75  |  | 17.30 |  |  |
| 11 |   |  | 8.85  |  | 19.40 |  |  |
| 12 |   |  | 10.80 |  | 21.70 |  |  |
| 13 |   |  | 13.15 |  | 23.80 |  |  |

|    |  |  |       |  |       |  |  |
|----|--|--|-------|--|-------|--|--|
| 14 |  |  | 17.18 |  | 27.90 |  |  |
| 15 |  |  | 19.30 |  | 30.00 |  |  |
| 16 |  |  | 21.40 |  | 32.00 |  |  |
| 17 |  |  | 23.60 |  | 34.20 |  |  |
| 18 |  |  | 25.65 |  | 36.30 |  |  |

Apr. 24<sup>th</sup>

0

0

|   | l | m | s     |   | l     | m | s |
|---|---|---|-------|---|-------|---|---|
| 2 | 6 |   | 28.00 | 8 | 38.95 |   |   |
|   |   |   | 30.40 |   | 41.20 |   |   |
|   |   |   | 32.50 |   | 43.35 |   |   |
|   |   |   | 34.55 |   | 45.60 |   |   |
|   |   |   | 36.70 |   | 47.80 |   |   |

|  |  |  |       |   |       |  |  |
|--|--|--|-------|---|-------|--|--|
|  |  |  | 40.80 |   | 51.85 |  |  |
|  |  |  | 43.00 |   | 54.00 |  |  |
|  |  |  | 45.00 |   | 56.20 |  |  |
|  |  |  | 47.20 |   | 58.20 |  |  |
|  |  |  | 49.50 | 9 | 0.30  |  |  |
|  |  |  | 51.80 |   | 2.60  |  |  |
|  |  |  | 53.85 |   | 4.65  |  |  |
|  |  |  | 55.80 |   | 6.80  |  |  |
|  |  |  | 58.00 |   | 8.88  |  |  |

|   |       |  |       |
|---|-------|--|-------|
| 7 | 2.00  |  | 12.95 |
|   | 4.10  |  | 15.30 |
|   | 6.25  |  | 17.40 |
|   | 8.40  |  | 19.40 |
|   | 10.75 |  | 21.75 |

Apr. 26<sup>th</sup>

not on sheet 188

2 15

W not observed

Apr 27<sup>th</sup>

O

Q

| h | m  | s     | h  | m     | s |
|---|----|-------|----|-------|---|
| 2 | 17 | 46.00 | 19 | 57.25 |   |
|   |    | 48.00 |    | 59.35 |   |
|   |    | 50.30 | 20 | 1.60  |   |
|   |    | 52.50 |    | 3.65  |   |
|   |    | 54.55 |    | 5.85  |   |

58.70 10.10

18 0.90 12.20

3.10 14.50

5.00 16.55

7.30 18.70

9.25 20.70

11.60 22.90

13.70 24.90

15.60 27.00

19.90 31.50

22.15 33.70

24.20 35.75

26.40 37.85

28.55 39.90

Apr 29<sup>th</sup>

O

Q

| h | m  | s     | h  | m     | s |
|---|----|-------|----|-------|---|
| 2 | 25 | 20.50 | 27 | 32.00 |   |
|   |    | 22.70 |    | 34.25 |   |
|   |    | 24.80 |    | 36.45 |   |
|   |    | 26.90 |    | 38.60 |   |
|   |    | 29.20 |    | 40.50 |   |

33.40 44.80

35.70 47.20

37.85 —

39.98 51.35

42.20 53.70

44.20 55.70

46.40 57.70

47.40 59.90

50.60 28 2.00

54.80 6.40

57.00 8.40

59.00 10.50

26 1.20 12.90

3.40 14.80

Apr. 30<sup>th</sup>

not on sheet 196

2 30

O not observed

May 1<sup>st</sup>

|    | $\bar{O}$                                         | $\bar{O}$   |
|----|---------------------------------------------------|-------------|
| 0  | <sup>h</sup> 2 <sup>m</sup> 32 <sup>s</sup> 57.90 | 35 8.70     |
| 1  |                                                   | 59.00 10.80 |
| 2  | 33                                                | 1.20 12.90  |
| 3  |                                                   | 3.40 15.10  |
| 4  |                                                   | 5.55 17.30  |
| 5  |                                                   | 9.80 21.70  |
| 6  |                                                   | 11.90 23.80 |
| 7  |                                                   | 13.90 25.98 |
| 8  |                                                   | 16.15       |
| 9  |                                                   | 18.20       |
| 10 |                                                   | 20.40       |
| 11 |                                                   | 22.50       |
| 12 |                                                   | 24.70       |
| 13 |                                                   | 26.75       |
| 14 |                                                   | 31.00       |
| 15 |                                                   | 33.15       |
| 16 |                                                   | 35.30       |
| 17 |                                                   | 37.50       |
| 18 |                                                   | 39.60       |

May 2<sup>d</sup>

|    | $\bar{O}$             | $\bar{O}$ |
|----|-----------------------|-----------|
| 2  | <sup>h</sup> 36 45.60 | 38 57.80  |
|    | 48.00                 | 59.75     |
|    | 50.35                 | 39 2.00   |
|    | 52.35                 | 4.40      |
|    | 54.60                 | 6.35      |
|    | 58.80                 | 10.70     |
| 37 | 0.85                  | 12.80     |
|    | 3.00                  | 15.00     |
|    | 5.15                  | 17.10     |
|    | 7.30                  | 19.48     |
|    | 9.40                  | 21.50     |
|    | 11.50                 | 23.62     |
|    | 13.65                 | 25.70     |
|    | 15.90                 | 28.00     |
|    | 20.00                 | 32.20     |
|    | 22.20                 | 34.45     |
|    | 24.45                 | 36.70     |
|    | 26.60                 | 38.85     |
|    | 28.80                 | 40.90     |

May 5<sup>th</sup>

|   | $\bar{O}$                          | $\bar{O}$                    |
|---|------------------------------------|------------------------------|
| 2 | <sup>h</sup> 48 <sup>8</sup> 15.90 | 50 { 31.70 ?<br>31.90 Rattle |
|   | 17.90                              | —                            |
|   | 20.15                              | 32.60                        |
|   | 22.35                              | 34.80                        |
|   | 24.50                              | 37.00                        |
|   | 28.70                              | 41.50                        |
|   | 31.00                              | 43.65                        |
|   | 32.98                              | 45.90                        |
|   | 35.20                              | 47.90                        |
|   | 37.30                              | 50.00                        |
|   | 39.60                              | 52.10                        |
|   | 41.80                              | 52.35                        |
|   | 43.95                              | 56.45                        |
|   | 46.00                              | 58.65                        |
|   | 50.30                              | 51 2.80                      |
|   | 52.40                              | 5.20                         |
|   | 54.50                              | 7.20                         |
|   | 56.65                              | 9.40                         |
|   | 58.80                              | 11.60                        |

at Summit

May 6<sup>th</sup>

| h | m  | s                 | 0  | 0                 |
|---|----|-------------------|----|-------------------|
| 2 | 52 | 7.30              | 54 | 19.90             |
|   |    | 9.60              |    | 22.00             |
|   |    | 11.75             |    | 24.30             |
|   |    | 13.80             |    | 26.45             |
|   |    | 15.98             |    | 28.70             |
|   |    | 20.00             |    | 32.9 <sup>5</sup> |
|   |    | 21.90             |    | 35.15             |
|   |    | 24.40             |    | 37.40             |
|   |    | 26.40             |    | 39.50             |
|   |    | 28.65             |    | 41.50             |
|   |    | 30.85             |    | 43.65             |
|   |    | 33.38             |    | 45.98             |
|   |    | 35.30             |    | 48.00             |
|   |    | 37.35             |    | 50.15             |
|   |    | 41.80             |    | 54.40             |
|   |    | 43.90             |    | 56.65             |
|   |    | 46.20             |    | 58.80             |
|   |    | 48.2 <sup>5</sup> | 55 | 0.88              |
|   |    | 50.4 <sup>5</sup> |    | 3.20              |

May 7<sup>th</sup>

| h | m               | s                  | 0  | 0     |
|---|-----------------|--------------------|----|-------|
| 2 | 58 <sup>5</sup> | 59.50              | 58 | 12.00 |
|   |                 | 1.80               |    | 14.30 |
|   |                 | 3.65               |    | 16.55 |
|   |                 | 6.00               |    | 18.70 |
|   |                 | 8.15               |    | 20.90 |
|   |                 | 12.30              |    | 25.20 |
|   |                 | 14.60              |    | 27.30 |
|   |                 | 16.75              |    | 29.50 |
|   |                 | 18.80              |    | 31.80 |
|   |                 | 20.98              |    | 33.90 |
|   |                 | 23.15              |    | 36.00 |
|   |                 | 25.50              |    | 38.10 |
|   |                 | 27.50              |    | 40.30 |
|   |                 | 29.85              |    | 42.40 |
|   |                 | 34.00              |    | 46.90 |
|   |                 | 36.18              |    | 49.00 |
|   |                 | 38.4 <sup>20</sup> |    | 51.20 |
|   |                 | 40.45              |    | 53.40 |
|   |                 | 42.65              |    | 55.50 |

May 9<sup>th</sup>

| h | m | s     | 0 | 0     |
|---|---|-------|---|-------|
| 3 | 3 | 45.90 | 5 | 59.00 |
|   |   | 48.00 | 6 | 1.20  |
|   |   | 50.20 |   | 3.35  |
|   |   | 52.25 |   | 5.55  |
|   |   | 54.40 |   | 7.75  |
|   |   | 58.80 |   | 12.00 |
| 4 |   | 0.90  |   | 13.98 |
|   |   | 3.15  |   | 16.18 |
|   |   | 5.25  |   | 18.35 |
|   |   | 7.35  |   | 20.45 |
|   |   | 9.60  |   | 22.80 |
|   |   | 11.65 |   | 25.00 |
|   |   | 13.85 |   | 26.92 |
|   |   | 15.90 |   | 29.20 |
|   |   | 20.00 | 6 | 33.45 |
|   |   | 22.60 |   | 35.80 |
|   |   | 24.70 |   | 38.00 |
|   |   | 26.70 |   | 40.10 |
|   |   | 29.00 |   | 42.30 |

Sheet 215

May 12<sup>th</sup>

0

0

|    | <sup>h</sup> | <sup>m</sup> | <sup>s</sup>             | <sup>m</sup> | <sup>s</sup> |
|----|--------------|--------------|--------------------------|--------------|--------------|
| 0  | 3            | 15           | 29.90                    | 17           | 43.70        |
| 1  |              |              | 32.00                    |              | 45.80        |
| 2  |              |              | 34.40                    |              | 48.00        |
| 3  |              |              | 36.45                    |              | 50.25        |
| 4  |              |              | 38.80                    |              | 52.40        |
| 5  |              |              | 42.90                    |              | 56.60        |
| 6  |              |              | 45.20                    |              | 58.95        |
| 7  |              |              | 47.40                    | 18           | 1.15         |
| 8  |              |              | 49.50                    |              | 3.30         |
| 9  |              |              | 51.92                    |              | 5.48         |
| 10 |              |              | 54.10                    |              | 7.60         |
| 11 |              |              | 56.15                    |              | 9.75         |
| 12 |              |              | 58.25                    |              | 12.00        |
| 13 | 16           |              | <del>59.00</del><br>0.45 |              | 14.20        |
| 14 |              |              | 4.90                     |              | 18.45        |
| 15 |              |              | 6.90                     |              | 20.65        |
| 16 |              |              | 9.10                     |              | 22.85        |
| 17 |              |              | 11.40                    |              | 24.95        |
| 18 |              |              | 13.50                    |              | 27.40        |

Lines heavy.

May 13

0

0

| <sup>h</sup> | <sup>m</sup> | <sup>s</sup> | <sup>h</sup> | <sup>m</sup> | <sup>s</sup> |
|--------------|--------------|--------------|--------------|--------------|--------------|
| 3            | 19           | -            | 3            | 21           | 38.90        |
|              |              | 27.60        |              |              | 41.20        |
|              |              | 29.65        |              |              | 43.40        |
|              |              | 31.70        |              |              | 45.50        |
|              |              | 34.60        |              |              | 47.68        |
|              |              | 38.10        |              |              | 52.18        |
|              |              | 40.50        |              |              | 54.40        |
|              |              | 42.60        |              |              | 56.50        |
|              |              | 44.80        |              |              | 58.70        |
|              |              | 47.00        | 22           |              | 0.80         |
|              |              | 49.20        |              |              | 2.95         |
|              |              | 51.35        |              |              | 5.20         |
|              |              | 53.45        |              |              | 7.25         |
|              |              | 55.45        |              |              | 9.45         |
| 20           |              | 0.06         |              |              | 14.00        |
|              |              | 2.35         |              |              | 15.98        |
|              |              | 4.30         |              |              | 18.30        |
|              |              | 6.65         |              |              | 20.50        |
|              |              | 8.90         |              |              | 22.60        |

Lines heavy.

May 14

0

0

| <sup>h</sup> | <sup>m</sup> | <sup>s</sup> | <sup>h</sup> | <sup>m</sup> | <sup>s</sup> |
|--------------|--------------|--------------|--------------|--------------|--------------|
| 3            | 23           | 20.45        | 3            | 25           | 34.45        |
|              |              | 22.80        |              |              | 36.70        |
|              |              | 24.85        |              |              | 38.90        |
|              |              | 26.92        |              |              | 41.10        |
|              |              | 29.20        |              |              | 43.20        |
|              |              | 33.50        |              |              | 47.60        |
|              |              | 35.80        |              |              | 49.70        |
|              |              | 37.75        |              |              | 51.90        |
|              |              | 40.10        |              |              | 54.15        |
|              |              | 42.25        |              |              | 56.30        |
|              |              | 44.50        |              |              | 58.42        |
|              |              | 46.68        | 26           |              | 0.60         |
|              |              | 48.80        |              |              | 2.80         |
|              |              | 50.90        |              |              | 4.78         |
|              |              | 55.20        |              |              | 9.40         |
|              |              | 57.42        |              |              | 11.60        |
|              |              | 59.70        |              |              | 13.80        |
|              |              | 1.65         | 24           |              | 15.90        |
|              |              | 3.90         |              |              | 18.20        |

Lines heavy

May 15

|                   | $\bar{v}$ | $\bar{v}$             |
|-------------------|-----------|-----------------------|
| 3 <sup>L</sup> 27 | 17.15     | 29 <sup>S</sup> 31.20 |
|                   | 19.25     | 33.30                 |
|                   | 21.40     | 35.45                 |
|                   | 23.60     | 37.75                 |
|                   | 25.90     | 39.95                 |
|                   | 30.00     | 44.15                 |
|                   | 32.20     | 46.30                 |
|                   | 34.50     | 48.70                 |
|                   | 36.80     | 50.90                 |
|                   | 38.80     | 53.00                 |
|                   | 41.10     | 55.30                 |
|                   | 43.30     | 57.40                 |
|                   | 45.30     | 59.60                 |
|                   | 47.70     | 30 1.70               |
|                   | 52.00     | 6.20                  |
|                   | 54.30     | 8.25                  |
|                   | 56.50     | 10.48 <sup>5</sup>    |
|                   | 58.65     | 12.65                 |
| 28                | 0.90      | 14.80                 |

May 30

|                   | $\bar{v}$          | $\bar{v}$         |
|-------------------|--------------------|-------------------|
| 4 <sup>L</sup> 27 | 41.40              | 29 <sup>m</sup> - |
|                   | 43.55              | 59.92             |
|                   | 45.80              | 30 2.00           |
|                   | 47.95              | 4.35              |
|                   | 50.20              | 6.38              |
|                   | 54.80              | 10.85             |
|                   | 56.90              | 13.20             |
|                   | 59.15              | 15.30             |
|                   | 1.30               | 17.70             |
|                   | 3.55               | 19.85             |
|                   | 5.80               | 22.00             |
|                   | 8.18               | 24.40             |
|                   | 10.30              | 26.50             |
|                   | 12.50 <sup>6</sup> | 28.80             |
|                   | 16.88              | 33.30             |
|                   | 18.92              | 35.50             |
|                   | 21.25              | 37.70             |
|                   | 23.68              | 39.80             |
|                   | 25.80              | 42.10             |

June 1

|                   | $\bar{v}$ | $\bar{v}$            |
|-------------------|-----------|----------------------|
| 4 <sup>L</sup> 35 | 51.30     | 38 <sup>m</sup> 7.70 |
|                   | 53.20     | 9.90                 |
|                   | 55.70     | 12.10                |
|                   | 57.80     | 14.40                |
| 36                | 0.05      | 16.65                |
|                   | 4.50      | 21.10                |
|                   | 6.70      | 23.30                |
|                   | 8.98      | 25.50 <sup>6</sup>   |
|                   | 11.30     | 27.80                |
|                   | 13.48     | 29.98                |
|                   | 15.70     | 32.30                |
|                   | 18.90     | 34.50                |
|                   | 20.10     | 36.65                |
|                   | 22.35     | 38.98                |
|                   | 26.90     | 43.38                |
|                   | 29.15     | 45.65                |
|                   | 31.35     | 47.85                |
|                   | 33.70     | 49.00                |
|                   | 35.90     | 52.35                |

June 2

0

0

June 5

0

0

June 8

0

0

|    | <i>h</i> | <i>m</i> | <i>s</i> | <i>m</i> | <i>s</i>         | <i>m</i> | <i>s</i> | <i>m</i> | <i>s</i> | <i>m</i> | <i>s</i> | <i>m</i> | <i>s</i> |       |
|----|----------|----------|----------|----------|------------------|----------|----------|----------|----------|----------|----------|----------|----------|-------|
| 0  | 4        | 39       | 57.50    | 42       | <del>34.00</del> | 52       | 16.20    | 54       | 33.10    | 5        | 4        | 39.30    | 6        | 56.60 |
| 1  |          |          | 59.75    | -        |                  |          | 18.40    |          | 35.30    |          |          | 41.50    |          | 58.70 |
| 2  |          | 40       | 1.90     | -        |                  |          | 20.65    |          | 37.50    |          |          | 43.85    | 7        | 0.90  |
| 3  |          |          | 4.30     | -        |                  |          | 22.80    |          | 39.90    |          |          | 46.00    |          | 3.15  |
| 4  |          |          | 6.38     | -        |                  |          | 24.95    |          | 42.00    |          |          | 48.35    |          | 5.50  |
| 5  |          |          | 10.90    | -        |                  |          | 29.50    |          | 46.60    |          |          | 52.80    |          | 10.92 |
| 6  |          |          | 13.10    | -        |                  |          | 31.95    |          | 48.85    |          |          | 55.00    |          | 12.20 |
| 7  |          |          | 15.30    | 42       | 31.90            |          | 33.95    |          | 50.98    |          |          | 57.25    |          | 14.35 |
| 8  |          |          | 17.50    |          | 34.00            |          | 36.00    |          | 53.30    |          |          | 59.60    |          | 16.70 |
| 9  |          |          | 19.80    |          | 26.30            |          | 38.40    |          | 55.48    | 5        |          | 1.80     |          | 18.85 |
| 10 |          |          | 22.10    |          | 38.65            |          | 40.80    |          | 57.80    |          |          | 4.00     |          | 21.20 |
| 11 |          |          | 24.25    |          | -                |          | 43.00    |          | 59.90    |          |          | 6.20     |          | 23.50 |
| 12 |          |          | 26.40    |          | -                |          | 45.30    | 55       | 2.20     |          |          | 8.40     |          | 25.80 |
| 13 |          |          | 28.60    |          | -                |          | 47.40    |          | 4.45     |          |          | 10.70    |          | 28.00 |
| 14 |          |          | 33.22    |          | -                |          | 51.85    |          | 9.90     |          |          | 15.20    |          | 32.40 |
| 15 |          |          | 35.35    |          | 52.00            |          | 54.20    |          | 11.20    |          |          | 17.55    |          | 34.65 |
| 16 |          |          | 37.70    |          | 54.30            |          | 56.38    |          | 13.40    |          |          | 19.75    |          | 36.90 |
| 17 |          |          | 39.96    |          | 56.45            |          | 58.50    |          | 15.60    |          |          | 21.95    |          | 39.20 |
| 18 |          |          | 42.25    |          | 58.80            | 53       | 0.88     |          | 17.90    |          |          | 24.00    |          | 41.50 |

Extra tap  
after rattle  
23.60

June 10  
Q 0Q 0June 13  
0 QJune 17<sup>th</sup>  
0 Q5<sup>R m</sup> 12 56.7515<sup>m</sup> 14.1525<sup>m</sup> 25.2027<sup>m</sup> 42.405<sup>h</sup> 42 6.55 <sup>wind 5</sup> 14 44 0.40

59.25

16.35

27.25

44.80

8.70 15 2.50

13 1.40

18.75

29.60

47.15

11.15 16 4.70

3.60

20.95

31.80

49.40

13.30 17 6.95

6.00

23.25

34.00

51.50

15.60 18 → 9.40

10.45

27.75

38.65

56.15

20.00

last 5  
wires only

12.60

30.00

40.75

58.20<sup>5</sup>

22.25

14.85

32.30

43.10

28 0.80

24.50

17.40

34.60

45.35

2.80

26.70

19.60

36.70

47.55

5.20

29.15

21.80

38.98

49.80

7.40

31.30

23.98

41.30

52.00

9.70

33.65

26.30

43.60

54.20

12.80

35.80

28.40

45.90

56.60

14.20<sup>30</sup>

38.02

32.60

50.20

26 0.98

18.55

42.50

35.10

52.35

3.30

20.95

44.70

37.40

54.70

5.55

22.90

47.00

39.68

56.90

7.90

25.40<sup>5</sup>

49.20

41.80

59.45

10.00

27.70

51.60

extratop 52.95

22

Lines heavy.

June 19<sup>th</sup>

O O

|    | <sup>h</sup> | <sup>m</sup> | <sup>s</sup>   |    |       |
|----|--------------|--------------|----------------|----|-------|
| 0  | 5            | 50           | 25.95<br>26.60 | 52 | 44.50 |
| 1  |              |              | 28.80<br>29.50 |    | 46.70 |
| 2  |              |              | 31.20          |    | 48.90 |
| 3  |              |              | 33.45          |    | 51.20 |
| 4  |              |              | 35.70          |    | 53.50 |
| 5  |              |              | 40.00          |    | 58.00 |
| 6  |              |              | 42.10          | 53 | 0.20  |
| 7  |              |              | 44.60          |    | 2.50  |
| 8  |              |              | 46.90          |    | 4.70  |
| 9  |              |              | 49.20          |    | 7.00  |
| 10 |              |              | 51.40          |    | 9.25  |
| 11 |              |              | 53.65          |    | 11.50 |
| 12 |              |              | 55.90          |    | 13.70 |
| 13 |              |              | 57.90          |    | 16.00 |
| 14 | 51           |              | 2.75           |    | 20.50 |
| 15 |              |              | 4.95           |    | 22.70 |
| 16 |              |              | 7.20           |    | 24.95 |
| 17 |              |              | 9.40           |    | 27.20 |
| 18 |              |              | 11.80          |    | 29.40 |

Difficult reading -  
all but last 4 wires.

June 20<sup>th</sup>

O O

|    | <sup>h</sup> | <sup>m</sup> | <sup>s</sup> |    |       |
|----|--------------|--------------|--------------|----|-------|
| 5  | 54           |              | 36.55        | 56 | 54.50 |
|    |              |              | 39.00        |    | 56.65 |
|    |              |              | 41.30        |    | 58.85 |
|    |              |              | 43.50        | 57 | 1.20  |
|    |              |              | 45.70        |    | 3.40  |
|    |              |              | 50.30        |    | 7.90  |
|    |              |              | 52.70        |    | 10.10 |
|    |              |              | 54.70        |    | 12.40 |
|    |              |              | 56.80        |    | 14.80 |
|    |              |              | 59.35        |    | 17.00 |
| 55 |              |              | 1.55         |    | 19.00 |
|    |              |              | 3.75         |    | 21.35 |
|    |              |              | 6.00         |    | 23.70 |
|    |              |              | 8.30         |    | 26.00 |
|    |              |              | 12.80        |    | 30.50 |
|    |              |              | 15.10        |    | 32.70 |
|    |              |              | 17.00        |    | 34.90 |
|    |              |              | 19.40        |    | 37.30 |
|    |              |              | 21.80        |    | 39.50 |

extra lap  
after 21.80  
41.65

Lines heavy

June 22

O O

|   | <sup>h</sup> | <sup>m</sup> | <sup>s</sup> |   |       |
|---|--------------|--------------|--------------|---|-------|
| 6 | 2            |              | 57.20        |   | —     |
|   |              |              | 59.50        | 5 | 17.35 |
| 3 |              |              | 1.85         |   | 19.30 |
|   |              |              | 4.00         |   | 21.55 |
|   |              |              | 6.30         |   | 23.90 |
|   |              |              | 10.90        |   | 28.50 |
|   |              |              | 13.00        |   | 30.65 |
|   |              |              | 15.30        |   | 32.95 |
|   |              |              | 17.50        |   | 35.20 |
|   |              |              | 19.70        |   | 37.35 |
|   |              |              | 22.00        |   | 39.65 |
|   |              |              | 24.20        |   | 42.00 |
|   |              |              | 26.55        |   | 44.20 |
|   |              |              | 28.80        |   | 46.55 |
|   |              |              | 33.40        |   | 50.90 |
|   |              |              | 35.65        |   | 53.20 |
|   |              |              | 37.90        |   | 55.40 |
|   |              |              | 40.20        |   | 57.65 |
|   |              |              | 42.30        | 6 | 0.15  |

June 23<sup>d</sup>

| $\sigma$                           | $\odot$               |
|------------------------------------|-----------------------|
| 6 <sup>h</sup> 8 <sup>m</sup> 7.50 | 25.15                 |
|                                    | 10 <sup>m</sup> 27.40 |
| 9.95                               | 29.55                 |
| 12.05                              | 32.00                 |
| 14.25                              | 34.20                 |
| 16.25                              | 38.70                 |
|                                    | 38.70                 |
| 20.90                              | 40.90                 |
| 23.25                              | 41.90                 |
| 25.30                              | 43.30                 |
| 27.85                              | 45.50                 |
| 30.05                              | 47.70                 |
| 32.35                              | 49.95                 |
| 34.50                              | 52.10                 |
| 36.90                              | 54.40                 |
| 39.00                              | 56.70                 |
| 43.80                              | 11 1.50               |
| 45.80                              | 3.60                  |
| 48.30                              | 5.80                  |
| 50.50                              | 8.00                  |
| 52.70                              | 10.35                 |

June 24<sup>th</sup>

| $\sigma$   | $\odot$  |
|------------|----------|
| 6 11 18.40 |          |
| 11 18.40   | 13 35.70 |
| 20.40      | 37.90    |
| 22.80      | 40.40    |
| 24.95      | 42.50    |
| 27.00      | 44.90    |
| 31.70      | 49.40    |
| 33.80      | 51.60    |
| 36.00      | 53.90    |
| 38.40      | 55.90    |
| 40.60      | 58.35    |
| 42.95      | 14 0.40  |
| 45.20      | 2.80     |
| 47.40      | 4.80     |
| 49.90      | 7.30     |
| 54.00      | 11.70    |
| 56.50      | 13.90    |
| 58.60      | 16.30    |
| 12 1.00    | 18.50    |
| 3.30       | 21.00    |

June 25<sup>th</sup>

| $\sigma$ | $\odot$  |
|----------|----------|
| 6 28.20  |          |
| 30.40    | 17 45.70 |
| 32.70    | 48.00    |
| 35.00    | 50.30    |
| 37.20    | 52.50    |
|          | 54.80    |
| 41.80    | 18 59.25 |
| 44.20    | 18 1.60  |
| 46.30    | 3.85     |
| 48.60    | 6.15     |
| 50.90    | 8.45     |
| 53.00    | 10.75    |
| 55.30    | 12.90    |
| 57.60    | 15.00    |
| 59.90    | 17.40    |
| 4.20     | 21.80    |
| 6.50     | 24.00    |
| 8.80     | 26.40    |
| 11.20    | 28.60    |
| 13.40    | 31.00    |



July 1

July 2

July 3

6<sup>L</sup> 40 21.75 42 38.80  
 23.95 41.12  
 26.10 43.40  
 28.35 45.60  
 30.50 47.90

6<sup>h m s</sup> 44 29.65 —  
 31.75 —  
 33.95 46 51.15  
 36.15 53.55  
 38.62 55.80

6<sup>h m s</sup> 48 36.80  
 39.10 50 53.90  
 41.45 56.30  
 43.72 58.50  
 45.90 51 0.80  
 2.95

35.00 52.40  
 37.25 54.80  
 39.65 56.95  
 41.92 59.30  
 43.90 43 1.45  
 46.30 3.70  
 48.55 5.95  
 50.85 8.00  
 53.10 10.40

43.00 47 0.25  
 45.30 2.40  
 47.50 4.70  
 49.70 6.98  
 52.00 9.30  
 54.35 11.35  
 56.40 13.65  
 58.72 15.90  
 45 \* 1.00 ? 18.30

50.40 7.40  
 52.60 9.70  
 54.85 11.98  
 57.20 14.10  
 59.40 16.50  
 49 1.55 18.80  
 3.80 20.90  
 6.00 23.20  
 8.30 25.45

57.60 14.92  
 59.80 16.95  
 41 2.00 19.40  
 4.20 21.65  
 6.60 23.95

5.35 22.80  
 7.70 25.00  
 9.98 27.48  
 12.20 29.50  
 14.40 31.75

12.80 29.80  
 14.98 32.10  
 17.40 34.42  
 19.70 36.65  
 21.80 38.85

\* Possibly second  
 break.

26

July 4

| $h$ | $m$             | $s$   | $h$ | $m$   | $s$   |
|-----|-----------------|-------|-----|-------|-------|
| 6   | 58 <sup>2</sup> | 44.55 | 55  | 55.60 | 1.55  |
|     |                 | 46.80 |     |       | 3.80  |
|     |                 | 49.20 |     |       | 6.00  |
|     |                 | 51.35 |     |       | 8.20  |
|     |                 | 53.62 |     |       | 10.65 |
|     |                 |       |     |       |       |
|     |                 | 58.15 |     |       | 15.10 |
| 53  |                 | 0.35  |     |       | 17.40 |
|     |                 | 2.60  |     |       | 19.70 |
|     |                 | 4.80  |     |       | 21.90 |
|     |                 | 7.10  |     |       | 24.00 |
|     |                 | 9.30  |     |       | 26.30 |
|     |                 | 11.50 |     |       | 28.50 |
|     |                 | 13.85 |     |       | 30.68 |
|     |                 | 16.00 |     |       | 33.00 |
|     |                 |       |     |       |       |
|     |                 | 20.50 |     |       | 37.50 |
|     |                 | 22.80 |     |       | 39.70 |
|     |                 | 24.96 |     |       | 41.90 |
|     |                 | 27.30 |     |       | 44.25 |
|     |                 | 29.65 |     |       | 46.45 |

July 6

| $h$ | $m$            | $s$   |
|-----|----------------|-------|
| 7   | 7 <sup>h</sup> | 12.75 |
| 8   |                | 15.20 |
| 9   |                | 17.40 |
| 10  |                | 19.60 |
| 11  |                | 21.85 |
| 12  |                | 24.00 |
| 13  |                | 26.30 |
| 14  |                | 30.70 |

July 9<sup>th</sup>

| $h$ | $m$   | $s$   | $h$ | $m$   | $s$     |
|-----|-------|-------|-----|-------|---------|
| 7   | 13    | 18.20 | 15  | 35.00 |         |
|     |       | 20.50 |     |       | 36.90   |
|     |       | 22.70 |     |       | 39.48   |
|     |       | 25.25 |     |       | 41.60   |
| #   | 27.50 |       |     |       | 43.85   |
|     |       |       |     |       |         |
|     |       | 31.85 |     |       | 48.15   |
|     |       | 33.98 |     |       | 50.52   |
|     |       | 36.20 |     |       | 53.00   |
|     |       | 38.52 |     |       | 54.98   |
|     |       | 40.65 |     |       | 57.25   |
|     |       | 43.00 |     |       | 59.50   |
|     |       | 45.18 | 16  | 1.65  |         |
|     |       | 47.42 |     |       | 3.98    |
|     |       | 49.70 |     |       | # 6.30  |
|     |       |       |     |       |         |
|     |       | 54.15 |     |       | # 10.65 |
|     |       | 56.45 |     |       | 12.95   |
|     |       | 58.60 |     |       | 15.10   |
| 14  | 0.85  |       |     |       | 17.32   |
|     | 3.00  |       |     |       | # 19.86 |

# These do not  
look like the  
usual lat  
but are very  
narrow.

July 10<sup>th</sup>

|                   |       |                    |       |
|-------------------|-------|--------------------|-------|
| 7 <sup>h</sup> 17 | 24.90 | 19                 | 41.00 |
|                   | 26.90 |                    | 43.40 |
|                   | 29.28 |                    | —     |
|                   | 31.70 |                    | —     |
|                   | 33.80 |                    | —     |
|                   | 37.95 | 54.50              |       |
|                   | 40.60 | 56.90              |       |
|                   | 42.80 | 58.95              |       |
|                   | 44.98 | —                  |       |
|                   | 47.10 | 20 <del>58.5</del> |       |
|                   | 49.40 | 58.5               |       |
|                   | 51.50 | —                  |       |
|                   | 53.82 | —                  |       |
|                   | 55.98 | —                  |       |

|    |      |    |       |
|----|------|----|-------|
| 18 | 0.68 | 14 | —     |
|    | 2.80 | 15 | 19.10 |
|    | 4.95 | 16 | 21.35 |
|    | 7.00 | 17 | 23.65 |
|    | 9.55 | 18 | 25.90 |

Aug. 12

|                    |       |                       |
|--------------------|-------|-----------------------|
| wires              | 0     | 0                     |
| 96 28 <sup>7</sup> | 55.50 | <del>28</del> 57.25   |
| 7                  | 57.65 | 52.82                 |
| 8                  | 59.80 | 54.65                 |
| 9 28               | 1.90  | 56.00                 |
| 10                 | 4.00  | 58.20                 |
| 11                 | 6.10  | 1st 5 wires into 0.00 |
| 12                 | 8.15  | 30 4.72               |
| 13                 | 10.30 | 6.70                  |
|                    |       | 8.65                  |
| 14                 | 14.55 | 10.90                 |
| 15                 | 16.70 | 13.00                 |
| 16                 | 18.90 | 15.20                 |
| 17                 | 21.00 | 17.30                 |
| 18                 | 23.30 | 19.35                 |
|                    |       | 21.75                 |

5 wires  
cure

Aug. 15

|                     |       |     |
|---------------------|-------|-----|
| wires               | 0     | 0   |
| 9 1 <sup>h</sup> 39 | 10.70 | 5.8 |
| 3                   | —     | —   |
| 4                   | —     | —   |
| 5                   | —     | —   |
| 6                   | 16.40 |     |
| 7                   | 18.40 |     |
| 8                   | 20.30 |     |
| 9                   | 22.40 |     |

|    |       |
|----|-------|
| 14 | 35.35 |
| 15 | —     |
| 16 | —     |
| 17 | 41.38 |
| 18 | 43.25 |

Sheet 365

Aug 19

Aug. 20

Aug. 21

| Aug 19                              |                            | Aug. 20                 |          | Aug. 21                              |        |
|-------------------------------------|----------------------------|-------------------------|----------|--------------------------------------|--------|
| 9 <sup>h</sup> 54 <sup>m</sup> 2.00 | 56 <sup>m</sup> 11.65      | 9 58 <sup>h</sup> 45.85 | 59 56.00 | 10 <sup>h</sup> 1 <sup>m</sup> 29.90 | 3 —    |
| 4.20                                | 13.80                      | 48.00                   | —        | 31.90                                | 41.90  |
| 6.30                                | 16.00                      | 50.00                   | 0 0.00   | 33.95                                | 43.92  |
| 8.35                                | 18.10                      | 52.15                   | 2.00     | 36.00                                | 45.90  |
| 10.40                               | <del>24.60</del>           | 54.30                   | 4.00     | 38.30                                | 47.88  |
|                                     | <sup>wire</sup><br>5 24.60 |                         |          |                                      |        |
| 5 14.70                             | 6 26.70                    | 58.50                   | 8.45     | 42.30                                | 52.00  |
| 6 16.75                             | 7 28.80                    | 58 0.65                 | 10.65    | 44.50                                | 54.30  |
| 7 18.95                             | 8 30.90                    | 2.85                    | 12.80    | 46.65                                | 56.30  |
| 8 20.96                             | 9 32.90                    | 5.00                    | 14.86    | 48.85                                | 58.40  |
| 9 22.98                             | 10 35.00                   | 6.98                    | 16.85    | 50.88                                | 4 0.55 |
| 10 25.30                            | 11 37.40                   | 9.05                    | 19.00    | 53.00                                | 2.70   |
| 11 27.40                            | 12 <del>41.60</del>        | 11.20                   | 21.30    | 55.00                                | 4.85   |
| 12 29.60                            | 13 41.60                   | 13.20                   | 23.30    | 57.20                                | 6.88   |
| 13 31.70                            | 14 45.70                   | 15.50                   | 25.40    | 59.40                                | 8.98   |
|                                     | 15 —                       |                         |          |                                      |        |
| 14 35.90                            | 16 50.00                   | 19.70                   | 29.55    | 2 3.60                               | 13.50  |
| 15 38.00                            | 17 52.08                   | 21.85                   | 31.80    | 5.78                                 | 15.65  |
| 16 40.00                            | 18 54.35                   | 23.85                   | 33.85    | 7.85                                 | 17.60  |
| 17 42.20                            |                            | 26.00                   | 36.00    | 9.98                                 | 19.70  |
| 18 44.30                            |                            | 28.00                   | 38.10    | 12.00                                | 21.70  |

last  
5 wires

Sheet 366

9 33<sup>m</sup> matches same at bottom of sheet

11 10 35' doubtful at top.

sheet read from 9 33<sup>m</sup>

Note that the numbering  
of sheet, <sup>385</sup> may not be  
correct.

29

Aug. 22

0

|                                                          |         |
|----------------------------------------------------------|---------|
| 10 <sup>h</sup> 5 <sup>m</sup> <del>25.00</del><br>27.18 | 7 21.85 |
| 29.20                                                    | 24.00   |
| <del>31.40</del>                                         | 26.00   |
| 33.50                                                    | 28.10   |
|                                                          | 30.40   |
| 10 25.00                                                 | 34.60   |
| 27.18                                                    | 36.75   |
| 29.20                                                    | 39.00   |
| 31.40                                                    | 40.90   |
| 33.50                                                    | 42.98   |
| <sup>4</sup> 35.50                                       | 43.30   |
| 37.80                                                    | 47.30   |
| 39.85                                                    | 48.40   |
| 41.85                                                    | 51.50   |

|          |        |
|----------|--------|
| 14 46.15 | 55.70  |
| 15 48.25 | 57.90  |
| 16 50.40 | 8 0.00 |
| 17 52.42 | 2.00   |
| 18 54.68 | 4.10   |

Aug. 24<sup>th</sup>

0

0

|                                       |                       |
|---------------------------------------|-----------------------|
| 10 <sup>h</sup> 12 <sup>m</sup> 37.55 | 14 <sup>m</sup> 46.80 |
| 39.65                                 | 49.00                 |
| 41.85                                 | 51.20                 |
| 43.88                                 | 53.30                 |
| 46.00                                 | 55.40                 |
| 50.20                                 | 59.40                 |
| 52.25                                 | 15 1.60               |
| 54.40                                 | 3.70                  |
| 56.60                                 | 5.85                  |
| 58.65                                 | 8.00                  |
| 13 0.75                               | 10.15                 |
| 2.85                                  | 12.20                 |
| 5.00                                  | 14.20                 |
| 6.98                                  | 16.30                 |

|       |       |
|-------|-------|
| 11.20 | 20.40 |
| 13.35 | 22.62 |
| 15.50 | 24.75 |
| 17.60 | 26.90 |
| 19.82 | 29.00 |

Sept 4

0

10<sup>h</sup> 0 not observed  
 that 385 was at  
 10<sup>h</sup> 17<sup>m</sup> and  
 contains but  
 one observation  
 at 10<sup>h</sup> 22<sup>m</sup>



Observations of  
the SUN  
(2 vols.)





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