

# PHILOSOPHICAL TRANSACTIONS.

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## VII. *Contributions to Terrestrial Magnetism.*—No. VI.

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§ 10. *Observations made on Board Her Majesty's Ships Erebus and Terror, from June 1841 to August 1842, in the Antarctic Expedition under the command of Captain Sir JAMES CLARK ROSS, R.N., F.R.S.*

I HAVE now to lay before the Royal Society the results of the Magnetic Observations made at sea by the Antarctic Expedition during the second year of its operations in the southern hemisphere. Leaving Hobarton early in July 1841, the ships proceeded in the first instance to Sydney in Australia, and from thence to the Bay of Islands in New Zealand, where they remained until the return of the season of navigation in the high latitudes. Quitting New Zealand in November, the ice was met with and entered in a somewhat lower latitude than in the preceding year, and in a longitude considerably to the east of the former track. The obstacles which the ice presented to their progress appear to have been greater than on the former occasion; they were however surmounted, and in February 1842 the ships again reached the ice barrier, or glacier, in latitude  $78^{\circ}$ , by which they had been stopped in the preceding year. After an unsuccessful endeavour to turn the eastern extremity of the glacier, the advance of the season compelled their return to the lower latitudes; they quitted the Antarctic Circle in March 1842, and keeping nearly in the 60th parallel, crossed the whole breadth of the southern Pacific Ocean to the Falkland Islands, where they arrived in April.

I proceed at once to the examination in detail of the magnetic observations made during this period.

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*Deductions of the Constants a and b in the Corrections for the Ship's attraction.*

1. *In the Erebus*.—For the constants  $a$  and  $b$  to be employed in computing the corrections of the declination, we have the observations on each of the 32 principal points of the compass at Hobarton, in October 1840 and June 1841. We have also a similar series at Port Louis, in the Falkland Islands, in August 1842. The observations at Hobarton have been already discussed in No. V.\* Those at Port Louis were as follows:—

August 19, 1842.

| Ship's head<br>by compass. | Disturbance<br>towards the<br>west. | Ship's head<br>by compass. | Disturbance<br>towards the<br>west. | Ship's head<br>by compass. | Disturbance<br>towards the<br>west. | Ship's head<br>by compass. | Disturbance<br>towards the<br>west. |
|----------------------------|-------------------------------------|----------------------------|-------------------------------------|----------------------------|-------------------------------------|----------------------------|-------------------------------------|
| N.                         | +0 12·7                             | w.                         | −2 15·8                             | s.                         | +0 00·1                             | E.                         | +2 07·4                             |
| N. by w.                   | −0 04·1                             | w. by s.                   | −2 21·2                             | s. by E.                   | +0 43·9                             | E. by N.                   | +1 54·0                             |
| N.N.W.                     | −0 33·6                             | w.s.w.                     | −2 21·3                             | s.s.E.                     | +1 12·7                             | E.N.E.                     | +1 44·0                             |
| N.W. by N.                 | −0 50·1                             | s.w. by w.                 | −2 4·3                              | s.E. by s.                 | +1 41·4                             | N.E. by E.                 | +1 16·5                             |
| N.W.                       | −1 02·3                             | s.w.                       | −1 8·0                              | s.E.                       | +1 55·5                             | N.E.                       | +0 50·9                             |
| N.W. by w.                 | −1 00·6                             | s.w. by s.                 | −1 3·3                              | s.E. by E.                 | +2 06·9                             | N.E. by N.                 | +0 40·5                             |
| w.N.W.                     | −1 49·3                             | s.s.w.                     | −1 17·3                             | E.s.E.                     | +2 18·9                             | N.N.E.                     | +0 41·2                             |
| w. by N.                   | −2 09·6                             | s. by w.                   | −0 38·6                             | E. by s.                   | +2 16·4                             | N. by E.                   | +0 27·7                             |

The values of the constants deduced from the observations at Hobarton were,  $a = +0.272$ ;  $b = +0.986$ . The values from the observations at the Falkland Islands are,  $a = +0.292$ ;  $b = +0.984$ .

The values of  $a$  at Hobarton were derived from two series, one in October 1840, when the ship had recently passed through the low magnetic latitudes, and the other in June 1841, on her return from the highest magnetic latitudes of the southern hemisphere; the two series separately considered give  $a = +0.235$  in 1840, and  $0.309$  in 1841; we have therefore the following values:—

+0.267 in the Thames, where the ship had been stationary for several years.

+0.235 at Hobarton, on her first arrival from the low latitudes.

+0.305 on her return to Hobarton from the very high southern magnetic latitudes.

+0.292 at the Falkland Islands in 1842, on her second return from the very high southern latitudes.

The variations in these values is in accordance with the view expressed in the preceding Number of these Contributions†, that when a ship changes her magnetic latitude, the corresponding change in the induced portion of her magnetism may not be instantaneous; that some portions of her iron may be of a quality intermediate between perfectly soft iron, which would undergo instantaneous change, and iron permanently magnetic; and that when changing rapidly her geographical position, she may be liable to be more or less in arrear, in regard to her magnetic condition, of her actual locality at any particular time. In a ship in which this should be the case, a table computed with any one value of  $a$  would not apply equally to one portion

\* Philosophical Transactions, 1843, Part II. pp. 152–154.

† Ibid. pp. 152, 153.

of her voyage in which she might be sailing from lower into higher inclinations, and to another portion in which she might be returning from higher into lower magnetic latitudes. The voyage under consideration comprised two such portions; and I have therefore employed two tables for the Erebus, one computed with  $\cdot 0267$  for the period when the ship was increasing the dip, and the other with  $\cdot 0288$  for the period when she was decreasing the dip. The differences are insignificant, except when the inclination is very high; the greater part of the declinations observed in the high dips were antecedent to the 1st of March 1842, when the ship commenced her return to the lower latitudes; for these the table computed with  $a = \cdot 0267$  has been employed, and appears to answer better than the corrections computed either by the values resulting from the observations at Hobarton before the commencement, or by those at the Falkland Islands after the conclusion of the voyage.

2. *In the Terror*.—For the values of  $a$  and  $b$  in the Terror, we have observations on each of the thirty-two principal points of the compass at Hobarton in October 1840, and a second series in June 1841, as follows:—

| Ship's head by compass. | Disturbance towards the west. |       |       | Ship's head by compass. | Disturbance towards the west. |       |       |
|-------------------------|-------------------------------|-------|-------|-------------------------|-------------------------------|-------|-------|
|                         | 1840.                         | 1841. | Mean. |                         | 1840.                         | 1841. | Mean. |
| N.                      | +0 42.4                       | —0 52 | —0 05 | S.                      | —0 11.6                       | —0 55 | —0 33 |
| N. by W.                | —0 23.6                       | —0 52 | —0 38 | S. by E.                | +0 52.4                       | —0 06 | +0 23 |
| N.N.W.                  | —1 20.6                       | —0 59 | —1 10 | S.S.E.                  | +1 56.4                       | +0 43 | +1 20 |
| N.W. by N.              | —2 20.6                       | —0 03 | —1 12 | S.E. by S.              | +2 38.4                       | +2 08 | +2 23 |
| N.W.                    | —3 25.6                       | —0 58 | —2 12 | S.E.                    | +3 19.4                       | +2 57 | +3 08 |
| N.W. by W.              | —3 56.6                       | —2 12 | —3 04 | S.E. by E.              | +4 00.4                       | +3 48 | +3 54 |
| W.N.W.                  | —4 01.6                       | —2 26 | —3 14 | E.S.E.                  | +4 43.4                       | +5 25 | +4 54 |
| W. by N.                | —4 06.6                       | —2 51 | —3 29 | E. by S.                | +4 28.4                       | +4 58 | +4 43 |
| W.                      | —4 36.6                       | —3 34 | —4 06 | E.                      | +4 24.4                       | +4 27 | +4 26 |
| W. by S.                | —4 44.6                       | —3 43 | —4 14 | E. by N.                | +4 11.4                       | +4 02 | +4 07 |
| W.S.W.                  | —4 52.6                       | —4 34 | —4 43 | E.N.E.                  | +4 07.4                       | +3 27 | +3 47 |
| S.W. by W.              | —5 22.6                       | —4 01 | —4 42 | N.E. by E.              | +3 27.4                       | +3 04 | +3 16 |
| S.W.                    | —4 23.6                       | —3 50 | —4 07 | N.E.                    | +3 02.4                       | +3 01 | +3 02 |
| S.W. by S.              | —3 31.6                       | —4 22 | —3 57 | N.E. by N.              | +2 37.4                       | +2 27 | +2 32 |
| S.S.W.                  | —2 03.6                       | —3 41 | —2 52 | N.N.E.                  | +2 11.4                       | +0 46 | +1 29 |
| S. by W.                | —1 37.6                       | —2 44 | —1 11 | N. by E.                | +1 26.4                       | —0 12 | +0 37 |

We have also a series at Port Louis, in the Falkland Islands, in August 1842, as follows:—

| Ship's head by compass. | Disturbance towards the west. | Ship's head by compass. | Disturbance towards the west. | Ship's head by compass. | Disturbance towards the west. | Ship's head by compass. | Disturbance towards the west. |
|-------------------------|-------------------------------|-------------------------|-------------------------------|-------------------------|-------------------------------|-------------------------|-------------------------------|
| N.                      | +0 19                         | W.                      | —2 30                         | S.                      | —0 16                         | E.                      | +2 46                         |
| N. by W.                | —0 02                         | W. by S.                | —2 21                         | S. by E.                | —0 08                         | E. by N.                | +2 27                         |
| N.N.W.                  | —0 17                         | W.S.W.                  | —2 12                         | S.S.E.                  | 0 00                          | E.N.E.                  | +1 58                         |
| N.W. by N.              | —0 48                         | S.W. by W.              | —2 21                         | S.E. by E.              | +0 47                         | N.E. by E.              | +1 39                         |
| N.W.                    | —1 19                         | S.W.                    | —1 33                         | S.E.                    | +1 35                         | N.E.                    | +1 13                         |
| N.W. by W.              | —1 49                         | S.W. by S.              | —1 05                         | S.E. by E.              | +2 17                         | N.E. by N.              | +1 11                         |
| W.N.W.                  | —1 47                         | S.S.W.                  | —0 47                         | E.S.E.                  | +3 04                         | N.N.E.                  | +0 34                         |
| W. by N.                | —2 07                         | S. by W.                | —0 45                         | E. by S.                | +2 33                         | N. by E.                | +0 27                         |

From these observations we have the following values of the constants:—

Hobarton . . . . .  $a = +\cdot 0275$ ;  $b = +\cdot 979$

Falkland Islands . . .  $a = +\cdot 0293$ ;  $b = +\cdot 994$ .

These values are nearly the same as those derived from the observations in the Erebus at the same periods, and appear to require no special remark; the same tables have been employed in the declination corrections of both ships during the voyage under notice; the values of the constants in these tables were as follows:—

$a = \cdot 0267$  when the ships were sailing from the lower into the higher latitudes;  $a = \cdot 0288$  when sailing from the higher into the lower latitudes;  $b = +\cdot 984$  in both cases.

*Deduction of the Corrections on account of the Ship's attraction for the Observations of Inclination.*

1. *In the Erebus.*—The spot in the ship in which Mr. Fox's apparatus for the observations of inclination and intensity was employed, was a few feet in advance (towards the bow), and about two feet lower in height, than the position of the standard compass.

The values of  $a$  and  $b$  derived from the observations with the compass needle apply in strictness only to the spot in which that compass was stationed; it may be proper, therefore, before we employ them for the observations with Mr. Fox's apparatus, to show that nearly similar values for the constant  $a$  in particular (the more important constant) are deducible from the observations of inclination and intensity, independently of those made with the compass needle. For this purpose we may employ equation (1.), Phil. Trans., 1843, Part II. p. 147, viz.

$$\frac{\phi'}{A'\phi} \cos \theta' \cos \zeta' = \cos \theta \cos \zeta + a \sin \theta,$$

obtaining by its means the value of  $a$  from the observations of inclination and intensity made at Hobarton and Port Louis. As  $A'$  is known to differ very slightly, if at all, from unity, we have from equation (1.),

$$a \sin \theta = \frac{\phi'}{\phi} \cos \theta' \cos \zeta' - \cos \theta \cos \zeta.$$

$\phi$  and  $\theta$  are furnished by the mean of the observations of inclination and intensity on the sixteen points of the compass, having approximate corrections applied to each of them;  $\phi'$  and  $\theta'$  by the (uncorrected) observations on the different points.

From the general aspect of the observations at both stations, we may conclude that the same symmetrical distribution of the iron existed in reference to the position of Mr. Fox's apparatus as in the case of the standard compass, and consequently that at the north and south points the value of  $\zeta'$  and  $\zeta$  coincided, being equal in the one case to  $0^\circ$ , and in the other to  $180^\circ$ . At Hobarton (in June 1841) we have  $\phi = 1\cdot 83$ ,  $\theta = -70^\circ 39'$ ;  $\phi'$  at north  $1\cdot 812$ , at south  $1\cdot 854$ ;  $\theta'$  at north  $-71^\circ 56'$ , at south  $-69^\circ 14'$ :



Hence  $\left. \begin{array}{l} \text{at north, } -.944a = +.307 - .331 \\ \text{at south, } -.944a = -.359 + .331 \end{array} \right\}; \text{ whence } a = +.0275.$

At Port Louis (August 1842) we have  $\phi = 1.32$ ;  $\theta = -52^\circ 05'$ ;  $\phi'$  at north  $= 1.279$ , at south  $= 1.346$ ;  $\theta'$  at north  $= -52^\circ 50'$ , at south  $= -51^\circ 33'$ ; hence

$\left. \begin{array}{l} \text{at north, } -.789a = +.5920 - .615 \\ \text{at south, } -.788a = -.6367 + .615 \end{array} \right\}; \text{ whence } a = +.0310.$

The accordance between these values and those deduced from the observations with the standard compass is fully sufficient to justify the inference that the effect of the ship's attraction was very nearly the same at the spot where Mr. Fox's apparatus was used, as at that at which the standard compass was fixed.

We may obtain  $c$  either by equation (11.), Phil. Trans., 1843, Part II. p. 148,

$$c \cos \zeta + d \tan \theta = \sqrt{(\cos \zeta + a \tan \theta)^2 + b^2 \sin^2 \zeta} \cdot \tan \theta';$$

or from the observations of inclination and intensity, independently of the values of  $a$  and  $b$ , by the equation

$$\frac{\phi'}{\phi} \sin \theta' = c \cos \theta \cos \zeta - d \sin \theta.$$

Confining ourselves to the north and south points, and to those points on either side of N. and S. from which  $c$  may be most advantageously derived, the observations at Hobarton give the following values to be employed in the equations:

$$\begin{array}{l} \text{N.}; \zeta' = 0; \quad \zeta = 0; \quad \theta' = -71^\circ 56'; \quad \phi' = 1.812. \\ \left. \begin{array}{l} \text{N.N.E.} \\ \text{N.N.W.} \end{array} \right\}; \zeta' = 22^\circ 30'; \quad \zeta = 21^\circ 03'; \quad \theta' = -71^\circ 55'; \quad \phi' = 1.812. \\ \left. \begin{array}{l} \text{N.E.} \\ \text{N.W.} \end{array} \right\}; \zeta' = 45^\circ 0'; \quad \zeta = 42^\circ 12'; \quad \theta' = -71^\circ 48'; \quad \phi' = 1.816. \\ \left. \begin{array}{l} \text{S.E.} \\ \text{S.W.} \end{array} \right\}; \zeta' = 135^\circ 0'; \quad \zeta = 131^\circ 17'; \quad \theta' = -69^\circ 56'; \quad \phi' = 1.847. \\ \left. \begin{array}{l} \text{S.S.E.} \\ \text{S.S.W.} \end{array} \right\}; \zeta' = 157^\circ 30'; \quad \zeta = 155^\circ 24'; \quad \theta' = -69^\circ 38'; \quad \phi' = 1.850. \\ \text{S}; \zeta' = 180^\circ 0'; \quad \zeta = 180^\circ 0'; \quad \theta' = -69^\circ 14'; \quad \phi' = 1.854. \\ \theta = -70^\circ 39'; \quad \phi = 1.83. \end{array}$$

Substituting these values in the first of the above equations (11.), we have at

$$\begin{array}{l} \text{N.} \quad 1.000c - 2.85d = -2.828; \\ \left. \begin{array}{l} \text{N.N.E.} \\ \text{N.W.} \end{array} \right\} \quad .934c - 2.85d = -2.832; \\ \left. \begin{array}{l} \text{N.E.} \\ \text{N.W.} \end{array} \right\} \quad .741c - 2.85d = -2.841; \\ \left. \begin{array}{l} \text{S.E.} \\ \text{S.W.} \end{array} \right\} - .660c - 2.85d = -2.853; \end{array}$$

$$\begin{aligned} \text{S.S.E.} \} & - \cdot 909c - 2 \cdot 85d = -2 \cdot 876; \\ \text{S.S.W.} \} & \\ \text{S.} & - 1 \cdot 000c - 2 \cdot 85d = -2 \cdot 843. \end{aligned}$$

Changing the signs of the three last equations, and summing, we have

$$5 \cdot 24c = + \cdot 071;$$

$$\text{whence} \quad c = + \cdot 014.$$

To obtain  $c$  from the observations of inclination and intensity alone, we have at

$$\begin{aligned} \text{N.} & \cdot 331c - \cdot 94d = - \cdot 941; \\ \text{N.N.E.} \} & \cdot 309c - \cdot 94d = - \cdot 942; \\ \text{N.N.W.} \} & \\ \text{N.E.} \} & \cdot 222c - \cdot 94d = - \cdot 943; \\ \text{N.W.} \} & \\ \text{S.E.} \} & - \cdot 218c - \cdot 94d = - \cdot 948; \\ \text{S.W.} \} & \\ \text{S.S.E.} \} & - \cdot 301c - \cdot 94d = - \cdot 948; \\ \text{S.S.W.} \} & \\ \text{S.} & - \cdot 331c - \cdot 94d = - \cdot 947. \end{aligned}$$

Changing the signs of the three last equations, and summing,  $d$  is eliminated as before, and

$$c = \frac{+ \cdot 017}{1 \cdot 71} = + \cdot 010.$$

From the observations at Port Louis, we have the following values to be employed in the equations:

$$\begin{aligned} \text{N.} \quad \zeta' &= 0; \quad \zeta = 0; \quad \theta' = -52^\circ 50'; \quad \phi' = 1 \cdot 279; \\ \text{N.N.E.} \} \zeta' &= 22^\circ 30'; \quad \zeta = 22^\circ 01'; \quad \theta' = -52^\circ 42'; \quad \phi' = 1 \cdot 290; \\ \text{N.N.W.} \} & \\ \text{N.E.} \} \zeta' &= 45^\circ 0'; \quad \zeta = 43^\circ 58'; \quad \theta' = -52^\circ 45'; \quad \phi' = 1 \cdot 290; \\ \text{N.W.} \} & \\ \text{S.E.} \} \zeta' &= 135^\circ 0'; \quad \zeta = 133^\circ 03'; \quad \theta' = -51^\circ 59'; \quad \phi' = 1 \cdot 323. \\ \text{S.W.} \} & \\ \text{S.S.E.} \} \zeta' &= 157^\circ 30'; \quad \zeta = 155^\circ 52'; \quad \theta' = -51^\circ 33'; \quad \phi' = 1 \cdot 330. \\ \text{S.S.W.} \} & \\ \text{S.} \quad \zeta' &= 0; \quad \zeta = 0; \quad \theta' = -51^\circ 43'; \quad \phi' = 1 \cdot 346. \\ & \theta = -52^\circ 05'; \quad \phi = 1 \cdot 32. \end{aligned}$$

Substituting these values in equation (11.), we obtain

$$c = \frac{+ \cdot 094}{5 \cdot 24} = + \cdot 018;$$

or from the observations of inclination and intensity alone,

$$c = \frac{+ \cdot 051}{3 \cdot 22} = + \cdot 016.$$

The correspondence in the value of the constants obtained from the observations at Hobarton and Port Louis, being the commencing and concluding stations of the voyage now under consideration, is fully as good as could be desired; and a table formed from them has been employed for the correction of the observations made between Hobarton and the Bay of Islands, and during the return of the Expedition from the high latitudes to the Falkland Islands commencing with the 1st of March 1842. In those portions of the voyage the ship was passing from the higher to the lower magnetic latitudes, in which circumstance they corresponded with the observations at Hobarton and Port Louis, which were both made on the return from the vicinity of the magnetic pole. But if we attempt to apply the same table to the observations made under the reverse circumstances, namely, when the ship was passing from the lower to the higher latitudes (and such was the case with the greater part of the observations which we have to correct in the present voyage), we find that the tabular numbers, where the N. and S. points are approached, furnish a decided over compensation. On days when observations have been made at or near the N. and S. points, if we seek in the table for the corrections which should bring the results in accord with each other, we find that the corrections which will do so belong to a dip which is always some degrees less than the true terrestrial dip. It appeared desirable, therefore, if possible, to form a table for the correction of the observations of this portion of the voyage, derived from those observations themselves. Fortunately we have a better opportunity of doing this than might have been anticipated. The progress of the Expedition was so much impeded by ice in the early part of January 1842, that from the 6th to the 16th inclusive, the Erebus was the whole time between the latitudes of  $-65^{\circ} 54'$  and  $-66^{\circ} 14'$ , and between the longitudes of  $204^{\circ} 33'$  and  $202^{\circ} 02'$ ; the weather and all other circumstances being favourable, the inclination was observed in the course of those eleven days with the ship's head on seventeen different points of the compass, sufficiently distributed, and particularly towards the north points and south points, where the effect of the ship's attraction is greatest, and is in opposite directions. From the observations at north and south it is not difficult to obtain an approximate value of  $a$ , which should bring the corrected results at those points into accord. The value thus obtained is about  $+0.023$ . I have collected the observations during the period referred to into the following table, taking, for the sake of simplicity, only those observations which were made by the *direct* method, which, however, comprises by far the greater part of the observations of that period. I have then computed the corrections, first, with the values of the constants, such as they are given by the observations made for their determination at Hobarton and the Falkland Islands (being the commencement and close of the voyage), viz.  $a = +0.028$ ;  $b = +0.984$ ;  $c = +0.015$  and  $d = 1$ ; and second, with  $a = +0.023$ ,  $b$ ,  $c$  and  $d$ , as before; and have placed the two series of corrected results in the table, with columns showing in both cases the difference of the corrected result, on each point, from the mean result. A comparison of those columns seems conclusive in favour of the application

of the smaller value of  $a$  to those observations which were made when the ship was in progress from the lower to the higher latitudes. If  $a$  be taken as it was found at Hobarton and the Falkland Islands, not only are the differences generally greater, but they are systematically so; evidencing an over compensation where the north and south points are approached; whilst with the smaller value of  $a$  the differences are greatly diminished in amount, and exhibit no appearance whatsoever of system. They are such as may well be supposed to have been occasioned partly by observation error, and partly by small differences of geographical position in which the observations themselves were made.

| Ship's head by compass. | Number of observations. | Inclination observed. | Values of the Constants.<br>$a = +\cdot 028$ .<br>$b = +\cdot 984$ ; $c = +\cdot 015$ ; $d = 1$ . |                            |                    | Values of the Constants.<br>$a = +\cdot 023$ .<br>$b = +\cdot 984$ ; $c = +\cdot 015$ ; $d = 1$ . |                            |                    |
|-------------------------|-------------------------|-----------------------|---|----------------------------|--------------------|---|----------------------------|--------------------|
|                         |                         |                       | Computed corrections.   | Inclinations corrected.    | $\alpha - \beta$ . | Computed corrections.   | Inclinations corrected.    | $\alpha - \beta$ . |
|                         |                         |                       |   | $\beta$ .                  |                    |   | $\beta$ .                  |                    |
| N.                      | 1                       | $-80^{\circ} 58'$     | $+1^{\circ} 32'$  | $-79^{\circ} 26'$          | $-20'$             | $+1^{\circ} 16'$  | $-79^{\circ} 42'$          | $-3'$              |
| N.N.E.                  | 2                       | $-81^{\circ} 00'$     | $+1^{\circ} 27'$  | $-79^{\circ} 33'$          | $-13'$             | $+1^{\circ} 12'$  | $-79^{\circ} 48'$          | $+3'$              |
| N.E.                    | 2                       | $-80^{\circ} 42'$     | $+1^{\circ} 12'$  | $-79^{\circ} 30'$          | $-26'$             | $+1^{\circ} 00'$  | $-79^{\circ} 42'$          | $-3'$              |
| N.W.                    | 3                       | $-80^{\circ} 35'$     | $+1^{\circ} 12'$  | $-79^{\circ} 23'$          | $-23'$             | $+1^{\circ} 00'$  | $-79^{\circ} 35'$          | $-10'$             |
| N.E. by E.              | 2                       | $-80^{\circ} 50'$     | $+1^{\circ} 01'$  | $-79^{\circ} 49'$          | $+3'$              | $+0^{\circ} 55'$  | $-79^{\circ} 55'$          | $+10'$             |
| W.                      | 1                       | $-79^{\circ} 58'$     | $+0^{\circ} 17'$  | $-79^{\circ} 41'$          | $-5'$              | $+0^{\circ} 14'$  | $-79^{\circ} 44'$          | $-1'$              |
| E.                      | 3                       | $-79^{\circ} 50'$     | $+0^{\circ} 17'$  | $-79^{\circ} 33'$          | $-13'$             | $+0^{\circ} 14'$  | $-79^{\circ} 36'$          | $-9'$              |
| E. by S.                | 1                       | $-79^{\circ} 45'$     | $-0^{\circ} 01'$  | $-79^{\circ} 46'$          | $-00'$             | $-0^{\circ} 01'$  | $-79^{\circ} 46'$          | $+1'$              |
| S.W. by W.              | 3                       | $-79^{\circ} 19'$     | $-0^{\circ} 38'$  | $-79^{\circ} 57'$          | $+11'$             | $-0^{\circ} 31'$  | $-79^{\circ} 50'$          | $+5'$              |
| S.W. $\frac{3}{4}$ W.   | 1                       | $-79^{\circ} 30'$     | $-0^{\circ} 42'$  | $-80^{\circ} 12'$          | $+26'$             | $-0^{\circ} 34'$  | $-80^{\circ} 04'$          | $+19'$             |
| S.W. $\frac{1}{2}$ W.   | 1                       | $-79^{\circ} 10'$     | $-0^{\circ} 46'$  | $-79^{\circ} 56'$          | $+10'$             | $-0^{\circ} 38'$  | $-79^{\circ} 48'$          | $+3'$              |
| S.E.                    | 1                       | $-79^{\circ} 08'$     | $-0^{\circ} 55'$  | $-80^{\circ} 03'$          | $+17'$             | $-0^{\circ} 45'$  | $-79^{\circ} 53'$          | $+8'$              |
| S.W.                    | 3                       | $-78^{\circ} 52'$     | $-0^{\circ} 55'$  | $-79^{\circ} 47'$          | $+1'$              | $-0^{\circ} 45'$  | $-79^{\circ} 37'$          | $-8'$              |
| S.W. $\frac{1}{2}$ S.   | 1                       | $-78^{\circ} 48'$     | $-1^{\circ} 02'$  | $-79^{\circ} 50'$          | $+4'$              | $-0^{\circ} 50'$  | $-79^{\circ} 38'$          | $-7'$              |
| S.S.E.                  | 3                       | $-78^{\circ} 28'$     | $-1^{\circ} 13'$  | $-79^{\circ} 41'$          | $-5'$              | $-1^{\circ} 05'$  | $-79^{\circ} 33'$          | $-12'$             |
| S. by W.                | 3                       | $-78^{\circ} 28'$     | $-1^{\circ} 29'$  | $-79^{\circ} 57'$          | $+11'$             | $-1^{\circ} 13'$  | $-79^{\circ} 41'$          | $-2'$              |
| S.                      | 5                       | $-78^{\circ} 32'$     | $-1^{\circ} 31'$  | $-80^{\circ} 03'$          | $+17'$             | $-1^{\circ} 14'$  | $-79^{\circ} 46'$          | $+1'$              |
| Means                   | 36                      | ....                  | ....  | $-79^{\circ} 46' = \alpha$ |                    | ....  | $-79^{\circ} 45' = \alpha$ |                    |

The mean of the observations in the table thus corrected is  $-79^{\circ} 45'$ ; the corresponding geographical position is  $-66^{\circ} 04'$ , and  $203^{\circ} 17' \cdot 5$ , if we take as such the middle point of the geographical space in which the ship was detained from the 6th to the 16th of January. The inclination observed on the ice on the 16th of January, in lat.  $-65^{\circ} 49'$ , long.  $202^{\circ} 02'$ , with needles whose poles were reversed, was  $-79^{\circ} 39' \cdot 5$ . We can derive no *precise* conclusion in regard to the value of  $d$ , from observations which are not identical in locality; but the accordance of the results obtained on board and on the ice, in geographical positions so little different, is quite sufficient to show that the error involved by assuming  $d$  as unity must be, at the utmost, very inconsiderable.

The tables for the correction of the inclination in the Erebus have therefore been computed with the following values for the constants, viz. from New Zealand to the end of February 1842, being the portion of the voyage in which the ship was in pro-

gress from the lower into the higher inclinations,  $a=+0.023$ ,  $b=+0.984$ ,  $c=+0.015$  and  $d=1$ : and for the remainder of the voyage  $a=+0.028$ ,  $b$ ,  $c$  and  $d$ , as before.

*In the Terror.*—The place in which Mr. Fox's apparatus was used in the *Terror* was about the same distance from the position of the standard compass, and in the same direction, as in the *Erebus*. A series of observations were made with it for the purpose of furnishing materials for the determination of the constants, at Hobarton in June 1841, and at the Falkland Islands in August 1842; and the inclination was also observed with the ship's head on several points of the compass during the detention of the ships by the ice between the 6th and 16th of January 1842. In the case of the *Erebus*, we have found these latter observations of principal use in furnishing the values of the constants which apply to the greater part of the observations of the voyage; it may, therefore, be advisable to commence with the discussion of the corresponding series in the *Terror*.

Inclinations observed on board Her Majesty's ship *Terror* with needle F.C.B. used direct, during her detention by the ice from the 6th to the 16th of January 1842, between the latitudes of  $-65^{\circ} 45'$  and  $-66^{\circ} 20'$ , and longitudes of  $201^{\circ} 46'$  and  $204^{\circ} 04'$ .

| Ship's head<br>by compass.  | Number of<br>observations. | Inclination<br>observed. | Ship's head<br>by compass.  | Number of<br>observations. | Inclination<br>observed. |
|-----------------------------|----------------------------|--------------------------|-----------------------------|----------------------------|--------------------------|
| N.                          | 4                          | $-81^{\circ} 19.5'$      | S.                          | 6                          | $-78^{\circ} 30'$        |
| N. $\frac{1}{2}$ E.         | 2                          | $-81^{\circ} 14'$        | S. $\frac{3}{4}$ W.         | 1                          | $-78^{\circ} 21'$        |
| N. $\frac{3}{4}$ E.         | 1                          | $-80^{\circ} 50'$        | S. by W.                    | 1                          | $-78^{\circ} 48'$        |
| N.N.E.                      | 3                          | $-80^{\circ} 57'$        | S.W. by W. $\frac{1}{2}$ W. | 1                          | $-78^{\circ} 50'$        |
| N.E.                        | 2                          | $-80^{\circ} 48'$        | S.W. by S.                  | 3                          | $-79^{\circ} 00'$        |
| N.E. by E.                  | 1                          | $-80^{\circ} 26'$        | S.W.                        | 3                          | $-79^{\circ} 08'$        |
| E. $\frac{1}{2}$ N.         | 1                          | $-79^{\circ} 57'$        | S.W. $\frac{1}{2}$ W.       | 1                          | $-79^{\circ} 08'$        |
| E.                          | 6                          | $-79^{\circ} 55'$        | S.W. by W.                  | 5                          | $-79^{\circ} 21'$        |
| E. $\frac{1}{2}$ S.         | 1                          | $-79^{\circ} 45'$        | W.S.W.                      | 2                          | $-79^{\circ} 37'$        |
| E. by S.                    | 1                          | $-79^{\circ} 33'$        | W. by S.                    | 1                          | $-80^{\circ} 05'$        |
| E.S.E.                      | 2                          | $-79^{\circ} 21'$        | W. $\frac{1}{4}$ S.         | 2                          | $-80^{\circ} 07'$        |
| S.E. by E. $\frac{1}{2}$ E. | 1                          | $-79^{\circ} 04'$        | N.W.                        | 2                          | $-81^{\circ} 09'$        |
| S.S.E.                      | 1                          | $-78^{\circ} 42'$        | N. by W.                    | 1                          | $-81^{\circ} 15'$        |
| S. by E.                    | 4                          | $-78^{\circ} 37'$        |                             |                            |                          |

These observations manifest the general systematic character of the disturbance occasioned by the ship's attraction; they furnish indeed a remarkable example of the success with which the effect of the ship's iron on the inclination may be investigated by observations made at sea. The disturbance appears to have not been strictly symmetrical, inasmuch as the inclinations observed on the western points somewhat exceed in amount those observed on the corresponding eastern points; the same circumstance took place in the observations at Hobarton; but at the Falkland Islands, on the contrary, the inclinations observed on the eastern points were generally somewhat the higher. A similar occasional departure from strict symmetry has before been noticed in the effect of the ship's iron on the compass needle\*; in that case also

\* Philosophical Transactions, 1843, Part II. p. 152.

the disturbance in the same ship was sometimes greater on the eastern, and sometimes on the western points; these small irregularities, having no uniform character, are regarded as included amongst those varying accidents which are classed generally under the name of observation error. It is proper, however, in consequence of this occasional irregularity, that the data from which constants are to be derived for general corrections should consist of the mean of observations on corresponding points on the east and west sides of the compass; in this view we have as available observations in the preceding table those on the following points of the compass.

|   |            |
|---|------------|
| North . . . . .   | -81 19.5   |
| N.W. . . . .  | } -80 58.5 |
| N.E. . . . .  |            |
| W. $\frac{1}{4}$ S. . . . .                                     | } -79 58.5 |
| E. $\frac{1}{4}$ S. (from E. and E. $\frac{1}{2}$ S.) . . . . . |            |
| W. by S. . . . .  | } -79 49   |
| E. by S. . . . .  |            |
| W.S.W. . . . .  | } -79 29   |
| E.S.E. . . . .  |            |
| S.W. . . . .  | } -79 04.5 |
| S.E. (from E.S.E. and S.S.E.) . . . . .                         |            |
| South . . . . .   | -78 30     |

We have here  $2^{\circ} 49' 5''$  for the difference between the inclinations observed with the ship's head north and south; the value of  $a$  which will give that amount for the sum of the corrections at north and south when the dip is between  $-79^{\circ}$  and  $-80^{\circ}$ , (neglecting  $c$  as too small in such case to require consideration), is about  $+.026$ . The observations at north were four in number,—those at south six, and on different days,—they were as follows:—

| North.                 | South.               |
|------------------------|----------------------|
| January 8, -81 19      | January 7, -78 28    |
| 8, -81 20              | 8, -78 31            |
| 8, -81 18              | 11, -78 28           |
| 13, -81 21             | 13, -78 25           |
|                        | 13, -78 33           |
| Mean . . . . . 81 19.5 | 14, -78 34           |
|                        | Mean . . . . . 78 30 |

From the accord which these observations respectively exhibit, it is clear that we should not be justified in taking a value of  $a$  which should differ much from  $+.026$ .

If we now refer to the observations which were made in the *Terror* soon after her arrival at the Falkland Islands, when the ship's head was placed on the principal points of the compass for the purpose of determining the values of the constants, we shall

find that a value of  $a$  taken near  $+.026$  will by no means bring the results on the N. and S. points, or on those approaching the N. and S. points, into accord; and that as we have already found in the dip corrections of the Erebus, and in the declination corrections of both ships, a considerably higher value of  $a$  is required for the observations on the return from the high latitudes, than for those when the ship was in progress from the lower to the higher dips.

We have no observations at the Falkland Islands (made at the spot in the ship where Mr. Fox's apparatus was used) either of the direction of the compass needle, or of the force acting on the horizontal needle: we must therefore obtain  $a$  and  $b$  directly from the observations of Inclination and Intensity. The observations gave as follows:—

| Ship's head. | Inclination observed.<br>$\theta = -51^{\circ} 56'.$ | Intensity observed.<br>$\phi = 1.336.$ |
|--------------|--|--|
|              | $\theta'$  | $\phi'$                                |
| N.           | $-52^{\circ} 46.5$                                   | $1.320$                                |
| N.N.E.       | $-52^{\circ} 51$                                     | $1.315$                                |
| N.N.W.       | $-52^{\circ} 43$                                     | $1.313$                                |
| N.E.         | $-52^{\circ} 47$                                     | $1.314$                                |
| N.W.         | $-52^{\circ} 45$                                     | $1.312$                                |
| E.N.E.       | $-52^{\circ} 52$                                     | $1.336$                                |
| W.N.W.       | $-52^{\circ} 38$                                     | $1.308$                                |
| E.           | $-52^{\circ} 31$                                     | $1.336$                                |
| W.           | $-52^{\circ} 13$                                     | $1.324$                                |
| E.S.E.       | $-52^{\circ} 16$                                     | $1.355$                                |
| W.S.W.       | $-51^{\circ} 46$                                     | $1.345$                                |
| S.E.         | $-51^{\circ} 32$                                     | $1.370$                                |
| S.W.         | $-51^{\circ} 32$                                     | $1.359$                                |
| S.S.E.       | $-51^{\circ} 09$                                     | $1.368$                                |
| S.S.W.       | $-51^{\circ} 21$                                     | $1.366$                                |
| S.           | $-50^{\circ} 53$                                     | $1.370$                                |

For  $a$ , we have from equation (1.),

$$a \sin \theta = \frac{\phi'}{\phi} \cos \theta' \cos \zeta' - \cos \theta \cos \zeta,$$

whence we obtain, from the observations on the N. and S. points,  $a = +.0311$ , and from those on the N.N.E. and N.N.W., S.S.E. and S.S.W. points,  $a$  also  $= +.0311$ .

In the Erebus we have found  $a$  for the spot in the ship where Mr. Fox's apparatus was used  $= +.023$ , from the observations made when the ship was in progress to the southward; and  $= +.029$  at Hobarton and the Falkland Islands. The corresponding values in the Terror are  $+.026$  and  $+.031$ .

In the case of the Terror, therefore, I have employed separate tables for the corrections for the ship's attraction, viz.  $a$  taken as  $+.028$  in the passage from Hobarton to New Zealand; as  $+.026$  in the passage to the higher latitudes; and as  $+.031$  during the return from the high latitudes to the Falkland Islands.

For  $b$  and  $c$ , we obtain from the observations at the Falkland Islands as follows:—

In the case of  $b$ , we have from equation (2.),

$$b \cos \theta = \frac{\phi'}{\phi} \cos \theta' \sin \zeta' \operatorname{cosec} \zeta;$$

the observations at N.E., N.W., S.E. and S.W. give  $b=+0.984$ ; those at E.N.E., W.N.W., E.S.E. and W.S.W.,  $b=-0.984$ ; and those at E. and W.  $b=-0.982$ .

In the case of  $c$ , we have from equation (3.),

$$\frac{\phi'}{\phi} \sin \theta' = c \cos \theta \cos \zeta + d \sin \theta;$$

from the observations at N. to N.E. and N.W. inclusive, and from S. to S.E. and S.W. inclusive, eliminating  $d$ , we have

$$c=+0.009.$$

The constant  $d$  is perhaps the most difficult of the constants to ascertain satisfactorily, as its value derivable from the observations depends on a knowledge of the true geographical dip at the place of observation, free from what is now known as *station error*. Experience has fully shown the general fact, that inclinations observed on land cannot safely be assumed as free from local disturbance. The discrepancies of gravitation at the Falkland Islands are well known from the experiments with the pendulum; and from the geological character of these islands, we might be prepared to expect the existence of magnetic discrepancies also. By the needles in both ships, the inclination was found a third of a degree higher at the magnetic observatory on shore than when observed on board in the harbour; if the observatory dip were to be assumed as an undisturbed one, we should obtain  $d$  in both ships considerably less than unity, whereas from the comparison of the observations in both ships in the preceding December and January, with the inclination observed at the same time on the ice over a deep sea, where no local attraction can be imagined to exist, we have  $d$  (as far as the small differences of geographical position will permit us to judge) differing scarcely, if at all, from unity in either ship. The preference is certainly due to the deduction from the results obtained on the ice. Taking therefore  $d=1$ ,  $c=+0.01$ ,  $b=0.984$  and  $a=+0.026$ , we have the corrections, and the corrected inclination, of the observations in the Terror between the 6th and 16th of January as follows:

| Ship's head.        | No. of observations. | Inclination observed. | Correction.     | Corrected Inclination. |
|---------------------|----------------------|-----------------------|-----------------|------------------------|
| N.                  | 4                    | $-81^{\circ} 19.5$    | $+1^{\circ} 26$ | $-79^{\circ} 53.5$     |
| N.W.                | 4                    | $-80 58.5$            | $+1 09$         | $-79 49.5$             |
| N.E.                | 9                    | $-79 58.5$            | $+0 12$         | $-79 46.5$             |
| W. $\frac{1}{4}$ S. |                      |                       |                 |                        |
| E. $\frac{1}{4}$ S. |                      |                       |                 |                        |
| W. by S.            | 4                    | $-79 49.0$            | $-0 01$         | $-79 50.0$             |
| E. by S.            |                      |                       |                 |                        |
| W.S.W.              | 4                    | $-79 29.0$            | $-0 17.5$       | $-79 56.5$             |
| E.S.E.              |                      |                       |                 |                        |
| S.W.                | 6                    | $-79 04.5$            | $-0 51.5$       | $-79 56.0$             |
| S.E.                | 6                    | $-78 30.0$            | $-1 24.5$       | $-79 54.5$             |
| S.                  |                      |                       |                 |                        |

Slight differences in the corrected results must be looked for, as the observations were not all taken precisely at the same geographical spot: those which appear in the table are, however, very slight; the accord produced by the corrections seems as



satisfactory as could be wished or expected ; and I have accordingly taken the above stated values of *b*, *c*, and *d*, for the whole period under notice.

On a general review of the examination to which the observations in the *Erebus* and *Terror* in this and the preceding voyage have been subjected, in reference to the magnetic influence of their iron, we find reason to conclude from the consistent experience of both voyages, that the disturbance in them was altogether such as would be occasioned by the magnetism induced in the soft iron of the ship by the magnetism of the earth,—if we permit ourselves to include as possessing the quality of softness, certain portions of iron which, though not permanently magnetic, do still retain polarity, and require some time to conform to the changes in magnetical relations induced by changes of geographical position. It is not improbable that this may be a general case in sailing vessels similar to the *Erebus* and *Terror* ; but we should by no means be warranted in deriving a corresponding inference in regard to ships which contain steam machinery, and still less in the case of iron vessels. These may possibly possess permanent magnetism strictly so called ; in addition to induced magnetism, and temporarily-abiding polarity. It is very desirable that we should have some means of judging of what may be expected in vessels of these two classes. The knowledge would be valuable were it only for the compass corrections necessary for the ordinary purposes of navigation ; and it appears indispensable before a correct judgment can be formed of the confidence to which methods may be entitled, which have been already, or may hereafter be devised, to supersede these corrections by the employment of compensating forces. It is not necessary that steam or iron-built ships should perform voyages like those of the *Erebus* and *Terror* to procure this knowledge ; a voyage from the British Channel to the Tropics would be sufficient ; the ship should be swung before her departure from these islands, and immediately on her arrival in the Tropics, and at intervals of three or six months during her continuance there ; the experiment should also be repeated on her return to England before any material alteration is made in the distribution of her iron.

#### *Index Correction.*

*Index Correction of R. F. 5 for the Observations of the Inclination in the Erebus.*—The observations at sea with this needle having been made in the one position of the instrument only, viz. with the face of the circle towards the east, and the marked side of the needle towards the observer,—we have to obtain the index correction, by comparing the inclinations observed in the same manner on shore, or on the ice, with the results given at the same places by needles of which the poles were reversed and the needle and circle used in the eight ordinary positions.

The stations which furnish this comparison are Hobarton, Sydney, New Zealand, the Falkland Islands, and two stations on the ice in the latitudes of  $-63^{\circ} 23'$  and  $-65^{\circ} 49'$ . The results of the observations at Hobarton with needles with which the complete process for determining the inclination was gone through, were given in No. V. of these Contributions\*. Those at the other five stations are as follows :—

\* Philosophical Transactions, 1843, Part II. p. 165.

Observations of the Inclination, with Needles whose Poles were reversed, made at Garden Island, Sydney, July 1841.

| Date.             | Hour.            | Needle. | Poles.<br>$\alpha$ direct.<br>$\beta$ reversed. | Mean.              | Remarks.                            |
|-------------------|------------------|---------|---|--------------------|-------------------------------------|
| 1841.<br>July 20. | h m<br>9 20 A.M. | R 4     | $\alpha -62^{\circ} 52.5$<br>$\beta -62 46.5$   | $-62^{\circ} 49.5$ | Needles belonging to H.M.S. Erebus. |
| 20.               | 10 45 A.M.       | R 10    | $\alpha -62 57.5$<br>$\beta -62 33.7$           | $-62 45.6$         |                                     |
| 20.               | 1 00 P.M.        | R 6     | $\alpha -62 50.1$<br>$\beta -62 58.5$           | $-62 54.3$         |                                     |
| 20.               | 2 15 P.M.        | R 7     | $\alpha -62 53.9$<br>$\beta -62 51.9$           | $-62 52.9$         |                                     |
| 20.               | 9 00 A.M.        | C 1     | $\alpha -62 48.2$<br>$\beta -62 45.6$           | $-62 46.9$         | Needles belonging to H.M.S. Terror. |
|                   |                  | C 2     | $\alpha -62 49.6$<br>$\beta -62 40.5$           | $-62 45.1$         |                                     |
|                   |                  |         |   | $-62 49.1$         | General Mean.                       |

Observations of the Inclination, with Needles whose Poles were reversed, made at the Bay of Islands, New Zealand, August to November 1841.

| Date.               | Hour.            | Needle. | Poles.<br>$\alpha$ direct.<br>$\beta$ reversed. | Mean.              | Remarks.                            |
|---------------------|------------------|---------|---|--------------------|-------------------------------------|
| 1841.<br>August 23. | h m<br>2 10 P.M. | R 10    | $\alpha -59^{\circ} 46.1$<br>$\beta -59 16.9$   | $-59^{\circ} 31.5$ | Needles belonging to H.M.S. Erebus. |
| 23.                 | 3 10 P.M.        | R 4     | $\alpha -59 38.5$<br>$\beta -59 27.5$           | $-59 33.0$         |                                     |
| 24.                 | 8 40 A.M.        | R 4     | $\alpha -59 38.4$<br>$\beta -59 25.8$           | $-59 32.1$         |                                     |
| 24.                 | 9 45 A.M.        | R 10    | $\alpha -59 53.9$<br>$\beta -59 21.3$           | $-59 37.4$         |                                     |
| 24.                 | 11 00 A.M.       | R 6     | $\alpha -59 28.8$<br>$\beta -59 34.0$           | $-59 31.4$         |                                     |
| 24.                 | 1 10 P.M.        | R 7     | $\alpha -59 30.3$<br>$\beta -59 30.6$           | $-59 30.4$         |                                     |
| October 5.          | 4 00 P.M.        | R 4     | $\alpha -59 39.7$<br>$\beta -59 27.3$           | $-59 33.5$         |                                     |
| 12.                 | 7 00 A.M.        | R 4     | $\alpha -59 35.2$<br>$\beta -59 27.9$           | $-59 31.8$         |                                     |
| 26.                 | 6 35 A.M.        | R 4     | $\alpha -59 35.7$<br>$\beta -59 28.1$           | $-59 31.9$         |                                     |
| 26.                 | 9 35 A.M.        | R 10    | $\alpha -59 50.5$<br>$\beta -59 26.6$           | $-59 38.5$         |                                     |
| 26.                 | 10 35 A.M.       | R 6     | $\alpha -59 30.1$<br>$\beta -59 31.4$           | $-59 30.8$         |                                     |
| 26.                 | 1 30 P.M.        | R 7     | $\alpha -59 32.4$<br>$\beta -59 36.2$           | $-59 34.3$         |                                     |
| August 23.          | 9 00 A.M.        | C 1     | $\alpha -59 30.0$<br>$\beta -59 27.8$           | $-59 28.9$         | Needles belonging to H.M.S. Terror. |
| 23.                 | 11 30 A.M.       | C 2     | $\alpha -59 31.4$<br>$\beta -59 22.7$           | $-59 27.0$         |                                     |
| November 6.         | 9 00 A.M.        | C 1     | $\alpha -59 32.5$<br>$\beta -59 28.1$           | $-59 30.3$         |                                     |
| 6.                  | 10 30 A.M.       | C 2     | $\alpha -59 32.8$<br>$\beta -59 20.8$           | $-59 26.8$         |                                     |
|                     |                  |         |   | $-59 31.9$         | General Mean.                       |

Observations of the Inclination with Needles whose Poles were reversed, made on the ice.

| Date.                 | Lat.              | Long.             | Needle. | Poles.<br>$\alpha$ direct.<br>$\beta$ reversed.       | Mean.              | Remarks.                               |
|-----------------------|-------------------|-------------------|---------|---|--------------------|--|
| 1841.<br>December 19. | $-63^{\circ} 23'$ | $210^{\circ} 02'$ | R 4     | $\alpha -77^{\circ} 23.1$<br>$\beta -77^{\circ} 23.4$ | $-77^{\circ} 23.3$ | Needles belonging to<br>H.M.S. Erebus. |
| 23.                   | $-65^{\circ} 59'$ | $204^{\circ} 14'$ | R 4     | $\alpha -79^{\circ} 32.0$<br>$\beta -79^{\circ} 24.7$ | $-79^{\circ} 28.4$ |  |
| 23.                   | $-65^{\circ} 59'$ | $204^{\circ} 14'$ | R 6     | $\alpha -79^{\circ} 35.6$<br>$\beta -79^{\circ} 31.5$ | $-79^{\circ} 33.6$ |  |
| 1842.<br>January 16.  | $-65^{\circ} 49'$ | $202^{\circ} 02'$ | R 4     | $\alpha -79^{\circ} 40.5$<br>$\beta -79^{\circ} 34.4$ | $-79^{\circ} 37.4$ |  |
| 16.                   | $-65^{\circ} 49'$ | $202^{\circ} 02'$ | R 6     | $\alpha -79^{\circ} 36.2$<br>$\beta -79^{\circ} 42.9$ | $-79^{\circ} 39.6$ |  |
| 16.                   | $-65^{\circ} 49'$ | $202^{\circ} 02'$ | R 7     | $\alpha -79^{\circ} 41.8$<br>$\beta -79^{\circ} 41.0$ | $-79^{\circ} 41.4$ |  |

Observations of the Inclination, with Needles whose Poles were reversed, made at the Magnetic Observatory at Port Louis, in the Falkland Islands, April to August 1842.

| Date.              | Hour.            | Needle. | Poles.<br>$\alpha$ direct.<br>$\beta$ reversed.       | Mean.              | Remarks.                            |
|--------------------|------------------|---------|---|--------------------|-------------------------------------|
| 1842.<br>April 12. | h m<br>1 30 P.M. | R 4     | $\alpha -52^{\circ} 33.5$<br>$\beta -52^{\circ} 16.7$ | $-52^{\circ} 25.1$ | Needles belonging to H.M.S. Erebus. |
| 12.                | 3 30 P.M.        | R 6     | $\alpha -52^{\circ} 26.0$<br>$\beta -52^{\circ} 32.0$ | $-52^{\circ} 29.0$ |                                     |
| 12.                | 3 30 P.M.        | R 7     | $\alpha -52^{\circ} 30.8$<br>$\beta -52^{\circ} 30.9$ | $-52^{\circ} 30.8$ |                                     |
| 15.                | 8 20 A.M.        | R 4     | $\alpha -52^{\circ} 36.8$<br>$\beta -52^{\circ} 16.3$ | $-52^{\circ} 26.6$ |                                     |
| 15.                | 3 10 P.M.        | R 4     | $\alpha -52^{\circ} 39.9$<br>$\beta -52^{\circ} 12.4$ | $-52^{\circ} 26.2$ |                                     |
| 19.                | 8 00 A.M.        | R 4     | $\alpha -52^{\circ} 36.9$<br>$\beta -52^{\circ} 17.8$ | $-52^{\circ} 27.3$ |                                     |
| 19.                | 3 30 P.M.        | R 4     | $\alpha -52^{\circ} 35.8$<br>$\beta -52^{\circ} 16.2$ | $-52^{\circ} 26.3$ |                                     |
| 22.                | 8 00 A.M.        | R 4     | $\alpha -52^{\circ} 36.3$<br>$\beta -52^{\circ} 16.8$ | $-52^{\circ} 26.5$ |                                     |
| 22.                | 3 30 P.M.        | R 4     | $\alpha -52^{\circ} 36.8$<br>$\beta -52^{\circ} 15.3$ | $-52^{\circ} 26.1$ |                                     |
| 26.                | 8 00 A.M.        | R 4     | $\alpha -52^{\circ} 35.9$<br>$\beta -52^{\circ} 10.3$ | $-52^{\circ} 23.1$ |                                     |
| 26.                | 3 30 P.M.        | R 4     | $\alpha -52^{\circ} 36.0$<br>$\beta -52^{\circ} 08.7$ | $-52^{\circ} 22.3$ |                                     |
| 29.                | 8 00 A.M.        | R 4     | $\alpha -52^{\circ} 38.3$<br>$\beta -52^{\circ} 18.8$ | $-52^{\circ} 28.6$ |                                     |
| May 3.             | 8 00 A.M.        | R 4     | $\alpha -52^{\circ} 35.8$<br>$\beta -52^{\circ} 06.4$ | $-52^{\circ} 21.1$ |                                     |
| 3.                 | 3 30 P.M.        | R 4     | $\alpha -52^{\circ} 36.8$<br>$\beta -52^{\circ} 16.9$ | $-52^{\circ} 26.8$ |                                     |
| 6.                 | 8 00 A.M.        | R 4     | $\alpha -52^{\circ} 36.3$<br>$\beta -52^{\circ} 17.1$ | $-52^{\circ} 26.7$ |                                     |
| 6.                 | 3 30 P.M.        | R 4     | $\alpha -52^{\circ} 37.3$<br>$\beta -52^{\circ} 14.9$ | $-52^{\circ} 26.1$ |                                     |

## Observations of Inclination. (Continued.)

| Date.            | Hour.             | Needle. | Poles.<br>$\alpha$ direct.<br>$\beta$ reversed.       | Mean.              | Remarks.                              |
|------------------|-------------------|---------|---|--------------------|---------------------------------------|
| 1842.<br>May 10. | h m<br>10 30 A.M. | R 4     | $\alpha -52^{\circ} 31.2$<br>$\beta -52^{\circ} 25.2$ | $-52^{\circ} 28.2$ | } Needles belonging to H.M.S. Erebus. |
| 10.              | 3 00 P.M.         | R 4     | $\alpha -52^{\circ} 24.3$<br>$\beta -52^{\circ} 30.6$ | $-52^{\circ} 27.5$ |                                       |
| 13.              | 8 00 A.M.         | R 4     | $\alpha -52^{\circ} 36.7$<br>$\beta -52^{\circ} 14.5$ | $-52^{\circ} 25.6$ |                                       |
| 13.              | 3 30 P.M.         | R 4     | $\alpha -52^{\circ} 37.0$<br>$\beta -52^{\circ} 13.5$ | $-52^{\circ} 25.3$ |                                       |
| 17.              | 8 00 A.M.         | R 4     | $\alpha -52^{\circ} 35.6$<br>$\beta -52^{\circ} 15.3$ | $-52^{\circ} 25.5$ |                                       |
| 17.              | 3 30 P.M.         | R 4     | $\alpha -52^{\circ} 33.4$<br>$\beta -52^{\circ} 17.7$ | $-52^{\circ} 25.5$ |                                       |
| 20.              | 8 00 A.M.         | R 4     | $\alpha -52^{\circ} 36.8$<br>$\beta -52^{\circ} 13.2$ | $-52^{\circ} 25.0$ |                                       |
| 20.              | 3 30 P.M.         | R 4     | $\alpha -52^{\circ} 34.3$<br>$\beta -52^{\circ} 13.0$ | $-52^{\circ} 23.7$ |                                       |
| 24.              | 8 00 A.M.         | R 4     | $\alpha -52^{\circ} 36.5$<br>$\beta -52^{\circ} 18.6$ | $-52^{\circ} 27.7$ |                                       |
| 24.              | 3 30 P.M.         | R 4     | $\alpha -52^{\circ} 37.6$<br>$\beta -52^{\circ} 17.7$ | $-52^{\circ} 27.7$ |                                       |
| 27.              | 8 00 A.M.         | R 4     | $\alpha -52^{\circ} 23.5$<br>$\beta -52^{\circ} 12.5$ | $-52^{\circ} 23.0$ |                                       |
| 27.              | 3 30 P.M.         | R 4     | $\alpha -52^{\circ} 32.8$<br>$\beta -52^{\circ} 14.0$ | $-52^{\circ} 23.4$ |                                       |
| June 1.          | 8 00 A.M.         | R 4     | $\alpha -52^{\circ} 37.1$<br>$\beta -52^{\circ} 16.0$ | $-52^{\circ} 26.5$ |                                       |
| 1.               | 3 30 P.M.         | R 4     | $\alpha -52^{\circ} 35.3$<br>$\beta -52^{\circ} 16.2$ | $-52^{\circ} 25.7$ |                                       |
| 4.               | 8 00 A.M.         | R 4     | $\alpha -52^{\circ} 35.4$<br>$\beta -52^{\circ} 17.7$ | $-52^{\circ} 26.5$ |                                       |
| 4.               | 3 30 P.M.         | R 4     | $\alpha -52^{\circ} 36.3$<br>$\beta -52^{\circ} 16.9$ | $-52^{\circ} 26.6$ |                                       |
| 7.               | 8 00 A.M.         | R 4     | $\alpha -52^{\circ} 36.4$<br>$\beta -52^{\circ} 15.4$ | $-52^{\circ} 25.9$ |                                       |
| 7.               | 8 00 A.M.         | R 4     | $\alpha -52^{\circ} 29.0$<br>$\beta -52^{\circ} 13.7$ | $-52^{\circ} 26.4$ |                                       |
| 10.              | 8 00 A.M.         | R 4     | $\alpha -52^{\circ} 38.4$<br>$\beta -52^{\circ} 16.4$ | $-52^{\circ} 27.4$ |                                       |
| 10.              | 3 30 P.M.         | R 4     | $\alpha -52^{\circ} 35.9$<br>$\beta -52^{\circ} 17.6$ | $-52^{\circ} 26.8$ |                                       |
| 14.              | 8 00 A.M.         | R 4     | $\alpha -52^{\circ} 35.8$<br>$\beta -52^{\circ} 16.2$ | $-52^{\circ} 26.0$ |                                       |
| 14.              | 3 30 P.M.         | R 4     | $\alpha -52^{\circ} 41.3$<br>$\beta -52^{\circ} 13.2$ | $-52^{\circ} 27.3$ |                                       |
| 17.              | 8 00 A.M.         | R 4     | $\alpha -52^{\circ} 34.8$<br>$\beta -52^{\circ} 14.7$ | $-52^{\circ} 24.8$ |                                       |
| 17.              | 10 00 A.M.        | R 6     | $\alpha -52^{\circ} 20.4$<br>$\beta -52^{\circ} 28.0$ | $-52^{\circ} 24.2$ |                                       |
| 17.              | 11 00 A.M.        | R 7     | $\alpha -52^{\circ} 32.1$<br>$\beta -52^{\circ} 23.4$ | $-52^{\circ} 27.8$ |                                       |
| 17.              | 3 30 P.M.         | R 4     | $\alpha -52^{\circ} 34.0$<br>$\beta -52^{\circ} 13.6$ | $-52^{\circ} 23.8$ |                                       |
| 21.              | 8 00 A.M.         | R 4     | $\alpha -52^{\circ} 29.9$<br>$\beta -52^{\circ} 18.6$ | $-52^{\circ} 24.2$ |                                       |
| 21.              | 3 30 P.M.         | R 4     | $\alpha -52^{\circ} 29.7$<br>$\beta -52^{\circ} 19.9$ | $-52^{\circ} 24.8$ |                                       |

## Observations of Inclination. (Continued.)

| Date.      | Hour.      | Needle. | Poles.<br>$\alpha$ direct.<br>$\beta$ reversed. | Mean.              | Remarks.                            |
|------------|------------|---------|---|--------------------|-------------------------------------|
| 1842.      | h m        |         |   |                    |                                     |
| June 28.   | 8 00 A.M.  | R 4     | $\alpha -52^{\circ} 28.8$<br>$\beta -52 14.1$   | $-52^{\circ} 21.5$ | Needles belonging to H.M.S. Erebus. |
| July 1.    | 3 30 P.M.  | R 4     | $\alpha -52 37.7$<br>$\beta -52 03.6$           | $-52 20.7$         |                                     |
| 5.         | 8 00 A.M.  | R 4     | $\alpha -52 28.7$<br>$\beta -52 14.3$           | $-52 21.5$         |                                     |
| 8.         | 3 30 P.M.  | R 4     | $\alpha -52 35.4$<br>$\beta -52 11.5$           | $-52 23.5$         |                                     |
| 12.        | 8 00 A.M.  | R 4     | $\alpha -52 34.1$<br>$\beta -52 11.9$           | $-52 23.0$         |                                     |
| 15.        | 3 30 P.M.  | R 4     | $\alpha -52 35.6$<br>$\beta -52 09.7$           | $-52 22.7$         |                                     |
| 19.        | 8 00 A.M.  | R 4     | $\alpha -52 32.8$<br>$\beta -52 11.6$           | $-52 22.2$         |                                     |
| 22.        | 3 30 P.M.  | R 4     | $\alpha -52 31.8$<br>$\beta -52 14.8$           | $-52 23.3$         |                                     |
| August 2.  | 8 00 A.M.  | R 4     | $\alpha -52 32.6$<br>$\beta -52 16.1$           | $-52 24.3$         |                                     |
| 9.         | 8 00 A.M.  | R 4     | $\alpha -52 33.4$<br>$\beta -52 11.9$           | $-52 22.6$         |                                     |
| 12.        | 3 30 P.M.  | R 4     | $\alpha -52 32.7$<br>$\beta -52 13.8$           | $-52 23.2$         |                                     |
| 16.        | 8 00 A.M.  | R 4     | $\alpha -52 29.9$<br>$\beta -52 10.1$           | $-52 20.0$         |                                     |
| 19.        | 3 30 P.M.  | R 4     | $\alpha -52 38.4$<br>$\beta -52 11.9$           | $-52 25.2$         |                                     |
| 23.        | 8 00 A.M.  | R 4     | $\alpha -52 10.0$<br>$\beta -52 34.0$           | $-52 22.0$         |                                     |
| 23.        | 9 00 A.M.  | R 6     | $\alpha -52 25.7$<br>$\beta -52 19.3$           | $-52 22.5$         |                                     |
| 23.        | 10 00 A.M. | R 7     | $\alpha -52 30.9$<br>$\beta -52 17.5$           | $-52 24.2$         |                                     |
| April 15.  | 8 00 A.M.  | C 1     | $\alpha -52 47.0$<br>$\beta -52 21.7$           | $-52 34.3$         | Needles belonging to H.M.S. Terror. |
| 15.        | 3 00 P.M.  | C 1     | $\alpha -52 46.1$<br>$\beta -52 24.9$           | $-52 35.5$         |                                     |
| 19.        | 8 45 A.M.  | C 1     | $\alpha -52 43.3$<br>$\beta -52 20.2$           | $-52 31.8$         |                                     |
| 19.        | 3 45 P.M.  | C 1     | $\alpha -52 42.8$<br>$\beta -52 21.6$           | $-52 32.2$         |                                     |
| June 15.   | 8 00 A.M.  | C 1     | $\alpha -52 40.4$<br>$\beta -52 24.4$           | $-52 32.4$         |                                     |
| 15.        | 9 00 A.M.  | C 2     | $\alpha -52 37.8$<br>$\beta -52 20.9$           | $-52 29.4$         |                                     |
| 15.        | 3 00 A.M.  | C 1     | $\alpha -52 39.9$<br>$\beta -52 23.4$           | $-52 31.7$         |                                     |
| 15.        | 3 40 A.M.  | C 2     | $\alpha -52 35.4$<br>$\beta -52 23.2$           | $-52 29.3$         |                                     |
| July 26.   | 8 40 A.M.  | C 1     | $\alpha -52 44.9$<br>$\beta -52 23.5$           | $-52 34.2$         |                                     |
| 26.        | 10 30 A.M. | C 2     | $\alpha -52 38.6$<br>$\beta -52 15.3$           | $-52 26.9$         |                                     |
| August 17. | 10 00 A.M. | C 1     | $\alpha -52 50.4$<br>$\beta -52 21.0$           | $-52 35.7$         |                                     |
| 17.        | 10 30 A.M. | C 2     | $\alpha -52 36.2$<br>$\beta -52 14.1$           | $-52 25.1$         |                                     |
| 23.        | 9 30 A.M.  | C 1     | $\alpha -52 39.9$<br>$\beta -52 24.9$           | $-52 32.4$         |                                     |
| 23.        | 11 00 A.M. | C 2     | $\alpha -52 33.8$<br>$\beta -52 19.2$           | $-52 26.5$         |                                     |
| 23.        | 11 40 A.M. |         |   |                    |                                     |
|            |            |         |   | $-52 26.2$         | General Mean.                       |

From these observations we have the true inclination at these six stations as follows :—

|                                      |     |           |
|--------------------------------------|-----|-----------|
| On ice, lat.—65° 49'. Long. 202° 02' | . . | 79° 39' 5 |
| On ice, lat.—63° 23'. Long. 210° 02' | . . | 77° 23' 3 |
| Hobarton . . . . .                   |     | 70° 40' 7 |
| Sydney . . . . .                     |     | 62° 49' 1 |
| New Zealand . . . . .                |     | 59° 31' 9 |
| Falkland Islands . . . . .           |     | 52° 26' 2 |

The observations with R. F. 5, at the same stations, and at the same spots on shore, or on the ice, gave as follows :—

|           | On Ice.<br>Lat. —65° 49'.<br>Long. 202° 02'. | On Ice.<br>Lat. —63° 23'.<br>Long. 210° 02'. | Hobarton.         | Sydney.           | New Zealand.      | Falkland Islands. |
|-----------|--|--|-------------------|-------------------|-------------------|-------------------|
| Face East | —79° 35' 6                                   | —77° 15' 5                                   | —70° 26' 4        | —62° 46' 3        | —59° 29' 8        | —52° 32' 9        |
| Face West | —80° 39' 2                                   | —78° 20' 3                                   | —71° 20' 3        | —63° 44' 3        | —60° 27' 9        | —53° 34' 7        |
| Mean      | <u>—80° 07' 4</u>                            | <u>—77° 47' 9</u>                            | <u>—70° 53' 4</u> | <u>—63° 15' 3</u> | <u>—59° 58' 8</u> | <u>—53° 03' 8</u> |

We have thus the following index corrections :—

|                 |               |               |               |               |               |               |
|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Face East       | — 3' 8        | — 7' 8        | —14' 3        | — 2' 8        | — 2' 1        | + 6' 7        |
| Face West       | +59' 7        | +57' 0        | +39' 6        | +55' 2        | +56' 0        | +68' 5        |
| Mean correction | <u>+27' 9</u> | <u>+24' 6</u> | <u>+12' 7</u> | <u>+26' 2</u> | <u>+26' 9</u> | <u>+37' 6</u> |

and the difference of the results with the face east and face west as follows :—

|       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|
| 63' 6 | 64' 8 | 53' 9 | 58' 0 | 58' 1 | 61' 8 |
|-------|-------|-------|-------|-------|-------|

From the signs and numerical values of the corrections of the *mean results* with R. F. 5, we may infer that the axis of rotation in this needle deviated from the centre of gravity in the longitudinal direction, so as to cause the south end of the needle slightly to preponderate. From the differences of the results with the face east and face west, it appears that there was also a small deviation in the axis of rotation from the centre of gravity in the perpendicular direction. In the results with the face east, these two sources of error partially counteracted each other, so that the index correction with the face east amounted at no time to more than a very few minutes.

The corrections which have been applied to the observations have been taken from the following table, in which the correction for  $-70^\circ$  has been taken as  $-5' 8$ , and the change in the correction, corresponding to an increase of one degree in the south dip, as  $-0' 5$ . In forming this table the determinations on land have been allowed a greater weight than the determinations upon the ice, the latter consisting of fewer observations, and being made probably under circumstances less favourable for this particular purpose.

Table of Index corrections for R. F. 5, face East, between  $-52^{\circ}$  and  $-85^{\circ}$ .

| Inclination. | Correction. | Inclination. | Correction. |
|--------------|-------------|--------------|-------------|
| $-52$        | $+3.2$      | $-69$        | $-5.3$      |
| $-53$        | $+2.7$      | $-70$        | $-5.8$      |
| $-54$        | $+2.2$      | $-71$        | $-6.3$      |
| $-55$        | $+1.7$      | $-72$        | $-6.8$      |
| $-56$        | $+1.2$      | $-73$        | $-7.3$      |
| $-57$        | $+0.7$      | $-74$        | $-7.8$      |
| $-58$        | $+0.2$      | $-75$        | $-8.3$      |
| $-59$        | $-0.3$      | $-76$        | $-8.8$      |
| $-60$        | $-0.8$      | $-77$        | $-9.3$      |
| $-61$        | $-1.3$      | $-78$        | $-9.8$      |
| $-62$        | $-1.8$      | $-79$        | $-10.3$     |
| $-63$        | $-2.3$      | $-80$        | $-10.8$     |
| $-64$        | $-2.8$      | $-81$        | $-11.3$     |
| $-65$        | $-3.3$      | $-82$        | $-11.8$     |
| $-66$        | $-3.8$      | $-83$        | $-12.3$     |
| $-67$        | $-4.3$      | $-84$        | $-12.8$     |
| $-68$        | $-4.8$      | $-85$        | $-13.3$     |

*Index Correction of F. C. B. for the Observations of Inclination in the Terror.*—The observations of inclination at sea in this ship were all made with the face of the instrument towards the east, and with the marked face of the needle towards the observer. We may examine the index corrections consequently in the same manner, and by comparison with the same complete determinations as in the case of the needle of the Erebus; confining the comparison however to the land stations, because F. C. B. was not observed with at either of the ice stations.

The inclinations taken with this needle were observed both direct and with the aid of deflectors; the deflectors employed were a spare needle as “deflector N” and “deflector S”; and the magnets of the apparatus, either used separately as “magnet N,” or “magnet S,” or conjointly as “magnets N S.” From some instrumental accident, the inclinations observed with “deflector N” were always considerably in defect of the others when the face of the circle was east; with a corresponding excess with the face west, on the few occasions on shore when the observations were made in both positions. As the observations at sea were exclusively with the face east, it has been necessary on this account to consider separately those amongst them which were taken with “deflector N,” and to obtain a distinct index correction for them. We will first examine the index corrections required for the direct observations, and for those with the other deflectors.

The observations with F. C. B. on shore at the four land stations, where the com-

plete process for determining the true inclination was gone through with other needles, were as follows:—

|                                |             | Hobarton.   | Sydney.     | New Zealand. | Falkland Islands. |
|--------------------------------|-------------|-------------|-------------|--------------|-------------------|
| Observed . . .                 | { Face East | —70° 17'·3  | —62° 22'·4  | —58° 50'·6   | —51° 38'·4        |
|                                | { Face West | —70 44·8    | —62 56·5    | —60 02·8     | —52 57·2          |
| Mean . . . .                   |             | —70 31·1    | —62 39·5    | —59 26·7     | —52 17·8          |
| True inclination               |             | —70 40·7    | —62 49·1    | —59 31·9     | —52 26·3          |
| Index correction               | { Face East | —23·4       | —26·7       | —41·3        | —47·9             |
|                                | { Face West | + 4·1       | + 7·4       | +30·9        | +30·9             |
|                                | { Mean . .  | — 9·7       | — 9·6       | — 5·2        | — 8·5             |
| Differences face East and West |             | <u>27·5</u> | <u>34·1</u> | <u>72·2</u>  | <u>78·8</u>       |

The corrections of the *mean results* with F. C. B. at the four stations accord well within the limits of observation error. On examining the differences in the results with the face east and face west, and the corrections severally required in the two positions at the four stations, it appears probable that a very slight derangement of some part of the instrument took place between the observations at Sydney and those at the Bay of Islands, which caused the partial results with the face east and face west to diverge more from each other than they had done previously, but without affecting the mean results. A note which accompanied the observations to England shows that Captain CROZIER considered that some slight change had taken place in the amount of the index correction with the face east, but was unable to assign its date or its cause. In the absence of any distinct evidence in these respects,—and in consideration of the insufficiency of the means of assigning the precise amount of the change,—I have preferred the employment of an arithmetical mean of the index corrections observed at the four stations (—35') during the whole course of the voyage. The uncertainty arising from this source cannot amount to more than a very few minutes in any portion of the voyage.

For the index correction with deflector N we have,

|  | Hobarton.    | Sydney.      | New Zealand. | Falkland Islands. |
|--|--------------|--------------|--------------|-------------------|
| Face East . . .                            | —69° 33'·5   | —61° 36'·7   | —57° 58'·0   | —50° 54'·4        |
| Face West . . .                            | —71 25·9     | —63 00·7     | —60 12·3     | —53 31·3          |
| Mean . . . . .                             | —70 29·7     | —62 18·7     | —59 05·1     | —52 12·8          |
| True inclination                           | —70 40·7     | —62 49·1     | —59 31·9     | —52 26·3          |
| Index correction, face East . .            | <u>—67·2</u> | <u>—72·4</u> | <u>—93·9</u> | <u>—91·9</u>      |
| Mean index correction, face East . . . . . |              | <u>—81'</u>  |              |                   |



*Elements of Calculation of the Intensity Observations.*

1. *With Weights.*—The observations of the intensity of the magnetic force, during the period now under consideration, were made in both ships with Mr. Fox's apparatus; those in the Erebus with the same circle which had been used in the previous voyage, and those in the Terror with a circle of the same size as that of the Erebus, being the property of Captain CROZIER, and received by him at Van Diemen Island. The needle employed to show the angles of deflection in the Erebus, marked R. F. 5, was not the same which had been used for that purpose in the voyage of 1840–1841, namely, R. F. 4, which now in its turn was used as a deflector. The weights employed in deflecting the intensity needle were 1, 2, 3, 4, 5 and 6 grains: the angles of deflection obtained with one grain were however too small to yield results of the same satisfactory nature as those derived from the weights from two to six grains, and I have not therefore taken them into the account. The mounted needle in the Terror was marked F. C. B., a spare needle C being used as a deflector, in addition to the deflecting magnets belonging to the apparatus. The weights were 1,  $1\frac{1}{2}$ , 2,  $2\frac{1}{2}$ , 3 and  $3\frac{1}{2}$  grains.

At Hobarton we have the deflections occasioned by the constant weights on the needle of the Erebus, April 1841, as follows:—

| Deflection. Therm. |   |    |      |    | Deflection. Therm. |   |    |      |    |
|--------------------|---|----|------|----|--------------------|---|----|------|----|
| grs.               |   |    |      |    | grs.               |   |    |      |    |
| Face East.         | 2 | 13 | 02.8 | 60 | Face West.         | 2 | 13 | 14.5 | 60 |
|                    | 3 | 19 | 37.2 | 60 |                    | 3 | 19 | 55.5 | 60 |
|                    | 4 | 26 | 47.7 | 60 |                    | 4 | 27 | 02.7 | 58 |
|                    | 5 | 34 | 23.5 | 60 |                    | 5 | 34 | 51.5 | 58 |
|                    | 6 | 42 | 55.7 | 61 |                    | 6 | 43 | 07.3 | 58 |

and in the needle of the Terror as follows:—

| Deflection. Therm. |    |    |      |    | Deflection. Therm. |    |    |      |    |
|--------------------|----|----|------|----|--------------------|----|----|------|----|
| grs.               |    |    |      |    | grs.               |    |    |      |    |
| Face East.         | 1  | 12 | 11.9 | 60 | Face West.         | 1  | 11 | 42.0 | 60 |
|                    | 1½ | 18 | 29.4 | 60 |                    | 1½ | 17 | 52.6 | 60 |
|                    | 2  | 25 | 13.7 | 60 |                    | 2  | 24 | 15.6 | 60 |
|                    | 2½ | 31 | 43.0 | 60 |                    | 2½ | 31 | 00.7 | 60 |
|                    | 3  | 39 | 02.3 | 60 |                    | 3  | 38 | 42.3 | 60 |
|                    | 3½ | 46 | 51.3 | 60 |                    | 3½ | 46 | 06.3 | 60 |

At Sydney, in July 1841, the deflections with the same weights were—

| EREBUS.     |   |         |       |             |   | TERROR. |       |             |    |         |       |            |    |         |    |
|-------------|---|---------|-------|-------------|---|---------|-------|-------------|----|---------|-------|------------|----|---------|----|
| Deflection. |   |         | Ther. | Deflection. |   |         | Ther. | Deflection. |    |         | Ther. |            |    |         |    |
| grs.        |   |         |       | grs.        |   |         |       | grs.        |    |         |       |            |    |         |    |
| Face East.  | 2 | 13 57.4 | 56    | Face West.  | 2 | 14 32.6 | 64    | Face East.  | 1  | 13 08.8 | 60    | Face West. | 1  | 12 44.1 | 60 |
|             | 3 | 21 13.7 | 55    |             | 3 | 21 51.4 | 63    |             | 1½ | 20 02.0 | 60    |            | 1½ | 19 03.3 | 60 |
|             | 4 | 29 09.2 | 55    |             | 4 | 29 32.1 | 64    |             | 2  | 27 00.7 | 60    |            | 2  | 26 01.2 | 60 |
|             | 5 | 37 43.3 | 55    |             | 5 | 37 38.9 | 63    |             | 2½ | 34 25.2 | 60    |            | 2½ | 33 17.7 | 60 |
|             | 6 | 46 51.7 | 55    |             | 6 | 47 32.4 | 63    |             | 3  | 42 06.9 | 60    |            | 3  | 41 35.2 | 60 |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       |             |    |         |       |            |    |         |    |
|             |   |         |       |             |   |         |       | </          |    |         |       |            |    |         |    |

Taking 1·82 as the provisional value of the intensity at Hobarton (Phil. Trans. 1843, Part II. p. 186)\*, we have its value at Sydney, by the needles of the two ships, as follows:—

| EREBUS. |              |              | TERROR. |              |              |
|---------|--------------|--------------|---------|--------------|--------------|
| grs.    | Face East.   | Face West.   | grs.    | Face East.   | Face West.   |
| 2       | 1·703        | 1·662        | 1       | 1·691        | 1·674        |
| 3       | 1·687        | 1·667        | 1½      | 1·685        | 1·712        |
| 4       | 1·683        | 1·680        | 2       | 1·708        | 1·705        |
| 5       | 1·680        | 1·704        | 2½      | 1·692        | 1·709        |
| 6       | 1·698        | 1·688        | 3       | 1·709        | 1·715        |
|         | <u>1·690</u> | <u>1·680</u> | 3½      | 1·703        | 1·687        |
|         | <u>1·685</u> |              |         | <u>1·698</u> | <u>1·700</u> |
|         |              |              |         | <u>1·699</u> |              |

At the Bay of Islands in New Zealand, in August and October 1841, the deflections were as follows:—

| EREBUS.    |                   |             |       |            |    |             |       |
|------------|-------------------|-------------|-------|------------|----|-------------|-------|
| August.    |                   |             |       | October.   |    |             |       |
|            |                   | Deflection. | Ther. |            |    | Deflection. | Ther. |
| Face East. | 2 <sup>grs.</sup> | 14 59·3     | 59    | Face West. | 15 | 23·3        | 60    |
|            | 3                 | 22 47·5     | 59    |            | 23 | 17·9        | 59    |
|            | 4                 | 30 55·0     | 59    |            | 30 | 26·9        | 59    |
|            | 5                 | 40 10·5     | 58    |            | 40 | 52·0        | 60    |
|            | 6                 | 50 38·1     | 58    |            | 51 | 26·0        | 61    |
|            |                   | Deflection. | Ther. | Face East. | 14 | 43·2        | 68    |
|            |                   | Deflection. | Ther. |            | 22 | 45·0        | 70    |
|            |                   | Deflection. | Ther. |            | 30 | 30·6        | 70    |
|            |                   | Deflection. | Ther. |            | 39 | 59·3        | 70    |
|            |                   | Deflection. | Ther. |            | 50 | 35·0        | 71    |
| Face West. | 15                | 11·1        | 64    | Face West. | 15 | 11·1        | 64    |
|            | 23                | 17·2        | 64    |            | 23 | 17·2        | 64    |
|            | 31                | 29·2        | 65    |            | 31 | 29·2        | 65    |
|            | 40                | 51·0        | 65    |            | 40 | 51·0        | 65    |
|            | 51                | 38·7        | 65    |            | 51 | 38·7        | 65    |

| TERROR.    |                   |             |       |            |    |             |       |
|------------|-------------------|-------------|-------|------------|----|-------------|-------|
| August.    |                   |             |       | October.   |    |             |       |
|            |                   | Deflection. | Ther. |            |    | Deflection. | Ther. |
| Face East. | 1 <sup>grs.</sup> | 14 03·2     | 59    | Face West. | 13 | 24·3        | 59    |
|            | 1½                | 21 17·9     | 59    |            | 20 | 30·5        | 59    |
|            | 2                 | 28 22·1     | 59    |            | 27 | 46·9        | 59    |
|            | 2½                | 36 50·7     | 59    |            | 35 | 43·0        | 59    |
|            | 3                 | 44 58·3     | 59    |            | 44 | 38·7        | 59    |
| Face West. | 3½                | 55 09·9     | 59    | Face West. | 55 | 23·7        | 59    |
|            |                   |             |       |            |    |             |       |
|            |                   | Deflection. | Ther. | Face East. | 13 | 51·7        | 64    |
|            |                   | Deflection. | Ther. |            | 20 | 53·0        | 64    |
|            |                   | Deflection. | Ther. |            | 28 | 22·4        | 64    |
|            |                   | Deflection. | Ther. |            | 37 | 05·6        | 64    |
|            |                   | Deflection. | Ther. |            | 45 | 02·2        | 64    |
| Face West. | 13                | 26·8        | 64    | Face West. | 13 | 26·8        | 64    |
|            | 20                | 16·4        | 64    |            | 20 | 16·4        | 64    |
|            | 27                | 38·8        | 64    |            | 27 | 38·8        | 64    |
|            | 35                | 45·1        | 64    |            | 35 | 45·1        | 64    |
|            | 44                | 47·7        | 64    |            | 44 | 47·7        | 64    |
| Face East. | 55                | 26·4        | 64    | Face East. | 55 | 26·4        | 64    |
|            |                   |             |       |            |    |             |       |

whence we have the intensity at the Bay of Islands, by the needles of the two ships, as follows:—

\*  $1·82 + e$  being the true value, in which  $e$  is a small correction to be determined hereafter, applicable to the whole series of observations depending on Hobarton as a primary station.

EREBUS.

August.

October.

| grs. | Face East.   | Face West.   | Face East.   | Face West.   |
|------|--------------|--------------|--------------|--------------|
| 2    | 1·590        | 1·571        | 1·620        | 1·593        |
| 3    | 1·578        | 1·568        | 1·583        | 1·570        |
| 4    | 1·597        | 1·633        | 1·619        | 1·586        |
| 5    | 1·594        | 1·590        | 1·603        | 1·591        |
| 6    | 1·604        | 1·591        | 1·608        | 1·588        |
|      | <u>1·593</u> | <u>1·591</u> | <u>1·607</u> | <u>1·586</u> |
|      | <u>1·592</u> |              |              | <u>1·596</u> |
|      |              | 1·594        |              |              |

**TERROR.**

August.

October.

| grs. | Face East.   | Face West.   | Face East.   | Face West.   |
|------|--------------|--------------|--------------|--------------|
| 1    | 1'584        | 1'592        | 1'606        | 1'588        |
| 1½   | 1'601        | 1'595        | 1'620        | 1'616        |
| 2    | 1'633        | 1'605        | 1'633        | 1'613        |
| 2½   | 1'596        | 1'607        | 1'587        | 1'606        |
| 3    | 1'622        | 1'619        | 1'621        | 1'616        |
| 3½   | 1'618        | 1'594        | 1'616        | 1'594        |
|      | <u>1'609</u> | <u>1'602</u> | <u>1'614</u> | <u>1'605</u> |
|      | <u>1'605</u> |              |              | <u>1'609</u> |
|      |              | 1'607        |              |              |

At Port Louis in the Falkland Islands, in July and August 1842, the deflections were—

EREBUS.

April.

| Face East. |      |             |       | Face West. |      |             |       | Face East. |      |             |       | Face West. |      |             |       |
|------------|------|-------------|-------|------------|------|-------------|-------|------------|------|-------------|-------|------------|------|-------------|-------|
|            | grs. | Deflection. | Ther. |            | grs. | Deflection. | Ther. |            | grs. | Deflection. | Ther. |            | grs. | Deflection. | Ther. |
| {          | 2    | 18 31.1     | 45    | {          | 2    | 18 50.4     | 42    | {          | 2    | 17 57.1     | 37    | {          | 2    | 18 32.9     | 39    |
|            | 3    | 27 42.7     | 45    |            | 3    | 28 30.0     | 42    |            | 3    | 27 43.3     | 37    |            | 3    | 28 26.6     | 40    |
|            | 4    | 37 58.5     | 43    |            | 4    | 38 51.0     | 41    |            | 4    | 37 40.4     | 37    |            | 4    | 39 05.3     | 40    |
|            | 5    | 48 55.9     | 43    |            | 5    | 51 27.9     | 41    |            | 5    | 49 31.4     | 38    |            | 5    | 51 19.2     | 40    |
|            | 6    | 66 49.8     | 43    |            | 6    | 68 40.3     | 41    |            | 6    | 67 23.4     | 38    |            | 6    | 69 35.7     | 40    |

**TERROR.**

April.

July.

August.

| Deflection. |    |      |      | Ther. |            |    |      | Deflection. |            |    |      | Ther. |            |      |      | Deflection. |            |    |      | Ther. |            |    |      | Deflection. |  |  |  | Ther. |  |  |  |
|-------------|----|------|------|-------|------------|----|------|-------------|------------|----|------|-------|------------|------|------|-------------|------------|----|------|-------|------------|----|------|-------------|--|--|--|-------|--|--|--|
| grs.        |    |      |      |       |            |    |      |             |            |    |      |       |            |      |      |             |            |    |      |       |            |    |      |             |  |  |  |       |  |  |  |
| Face East.  | 1  | 16   | 56.5 | 43    | Face West. | 16 | 14.1 | 43          | Face East. | 16 | 51.2 | 41    | Face West. | 16   | 26.1 | 41          | Face East. | 17 | 00.4 | 38    | Face West. | 16 | 15.4 | 38          |  |  |  |       |  |  |  |
|             | 1½ | 25   | 36.6 | 43    |            | 24 | 36.9 | 43          |            | 25 | 34.3 | 41    |            | 24   | 27.9 | 41          |            | 25 | 37.3 | 38    |            | 24 | 30.1 | 38          |  |  |  |       |  |  |  |
|             | 2  | 34   | 47.2 | 43    |            | 33 | 44.9 | 43          |            | 34 | 47.8 | 41    |            | 33   | 49.5 | 41          |            | 34 | 24.4 | 38    |            | 33 | 57.8 | 38          |  |  |  |       |  |  |  |
|             | 2½ | 45   | 34.1 | 43    |            | 44 | 31.3 | 43          |            | 45 | 29.7 | 41    |            | 44   | 17.1 | 41          |            | 45 | 20.1 | 38    |            | 44 | 32.3 | 38          |  |  |  |       |  |  |  |
| 3           | 57 | 39.1 | 43   | 58    | 17.8       | 43 | 57   | 48.7        | 41         | 58 | 19.5 | 41    | 57         | 43.6 | 38   | 57          | 35.7       | 38 |      |       |            |    |      |             |  |  |  |       |  |  |  |

whence we have the intensity at Port Louis, by the needles of the two ships, as follows:—

EREBUS.

April.

August.

| grs. | Face East.   | Face West.   | Face East.   | Face West.   |
|------|--------------|--------------|--------------|--------------|
| 2    | 1°291        | 1°288        | 1°330        | 1°306        |
| 3    | 1°311        | 1°296        | 1°310        | 1°299        |
| 4    | 1°331        | 1°315        | 1°339        | 1°309        |
| 5    | 1°361        | 1°326        | 1°347        | 1°329        |
| 6    | 1°345        | 1°332        | 1°339        | 1°324        |
|      | <u>1°328</u> | <u>1°311</u> | <u>1°333</u> | <u>1°313</u> |
|      | <u>1°320</u> |              | <u>1°323</u> |              |
|      |              | 1°322        |              |              |

## TERROR.

April.

July.

August.

| grs. | Face East.   | Face West.   | Face East.   | Face West.   | Face East.   | Face West.   |
|------|--------------|--------------|--------------|--------------|--------------|--------------|
| 1    | 1·316        | 1·316        | 1·323        | 1·301        | 1·311        | 1·315        |
| 1½   | 1·331        | 1·338        | 1·333        | 1·345        | 1·331        | 1·344        |
| 2    | 1·356        | 1·342        | 1·355        | 1·339        | 1·369        | 1·335        |
| 2½   | 1·336        | 1·334        | 1·338        | 1·339        | 1·341        | 1·333        |
| 3    | 1·353        | 1·333        | 1·350        | 1·333        | 1·352        | 1·344        |
|      | <u>1·338</u> | <u>1·332</u> | <u>1·340</u> | <u>1·331</u> | <u>1·341</u> | <u>1·334</u> |
|      | <u>1·335</u> |              | <u>1·336</u> |              | <u>1·337</u> |              |
|      |              |              | 1·336        |              |              |              |

Besides the four land stations at which the intensities shown by the needles of the two ships have been thus compared, we have also one ice station in lat.  $-65^{\circ} 47'$ , long.  $202^{\circ} 08'$ , at which similar comparisons may be instituted. The deflections and intensities were as follows:—

| EREBUS.    |        |             |       |              | TERROR.    |        |             |       |              |
|------------|--------|-------------|-------|--------------|------------|--------|-------------|-------|--------------|
|            |        | Deflection. | Ther. | Intensity.   |            |        | Deflection. | Ther. | Intensity.   |
| Face East. | grs. 2 | 12 13.0     | 50    | 1.940        | Face East. | grs. 1 | 11 25.4     | 53    | 1.940        |
|            | 3      | 18 32.4     | 54    | 1.921        |            | 1½     | 17 08.3     | 53    | 1.957        |
|            | 4      | 24 49.3     | 54    | 1.952        |            | 2      | 23 02.9     | 53    | 1.979        |
|            | 5      | 32 02.4     | 54    | 1.936        |            | 2½     | 29 16.2     | 53    | 1.955        |
|            | 6      | 39 31.4     | 55    | 1.946        |            | 3      | 36 17.4     | 53    | 1.935        |
|            |        |             |       | <u>1.939</u> |            |        |             |       | <u>1.932</u> |
|            |        |             |       |              |            |        |             |       | <u>1.950</u> |

Collecting these several results in one view, we have as follows:—

|  | EREBUS. | TERROR. | DIFFERENCE.              |
|--|---------|---------|--------------------------|
| Intensity at Hobarton . . . . .                                    | 1.82    | 1.82    | (Erebus in defect.)      |
| Intensity at Sydney . . . . .                                      | 1.685   | 1.699   | .014 or 8 parts in 1000  |
| Intensity at the Bay of Islands . . . . .                          | 1.594   | 1.607   | .013 or 8 parts in 1000  |
| Intensity on ice, lat. $-65^{\circ} 49'$ , long. $202^{\circ} 02'$ | 1.939   | 1.950   | .011 or 7 parts in 1000  |
| Intensity at Port Louis, Falkland Islands .                        | 1.322   | 1.336   | .014 or 10 parts in 1000 |

The difference between the results given by the needles of the two ships, though small, is so consistently shown at all the stations during the voyage, that we cannot hesitate to attribute it to the occurrence of a change of corresponding amount in the magnetism of one needle or the other, between the observations at Hobarton in April 1841, and those at Sydney in July of the same year. If we further compare the intensities observed at sea by the two ships on the passage from Hobarton to Sydney, we find that a similar difference prevails in them; and we are therefore led to the conclusion, either that the needle of the Terror gained, or that the needle of the Erebus lost, a very small portion of magnetism, in the period between the observations at Hobarton in April 1841, and the departure of the Expedition from that port in the following July. Now experience has shown that a loss of magnetism is no unfrequent occurrence, whilst a gain is extremely rare, happening only, as far as we know, from such an accident as the contact of a needle with a more powerful magnet than itself. We may therefore conclude with great probability that the needle of the Erebus sustained a small loss of magnetism between April and July 1841, antecedent to all the observations of the voyage, causing the intensities derived with it, *when computed in reference to the angles of deflection observed at Hobarton in April 1841*, to require to be increased about one hundredth part, or more precisely 8 parts in 1000, in order

to bring them into strict relation with 1·82, taken as the value of the force at Hobarton. This correction being applied, all the intensities observed throughout the voyage by the two ships are in accordance (subject only to errors of observation), forming a consistent series of relative determinations, resting on 1·82 and 1·336, assumed provisionally as the values of the intensity at Hobarton and Port Louis, the commencing and concluding stations of the series. The correction is made in the Table which exhibits the intensities observed on board the two ships, and the geographical positions to which they belong; it is also made in the results inserted in the Map. The correctness of the values assumed at the base stations, 1·82 at Hobarton and 1·336 at Port Louis, remains to be proved by absolute determinations which have yet to be made at those two stations. The absolute intensities observed by the Expedition itself, with the instruments and according to the method prescribed in the instructions of the Royal Society, certainly have not the necessary precision. In the preceding Number of these Contributions are stated the results of five determinations which were obtained by Captain Ross at Hobarton in 1840 and 1841, with the 15-inch magnets of his observatory magnetometers; and of twenty-two determinations obtained by Lieut. KAY at the magnetic observatory at that station, with similar instruments, in 1841 and 1842. Captain Ross's mean result was 4·573, the partial results varying from 4·491 to 4·626. Lieut. KAY's mean result in 1841 was 4·553, the partial results (ten in number) varying from 4·509 to 4·601; and in 1842 4·513, the partial results (twelve in number) varying from 4·443 to 4·568. In 1843 Lieut. KAY received the *auxiliary apparatus* supplied in compliance with the *revised instructions* of the Royal Society, published in 1842. The magnets of this apparatus were 12 inches in length. The following Table exhibits the results obtained with this instrument in thirteen determinations made with it, between June 23rd and July 1st, 1843. Each determination is deduced from two series of observations of deflection; in the first six instances the distances were 4·505 and 6·005 feet; in the remainder, 4·0 and 5·3 feet. The moment of inertia of the deflecting magnet was computed from the length, breadth and mass of the bar.

|          |       |          |       |
|----------|-------|----------|-------|
| June 23. | 4·509 | June 27. | 4·557 |
| 24.      | 4·515 | 28.      | 4·505 |
| 24.      | 4·528 | 28.      | 4·504 |
| 26.      | 4·510 | 29.      | 4·549 |
| 26.      | 4·523 | 29.      | 4·527 |
| 27.      | 4·583 | 30.      | 4·466 |
|          |       | July 1.  | 4·479 |

Mean of the 13 determinations 4·520

Here also it is obvious, from the discrepancy of the partial results, that the angles of deflection afforded by these magnets at the prescribed distances, viz. the least distance being not less than four times the length of the bar, were still too small; and that before any final conclusion be arrived at, it is desirable that we should await the

results which will be obtained with the smaller apparatus described by Lieut. RIDDELL in his "Magnetical Instructions for the use of Portable Instruments," &c. In this apparatus the suspended and deflecting magnets are respectively 3·0 and 3·67 inches in length. Meanwhile we may derive, as a provisional value, the arithmetical mean of the four mean results already stated; allowing to each an equal weight, we have,

|                                      |       |                    |
|--------------------------------------|-------|--------------------|
| ROSS, in 1840-1841, 15-inch magnets, | 4·573 | } Mean <u>4·54</u> |
| KAY, in 1841, do. do.                | 4·553 |                    |
| KAY, in 1842, do. do.                | 4·513 |                    |
| KAY, in 1843, 12-inch magnets,       | 4·520 |                    |

which, with the other necessary data stated in the preceding Number of these Contributions, would give the value of the total intensity at Hobarton 1·81 to 1·372 in London\*.

\* Since these pages were written I have received the details of the observations of ten distinct determinations of the absolute horizontal intensity at the magnetic observatory at Hobarton, made in August 1843 with deflecting and suspended magnets respectively of 9·18 inches and 7·50 inches in length. The deflecting distances were the same throughout, being 3·2893 and 4·3393 feet. The calculation of these observations not having been yet received from Lieut. KAY, the results have been computed by Lieut. RIDDELL, R.A., F.R.S., so far as the materials hitherto furnished permit. They give the value of  $X'$ ;—being the absolute horizontal intensity ( $X$ ), uncorrected for the difference in the magnetic moment of the deflecting bar produced by the earth's inducing action in the different positions in which the bar is placed in the experiments of deflection and in those of vibration; viz. 1° perpendicular to the magnetic meridian, and 2° in the plane of the meridian. We owe the suggestion of a correction due to this cause to Dr. LAMONT: but the necessary data for computing it, for the particular bars employed by Lieut. KAY on this, or on the former occasions, have not yet been received. Observations made at the Cape of Good Hope and at Woolwich, with similar bars, have given results which show that the correction may possibly prove to be of nearly the same amount for the larger and smaller bars, in which case the relative values will be but little affected, and we may estimate that the value of  $X$  at Hobarton will be about 0·02 less than  $X'$ . In the expression which has been employed in these Contributions for the absolute horizontal intensity ( $1·82 + e$  at Hobarton and  $3·72 + e$  at London,  $e$  being a small quantity to be supplied hereafter), the correction here referred to will form a portion of  $e$ . The following Table exhibits the abstract of the observations made in August 1843 with 9·18 and 7·50 inch bars.

| Gottingen Mean Time.                         | Deflecting Magnet. |                 |                                | Values of $X'$ . | Bifilar Magnetometer.<br>$k=000229$ . $g=000224$ . |       |
|--|--------------------|-----------------|--------------------------------|------------------|--|-------|
|  | No.                | Value of $m'$ . | Temperature during deflection. |                  | Reading.   | Temp. |
| 1843. Aug. <sup>d</sup> <sup>h</sup> 20 19·0 | 9·18 inch.         | 6·256           | 54·6                           | 4·5052           | 165·1  | 52·0  |
| 21 11·5                                      | 9·18 inch.         | ·259            | 49·6                           | ·5034            | 168·6  | 49·1  |
| 21 16·5                                      | 9·18 inch.         | ·251            | 51·9                           | ·5043            | 165·3  | 49·1  |
| 21 19·5                                      | 9·18 inch.         | ·261            | 53·7                           | ·4993            | 168·3  | 50·0  |
| 22 11·0                                      | 9·18 inch.         | ·227            | 48·0                           | ·5177            | 165·4  | 49·3  |
| 22 19·5                                      | 9·18 inch.         | ·243            | 54·5                           | ·5025            | 164·6  | 50·7  |
| 23 10·8                                      | 9·18 inch.         | ·259            | 50·7                           | ·4884            | 161·0  | 51·2  |
| 23 18·1                                      | 9·18 inch.         | ·244            | 52·4                           | ·5005            | 162·2  | 51·0  |
| 23 19·1                                      | 9·18 inch.         | ·240            | 52·0                           | ·4982            | 163·9  | 51·3  |
| 25 11·4                                      | 9·18 inch.         | ·252            | 49·4                           | ·4953            | 165·3  | 51·5  |
|  |                    | 6·249           | 51·7                           | 4·5015           | 165·0  | 50·5  |

The mean value of the results, 4·501, is considerably different from the mean deduced in the text from all

At the Falkland Islands there were two determinations of the absolute horizontal intensity made by Captain Ross at the Magnetic Observatory at Port Louis, one in September 1842, being 6·87, and a second in November of the same year, being 6·32. They were both made with 15-inch magnets; the angles of deflection were observed at four distances, but amounted only to 56'·8, 31'·9, 21'·4, and 12'·9 in the first experiment, and to 1° 49'·9, 1° 01'·6, 41'·5, and 25'·1 in the second experiment.

These values of the horizontal intensity would give that of the total intensity at Port Louis respectively 1·609 and 1·367. It is obvious that we can draw no conclusion whatsoever from these numbers, and that we must wait for the confirmation or correction of the value given by the needles of Mr. Fox's instrument, until absolute determinations can be procured with instruments capable of affording more satisfactory results. Steps have been taken to obtain such determinations at the Falkland Islands from Captain SULLIVAN, R.N., and at Sydney and New Zealand from the Surveying Expedition under Captain BLACKWOOD, R.N.; when these arrive, we may learn whether any and what final correction will require to be applied to the intensities now provisionally deduced from the observations with Mr. Fox's needles, in the Erebus and Terror. We may expect to receive these determinations before the time when the results now presented to the Royal Society will have to be combined with those of the preceding and succeeding years, in a general calculation of the magnetic lines in the southern hemisphere.

2. *With Deflectors.*—In the Erebus, the spare needle R. F. 4 was employed,—as “deflector S,” with its south pole opposite to the division of the circle which the south pole of the mounted needle had previously indicated as the dip;—and as “deflector N,” with its north pole similarly applied to the opposite division of the circle. The angles of deflection varied in different localities during the voyage, in round numbers as follows:—Deflect. S from 52° to 71°; and deflect. N from 49° to 67°. For obtaining the equivalent weights to the deflecting force of the deflectors at these angles, we have the comparative observations with deflectors and weights at Hobarton, Sydney, New Zealand, the Falkland Islands, and on the ice in lat. —65° 47', long. 202° 08'. The angles of deflection caused by the weights have been already stated;

the preceding observations; yet from the improvement which it is natural to suppose practice must have made in the observers, and from the reduced discrepancies of the partial results with the smaller bars, the mean of the ten results in August 1843 would seem entitled to a preference over the earlier and more numerous results. Judging by what has been done at Woolwich with the 2·45 and 3 inch magnets, and at the Cape of Good Hope with 3·0 and 3·67 inch, we may expect with them a still further and considerable reduction in the discrepancies of the partial results; but it would not be safe, with the comparisons which we have now before us, to feel full confidence that there will be no apparently constant or systematic difference between the results of the larger and smaller bars. Reviewing the whole subject, we can as yet, therefore, only consider ourselves as being in progress towards such accuracy in determining the ratio of the intensity at different places by the absolute method, as shall be superior to that with which it was previously obtained by the employment of well-selected needles in relative determinations.

those by the deflectors, with the equivalent weights deduced from the comparison, are collected in the following Table.

| Station.           | Date.               | Intensity deduced by weights. | Angles of deflection by |            | Equivalent weights. |           |
|--------------------|---------------------|-------------------------------|-------------------------|------------|---------------------|-----------|
|                    |                     |                               | Def. S.                 | Def. N.    | Def. S.             | Def. N.   |
| Hobarton .....     | April 1841 .....    | 1·82                          | 56° 28' 6"              | 53° 02' 6" | grs. 7·39           | grs. 7·08 |
| Sydney .....       | July 1841 .....     | 1·685                         | 59 10·2                 | 55 37·0    | 7·05                | 6·77      |
| New Zealand....    | Aug. and Oct. 1841  | 1·594                         | 61 46·9                 | 57 59·0    | 6·84                | 6·58      |
| On ice .....       | January 1842 ....   | 1·939                         | 54 03·1                 | 50 35·0    | 7·65                | 7·30      |
| Falkland Islands . | April and Aug. 1842 | 1·322                         | 71 11·8                 | 67 10·3    | 6·10                | 5·93      |

By projecting these angles and weights, and proceeding in the manner described in the Third Number of these Contributions\*, the values of  $w'$  in the following Table were obtained for each deflector, corresponding to each angle of deflection  $v'$ ; and employing these values of  $w'$ , the intensities  $I'$  entered in the general table of observations have been computed by the formula

$$I' = \frac{1 \cdot 82 \sin 56^\circ 28' 6''}{7 \cdot 39} \cdot w' \operatorname{cosec} v' = 2 \cdot 053 w' \operatorname{cosec} v'.$$

Besides the observations with the spare needle R. F. 4, employed as a deflector, angles of deflection were occasionally observed with the magnets N and S, belonging to the apparatus of the Erebus, used conjointly; their magnetism, however, was so much inferior to that of R. F. 4, that, even when both were used together, their joint effect was less than the half of either pole of R. F. 4; their results would consequently be much inferior in precision to those of R. F. 4, and I have not therefore employed them.

| Def. S. |           |        |        |        |        | Def. N. |        |        |        |        |        |
|---------|-----------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|
| $v'$ .  | $w'$ .    | $v'$ . | $w'$ . | $v'$ . | $w'$ . | $v'$ .  | $w'$ . | $v'$ . | $w'$ . | $v'$ . | $w'$ . |
| 52      | grs. 7·87 | 59     | 7·11   | 66     | 6·47   | 49      | 7·49   | 56     | 6·76   | 63     | 6·19   |
| 53      | 7·76      | 60     | 7·01   | 67     | 6·39   | 50      | 7·38   | 57     | 6·67   | 64     | 6·13   |
| 54      | 7·65      | 61     | 6·91   | 68     | 6·31   | 51      | 7·27   | 58     | 6·57   | 65     | 6·06   |
| 55      | 7·54      | 62     | 6·82   | 69     | 6·24   | 52      | 7·17   | 59     | 6·48   | 66     | 6·00   |
| 56      | 7·43      | 63     | 6·73   | 70     | 6·17   | 53      | 7·07   | 60     | 6·40   | 67     | 5·94   |
| 57      | 7·32      | 64     | 6·64   | 71     | 6·10   | 54      | 6·97   | 61     | 6·33   |        |        |
| 58      | 7·21      | 65     | 6·55   | 72     | 6·03   | 55      | 6·86   | 62     | 6·26   |        |        |

In the Terror, the spare needle marked C was employed both as “deflector N” and “deflector S.” The magnets belonging to the apparatus were also used, N separately, and N and S conjointly. Observations were also occasionally made with magnet S, but its magnetism was so feeble, and the deflections obtained with it consequently so small in comparison with the others, that the results are not entitled to the same confidence, and have not therefore been taken into the account. The equivalent weights have been obtained, as in the Erebus, from the comparative observations with weights and deflectors at Hobarton, Sydney, New Zealand, the Falkland

\* Philosophical Transactions, 1842, Art. II.



Islands, and on the ice in lat.  $-65^{\circ} 47'$ , long.  $202^{\circ} 08'$ . I have also, in the case of the Terror, availed myself of a comparison of the weights and deflectors made on the 3rd, 4th and 5th of December 1841, at sea, when the weather was extremely favourable, and the ship did not materially change her position. From the observations on these days we have as follows:—

| December 1841. | Intensity deduced by weights. | Angles of deflection by |         |         |           |
|----------------|-------------------------------|-------------------------|---------|---------|-----------|
|                |                               | Def. N.                 | Def. S. | Mag. N. | Mag. N S. |
| 3 A.M.         | 1.783                         | 36 55.9                 | 34 06.7 | 30 44.1 | 40 52.8   |
| 3 P.M.         | 1.778                         | 36 51.6                 | 34 06.3 | 30 46.1 | 40 45.8   |
| 4              | 1.773                         | 36 { 41.8<br>44.7       | 34 22.0 | 30 48.7 | 40 56.3   |
| 5              | 1.779                         | 36 18.3                 | 34 29.4 | 30 46.1 | 40 54.9   |
| Mean ..        | 1.778                         | 36 42.5                 | 34 16.0 | 30 46.2 | 40 52.5   |

The several comparisons from which the equivalent weights are derived, together with the weights so derived, are collected in the following Table.

| Station.         | Date.                       | Intensity deduced by weights. | Angles of deflections by |              |           |              | Equivalent weights. |              |            |              |
|------------------|-----------------------------|-------------------------------|--------------------------|--------------|-----------|--------------|---------------------|--------------|------------|--------------|
|                  |                             |                               | Deflector N.             | Deflector S. | Magnet N. | Magnets N S. | Deflector N.        | Deflector S. | Magnet N.  | Magnets N S. |
| Hobarton ....    | April 1841 ..               | 1.820                         | 36 00.6                  | 33 23.0      | 30 14.0   | 40 05.5      | grs. 2.793          | grs. 2.613   | grs. 2.391 | grs. 3.059   |
| Sydney .....     | July 1841 ..                | 1.699                         | 38 05.9                  | 35 15.7      | 31 47.2   | 41 45.3      | 2.736               | 2.560        | 2.336      | 2.953        |
| New Zealand ..   | Aug. and Oct. 1841 .....    | 1.608                         | 39 36.8                  | 36 57.8      | 32 50.8   | 42 58.4      | 2.675               | 2.525        | 2.276      | 2.861        |
| At Sea .....     | Dec. 3, 4 and 5, 1841 ..... | 1.778                         | 36 42.5                  | 34 16.0      | 30 46.2   | 40 52.5      | 2.773               | 2.613        | 2.374      | 3.036        |
| On Ice .....     | Jan. 16, 1842               | 1.949                         | 33 47.6                  | 31 16.1      | 28 52.7   | 38 45.7      | 2.829               | 2.640        | 2.456      | 3.184        |
| Falkland Islands | April, July and Aug. 1842   | 1.336                         | 44 38.2                  | 41 57.1      | 35 59.0   | 46 14.0      | 2.442               | 2.324        | 2.042      | 2.510        |

The equivalent weights for each deflector, and for each half degree of deflection, have been obtained in the manner already described, for the angles of deflection and equivalent weights in the preceding Table, and are subjoined; by their aid the intensities  $I'$  entered in the general table of observations have been computed by the formula

$$I' = .3832w' \operatorname{cosec} v'.$$

| Def. N. |            |        |        | Def. S. |        |        |        | Magnet N. |        |        |        | Magnets NS. |        |        |        |
|---------|------------|--------|--------|---------|--------|--------|--------|-----------|--------|--------|--------|-------------|--------|--------|--------|
| $v'$ .  | $w'$ .     | $v'$ . | $w'$ . | $v'$ .  | $w'$ . | $v'$ . | $w'$ . | $v'$ .    | $w'$ . | $v'$ . | $w'$ . | $v'$ .      | $w'$ . | $v'$ . | $w'$ . |
| 33 00   | grs. 2.840 | 39 30  | 2.682  | 31 00   | 2.644  | 37 30  | 2.504  | 28 00     | 2.482  | 34 30  | 2.166  | 37 00       | 3.268  | 43 30  | 2.816  |
| 33 30   | 2.834      | 40 00  | 2.660  | 31 30   | 2.639  | 38 00  | 2.485  | 28 30     | 2.464  | 35 00  | 2.126  | 37 30       | 3.240  | 44 00  | 2.766  |
| 34 00   | 2.826      | 40 30  | 2.638  | 32 00   | 2.634  | 38 30  | 2.464  | 29 00     | 2.446  | 35 30  | 2.085  | 38 00       | 3.210  | 44 30  | 2.714  |
| 34 30   | 2.817      | 41 00  | 2.615  | 32 30   | 2.627  | 39 00  | 2.444  | 29 30     | 2.426  | 36 00  | 2.040  | 38 30       | 3.180  | 45 00  | 2.660  |
| 35 00   | 2.809      | 41 30  | 2.593  | 33 00   | 2.619  | 39 30  | 2.423  | 30 00     | 2.406  |        |        | 39 00       | 3.148  | 45 30  | 2.604  |
| 35 30   | 2.800      | 42 00  | 2.571  | 33 30   | 2.611  | 40 00  | 2.403  | 30 30     | 2.387  |        |        | 39 30       | 3.114  | 46 00  | 2.544  |
| 36 00   | 2.790      | 42 30  | 2.548  | 34 00   | 2.602  | 40 30  | 2.382  | 31 00     | 2.367  |        |        | 40 00       | 3.081  | 46 30  | 2.460  |
| 36 30   | 2.777      | 43 00  | 2.524  | 34 30   | 2.591  | 41 00  | 2.361  | 31 30     | 2.346  |        |        | 40 30       | 3.049  |        |        |
| 37 00   | 2.765      | 43 30  | 2.488  | 35 00   | 2.580  | 41 30  | 2.341  | 32 00     | 2.323  |        |        | 41 00       | 3.016  |        |        |
| 37 30   | 2.753      | 44 00  | 2.473  | 35 30   | 2.567  | 42 00  | 2.321  | 32 30     | 2.297  |        |        | 41 30       | 2.981  |        |        |
| 38 00   | 2.738      | 44 30  | 2.448  | 36 00   | 2.554  |        |        | 33 00     | 2.268  |        |        | 42 00       | 2.944  |        |        |
| 38 30   | 2.721      | 45 00  | 2.423  | 36 30   | 2.538  |        |        | 33 30     | 2.236  |        |        | 42 30       | 2.905  |        |        |
| 39 00   | 2.702      |        |        | 37 00   | 2.523  |        |        | 34 00     | 2.203  |        |        | 43 00       | 2.863  |        |        |

*General Remarks.*—If we take a general view of the magnetic DECLINATION in the southern hemisphere, particularly in the best-known portion of it, comprised between the tropics and the Antarctic Circle, we find that the phenomena present the same obvious and decided features of a duplicate system as do those of the northern hemisphere. If, following any of the geographical parallels, we carry our attention round the hemisphere, we find it divided into four spaces, in which opposite characteristics in regard to the direction of the needle alternately present themselves. In two of the spaces the change in the pointing of the needle, as the space is traversed in the direction of the parallel, is continuous and progressive towards the west, and in the other two continuous and progressive towards the east. If, for example, commencing with the meridian of  $30^{\circ}$  E. or thereabouts, we trace the parallel of  $-45^{\circ}$  round the hemisphere, always proceeding in an easterly direction till we return to the meridian at which we began, we shall find that we first pass through a space in which the direction of the north end of the needle becomes progressively more and more *easterly*, either by the decrease of westerly or increase of easterly declination; we next pass into a second space, on entering which the continuity is broken, the progressive movement of the north end of the needle towards the east is arrested, and its direction becomes now more and more *westerly* as we advance; thence we pass, successively, into a third space which has the same characteristic as the first, and into a fourth which has the same as the second.

The spaces here spoken of must be distinguished from those which are characterized by the exclusive prevalence of either east or west declination: they have a more simple and pure magnetical relation, implying the predominance within each space of one or the other of the two systems of magnetic forces which govern the direction of the needle. It may happen, or it may not happen, that in one of these spaces the direction of the needle may coincide in some point or points with the *geographical* meridian; when this occurs, the space will comprise both east and west declination; when it does not happen, the declination throughout the space will be exclusively east or exclusively west as the instance may be: but in either case, the change in the direction of the needle is always continuous and uniform in character throughout the space. It is well known that if the magnetic declination be computed on the supposition of a single central magnetic axis, there will be found two, and only two such spaces in each hemisphere. The systematic discordance which the declinations in the *northern* hemisphere presented when compared with the declinations so computed, and their agreement with the phenomena deducible from a double system of forces, led HALLEY to embrace the latter hypothesis. The declinations in the southern hemisphere present an arrangement strictly analogous to that in the northern, and conduct to the same conclusion, be that conclusion what it may.

If, with HALLEY, we view the declinations in the Southern Pacific as principally influenced by the weaker system of forces, or by that to which is also to be ascribed the high intensity of the magnetic force in the same quarter, we should be prepared

to expect that if the geographical limits of the adjacent spaces, having the characteristics referred to, were determined at different epochs, the alteration in the position of the spaces, if any, would show the existence of a secular change in the system itself; that it would indicate the direction of such change; and, if the intervals were sufficiently long in reference to the precision with which the determinations were made, the average rate of the movement of translation might also be inferred.

In this view a knowledge of the geographical position of the limiting lines, or of lines drawn so as to separate one of these spaces from the next, may have a particular value. In the part of the Pacific Ocean which is now referred to, the *separating lines*, as for distinction they may be called, coincide nearly in direction with geographical meridians, and are therefore crossed nearly at right angles by vessels pursuing a course from east to west, or from west to east. Prior to our own times, the epoch of Captain Cook's voyages is perhaps that in which the observations of the declination in the Southern Pacific may be regarded with the most confidence. The determinations of that period have been collected by M. HANSTEEN into a map, of which he assigns the year 1770 as the mean epoch. It is one of those published in the Atlas of the Magnetismus der Erde, and comprehends the results obtained by BYRON, CARTERET, WALLIS, COOK in three voyages, EKEBERG also in three voyages, and ABERCROMBIE. If in this map we draw lines separating the spaces which have the opposite magnetic characteristics referred to, and compare them with the corresponding lines which we may draw in ERMAN's map of the Declination in 1827-1830, published in the Magnetic Instructions of the Royal Society, we find an effect of secular change very distinctly shown in the altered position of the separating lines. These lines, A and B, are drawn in the accompanying Plate\*, where the two epochs, 1770, and 1827-1830, are brought into comparison. In the map of 1827-1830, the separating lines occupy a considerably more westerly position than in the earlier map, the difference amounting to about  $10^{\circ}$  of longitude. Hence we are led to the conclusion, that the spaces in the Southern Pacific, distinguished by certain magnetic characteristics, undergo a movement of translation, of which the general direction is from east to west. This direction is the opposite to that in which the change is known to take place in the corresponding quarter in the northern hemisphere (viz. in the Siberian quarter), where the secular movement is from west to east.

We are not without earlier, though possibly it may be supposed less precise, evidence of the effect of secular change in the Southern Pacific. From HALLEY's chart of the variation lines for 1700, we are enabled to draw the separating line B for that epoch, when we find it to have been between the longitudes of  $305^{\circ}$  and  $310^{\circ}$ . In a still earlier map drawn by HANSTEEN for the year 1600 (Magnetismus der Erde, Atlas, No. 1), representing the observations of the very able and scientific navigators of that period, we find the position of the same line to have been about  $333^{\circ}$  of east longitude.

In the observations of Captain Ross's voyage, we have the most recent evidence of the progressive westerly movement of the magnetic phenomena in the Southern

\* Plate XII.

Pacific. The separating lines A and B, deducible from the observations in 1842, are seen in the Plate to be in both cases considerably to the west of those derived from the observations of 1827–1830.

The whole body of evidence therefore, from the earliest observations to the latest, is consistent in showing a progressive movement to the westward of the spaces in the Southern Pacific, characterized by certain magnetic peculiarities, which in HALLEY's view indicated the proximity and predominance of the weaker system of forces. It is worthy of notice that the rate of progression, deduced from the changes of position shown at the several epochs, differs much less from a uniform rate than might have been anticipated from the nature of the evidence we possess, even supposing the actual rate to have been uniform in nature; whilst the magnitude of the whole change which appears to have taken place since the phenomenon became the subject of observation, in round numbers  $50^\circ$  of longitude in two centuries and a half, can scarcely fail to fix the attention. These are facts which, when the true physical causes of the magnetism of the globe shall occupy the earnest attention of philosophers, will probably attain an importance which at present perhaps we scarcely sufficiently estimate. But an endeavour to place distinctly before our minds facts of which the explanation must be deemed an essential condition of a satisfactory solution of this great problem, may not be without its use even at the present time. It may be also useful to call the attention of navigators to the value which may hereafter attach to determinations which may be made with instruments which are on board every ship, and in constant employ for the ordinary purposes of navigation. The position of the lines separating the spaces which have been the subject of discussion, has the advantage of being even more easily determined by observations on board ship than that of any particular declination line; in crossing them, the declination, if previously decreasing, will then begin to increase, and if previously increasing will begin to decrease; the determination is therefore independent of compass error, which is a much more prevalent source of error than is generally supposed; and if the ship's course be steady for some days together, which in the latitudes in question is very frequently the case, it is also in a great measure independent of the disturbance occasioned by the ship's iron. A very cursory inspection of the general table of the declinations observed by the Erebus and Terror suffices to show that they must have crossed the separating line (A) about the 15th of March 1842, when their latitude was about  $-59^\circ$  and longitude  $221^\circ$ ; and the line (B) about the 27th or 28th of the same month in latitude about  $-59^\circ$ , and longitude  $275^\circ$  \*.

Should the circumstance occur that one of the separating lines in the course of its progressive change of place should pass over a magnetic observatory, the epoch of its passage would be precisely determined. There is some reason for believing that

\* The line A passes through the culminating points of the southerly inflexion of the declination lines, of which the present position is shown in the Declination Map at the close of this paper to be about  $220^\circ$  east longitude. The line B passes through the culminating points of the northerly inflexion of the declination lines about the longitude of  $276^\circ$ .

such an event is now taking place at the Cape of Good Hope. If we examine ERMAN'S map of the Declination in 1827–1830, published in the magnetic instructions of the Royal Society, we find one of the separating lines in the neighbourhood of the Cape of Good Hope, and if we compare this map with those of earlier epochs, we find the position of that line progressively more and more to the east as we ascend in the order of time. Hence we should be led to expect that about this period it might be found to pass over the meridian of the Cape. The observations which have been made daily at the magnetic observatory at the Cape, since its establishment in 1841, give reason to believe that the westerly declination which had been increasing for above two centuries, attained its maximum in the year 1842 or 1843. In April 1841 the declination was  $29^{\circ} 05'$  west, in and April 1844  $29^{\circ} 06'$  west\*. The earliest observations at the Cape with which I am acquainted, are those of DAVIS in 1605, and KEELING in 1609. (Purchas, Book iv. ch. 6. § 1. and Book iii. ch. 6. § 4.) According to these observations the declination in 1605 was  $0^{\circ} 30'$  east, and in 1609  $0^{\circ} 12'$  west†. The line of no declination probably therefore passed over the Cape about the year 1607, and in 235 years the westerly declination has increased from  $0^{\circ}$  to  $29^{\circ}$ , (omitting the odd minutes,) or at an annual average rate of  $7'4$ . Observations at several intermediate epochs show that the progression of this change was at least not very far from being an uniform one. If we divide the whole period into four equal parts, we should have

|                          |                     |
|--------------------------|---------------------|
| In the year 1607 . . . . | $0^{\circ} 0'$      |
| In the year 1666 . . . . | $7^{\circ} 15' W.$  |
| In the year 1725 . . . . | $14^{\circ} 30' W.$ |
| In the year 1784 . . . . | $21^{\circ} 45' W.$ |
| In the year 1843 . . . . | $29^{\circ} 0' W.$  |

In the appendix of HANSTEEN'S *Magnetismus der Erde*, p. 24, we have the record of actual observations as follows :—

|                          |  |
|--------------------------|--|
| In the year 1667 . . . . | $7^{\circ} 15' W.$   |
| In the year 1724 . . . . | $\begin{cases} 16^{\circ} 27' W. \\ 16^{\circ} 18' W. \end{cases}$ |
| In the year 1780 . . . . | $22^{\circ} 16' W.$  |

We may therefore conclude that the westerly declination at the Cape, which for above 200 years had increased at an average rate of about  $7'4$  a year, or a degree in about eight years, has been for the last three years nearly stationary, having arrived at a maximum of  $29^{\circ}$  and a few minutes about the year 1843; and that a decreasing progression may now be expected‡. Ships passing the Cape, on a voyage to the

\* The observations at the magnetic observatory at the Cape of Good Hope, preparing for the press, will show the mean declination in each month of the years referred to.

† See also, for the latter observation, HANSTEEN'S *Magnet. der Erde*. Anhang. S. 146.

‡ Captain FITZROY observed  $28^{\circ} 30'$  in 1836; at that epoch, consequently, the maximum had not been reached. Sir EDWARD BELCHER, in 1842, observed  $29^{\circ} 13'$ .

east, will find that the westerly variation, which increases the whole way from the Brazils to about the meridian of the Cape, begins there to diminish, and continues to diminish, passing into easterly variation increasing, for above 100 degrees of longitude east of the Cape. The separating line which now passes through the Cape divides spaces distinguished by opposite magnetic characteristics; on the west side of the Cape the north end of the needle moves to the west, and on the east side to the east, as east longitude increases.

The maps which exhibit the results of the observations in the two ships, of the Declination, Inclination and Intensity, in the voyage of 1841-1842, and the isogonic, isoclinal, and isodynamic lines traced approximately in conformity with them, are a continuation of the maps published in No. V., which embodied in a similar manner the results of the preceding voyage. The results in the *Erebus* are distinguished from those in the *Terror* by a different character, for the purpose of permitting the degree of accordance in the two series of independent determinations to be readily judged of by the eye. These maps afford the best reply to those who have expressed doubts of the success of observations of the inclination and intensity made at sea.

Magnetic lines, drawn from observations made in parts of the globe to which observation had not previously extended, are the proper test by which we may judge of the degree of approximation with which the values of the numerical elements have been obtained in a general mathematical theory of terrestrial magnetism, such as M. GAUSS's. The portion of the observations of the Antarctic Expedition which has been placed before the Royal Society in No. V. and in the present number of these Contributions, permits us already to form some conclusion on this point. Plate XIII. exhibits the lines of one of the magnetic elements, i. e. the intensity, computed by M. GAUSS's theory, and drawn in Plates XVIII. and XIX. of the *Atlas des Erdmagnetismus*, compared with the lines which are the direct results of observation.

The very imperfect resemblance between the two systems of lines is of course no impeachment of the sufficiency of the theory, with corrected numerical elements, to represent the natural phenomena in parts of the globe which observation may not have reached. The degree of approximation to which it will do this must depend upon the extent and correctness of the observation-basis from whence the numerical elements are derived, and upon the order of the magnitudes comprehended in the calculation.

The evidence which the plate affords, that the calculations in the elaborate work referred to differ so widely from the facts in the southern latitudes, shows how much observations were wanting in those latitudes for the purpose of perfecting the theory; and is an ample justification (if indeed any justification were necessary) of the exertions which the last few years have witnessed to obtain them.

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Since these pages were written I have received from Mr. ARCHIBALD SMITH the following note. Regarding it as a continuation of the memorandum with which he

was so obliging as to favour me, printed in the last number of these Contributions, I avail myself of this opportunity of giving it an early circulation.

“The apparent changes in the values of the constants  $a$ ,  $b$ ,  $c$  and  $d$ , in the Erebus and Terror (Contributions, No. V., p. 153), seem to show that those vessels had an appreciable quantity of magnetism, which was so far permanent, as to retain for a considerable time traces of the inductive force to which they had been exposed, and perhaps some strictly permanent magnetism. It seems, therefore, desirable to introduce into the expressions in the memorandum printed at p. 147 of Contribution No. V., terms which will represent such forces.

“Suppose, then, as in the memorandum, that  $\phi$  represents the total magnetic force of the earth at the place of observation,  $\theta$  the inclination,  $\zeta$  the azimuth of the ship's head, reckoning from N. to W., and that  $\phi'$ ,  $\theta'$ ,  $\zeta'$  represent the values of the same quantities shown by an instrument at a fixed position in the vessel, and affected by the attraction of the iron in the vessel; and let P, Q, R represent the attraction of the permanent magnetism in the vessel to the bow, to the starboard side, and vertically downwards. The fundamental equations of the former memorandum become by the introduction of these terms,

$$\phi' \cos \theta' \cos \zeta' = \phi [A' \cos \theta \cos \zeta + B \cos \theta \sin \zeta + C \sin \theta] + P$$

$$\phi' \cos \theta' \sin \zeta' = \phi [D \cos \theta \cos \zeta + E' \cos \theta \sin \zeta + F \sin \theta] + Q$$

$$\phi' \sin \theta' = \phi [G \cos \theta \cos \zeta + H \cos \theta \sin \zeta + K' \sin \theta] + R.$$

“In these equations  $A'$ ,  $B$ ,  $C$ ,  $D$ ,  $E'$ ,  $F$ ,  $G$ ,  $H$  and  $K'$  are constants depending on the distribution of the soft iron in the ship, and perhaps on the temperature and other circumstances.

“If we suppose, as before, that the soft iron is symmetrically disposed, the equations (1.) (2.) and (3.) of the former memorandum become,

$$\frac{\phi' \cos \theta' \cos \zeta'}{A' \phi \cos \theta} = \cos \zeta + a \tan \theta + \frac{P}{A' \phi \cos \theta} \quad \dots \quad (1.)$$

$$\frac{\phi' \cos \theta' \sin \zeta'}{A' \phi \cos \theta} = b \sin \zeta + \frac{Q}{A' \phi \cos \theta} \quad \dots \quad (2.)$$

$$\frac{\phi' \sin \theta'}{A' \phi \cos \theta} = c \cos \zeta + d \tan \theta + \frac{R}{A' \phi \cos \theta} \quad \dots \quad (3.)$$

“Let  $H$  represent the horizontal force  $= \phi \cos \theta$ ,  $H'$  the affected horizontal force  $= \phi' \cos \theta'$ , and let  $a \tan \theta + \frac{P}{A'H} = L$ ,  $\frac{Q}{A'H} = M$ , and  $d \tan \theta + \frac{R}{A'H} = N$ . The last equations become

$$\frac{H'}{A'H} \cos \zeta' = \cos \zeta + L \quad \dots \quad (1 a.)$$

$$\frac{H'}{A'H} \sin \zeta' = b \sin \zeta + M \quad \dots \quad (2 a.)$$

$$\frac{H' \tan \theta'}{A'H} = c \cos \zeta + N \quad \dots \quad (3 a.)$$

“By the introduction of the same quantities, the equations numbered from (4.) to (14.) in the former memorandum become

$$\frac{H'}{A'H} = \cos \zeta \cos \zeta' + b \sin \zeta \sin \zeta' + L \cos \zeta' + M \sin \zeta' \quad . \quad . \quad . \quad (4.)$$

$$(\cos \zeta + L) \sin \zeta' = (b \sin \zeta + M) \cos \zeta'; \quad . \quad . \quad . \quad . \quad . \quad . \quad (5.)$$

and representing  $\zeta - \zeta'$ , or the deviation, by  $\delta$ ,

$$\sin \delta = L \sin \zeta' - M \cos \zeta' + (1 - b) \sin \zeta \cos \zeta' \quad . \quad . \quad . \quad . \quad . \quad . \quad (6.)$$

$$= \frac{2}{1+b} L \sin \zeta' - \frac{2}{1+b} M \cos \zeta' + \frac{1-b}{1+b} \sin (\zeta + \zeta') \quad . \quad . \quad . \quad . \quad (7.)$$

$$\tan \zeta' = \frac{b \sin \zeta + M}{\cos \zeta + L} \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad (8.)$$

$$c \cos \zeta + N = (b \sin \zeta + M) \operatorname{cosec} \zeta' \tan \theta' \quad . \quad . \quad . \quad . \quad . \quad . \quad (9.)$$

$$= (\cos \zeta + L) \sec \zeta' \tan \theta' \quad . \quad . \quad . \quad . \quad . \quad . \quad (10.)$$

$$= \sqrt{(\cos \zeta + L)^2 + (b \sin \zeta + M)^2} \cdot \tan \theta' \quad . \quad . \quad . \quad . \quad (11.)$$

$$\tan \theta' = \frac{c}{b} \cdot \frac{\cos \zeta + \frac{1}{c} N}{\sin \zeta + \frac{1}{b} M} \sin \zeta' \quad . \quad . \quad . \quad . \quad . \quad . \quad (12.)$$

$$= c \frac{\cos \zeta + \frac{1}{c} N}{\cos \zeta + L} \cdot \cos \zeta' \quad . \quad . \quad . \quad . \quad . \quad . \quad (13.)$$

$$= \frac{c \cos \zeta + N}{\sqrt{(\cos \zeta + L)^2 + (b \sin \zeta + M)^2}} \quad . \quad . \quad . \quad . \quad . \quad . \quad (14.)$$

“Equation (7.) may also be put under the form

$$\sin \delta = \frac{2}{1+b} \sqrt{L^2 + M^2} \sin (\zeta' - \mu) + \frac{1-b}{1+b} \sin (\zeta + \zeta'),$$

where

$$= \frac{2}{1+b} L \sec \mu \sin (\zeta' - \mu) + \frac{1-b}{1+b} \sin (\zeta + \zeta'),$$

in which  $\tan \mu = \frac{M}{L}$ , and  $\mu$  represents the displacement of the line of no deviation towards the starboard side.

“By means of these equations we can determine  $A'$ ,  $L$ ,  $b$ ,  $M$ ,  $c$ ,  $N$ , from observations made at sea alone. The first four of these quantities furnish the corrections for the horizontal force and the declination. There is greater difficulty in obtaining the correction for the inclination. It will be observed that  $\theta$  only occurs in these equations involved in the quantities  $L$  and  $N$ . If there were no permanent magnetism in the vessel, it would be necessary, in order to determine the correcting factors  $a$  and  $d$ , that observations of the inclination on shore, and corresponding observations on board, should be made in at least one magnetic latitude. If there is any appreciable permanent magnetism, observations of the inclination on shore and on board, and of the horizontal force, should be made in at least two magnetic latitudes. This would be sufficient if  $a$ ,  $P$ ,  $d$ ,  $R$  remained absolutely constant. As that appears not to be



the case, as many observations as possible should be made of the inclination on shore and on board, with corresponding observations of the horizontal force. Such observations should be made with great care when the vessel is on or near the magnetic equator and before and after any rapid change of magnetic latitude, and whenever the vessel returns to a place where the observations have been made before on board the same vessel, under the same circumstances as to the distribution of her iron.

“When the permanent magnetism is symmetrically distributed,  $Q=0$  and  $M=0$ , and the other constants may be easily, and probably with great accuracy, determined from the following equations. The small letter suffixed to the symbol of a function indicating the affected value observed with the vessel's head on the N., W., S., E. (affected) points,

$$A' = \frac{H_n + H_s}{2H} \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad (15.)$$

$$a \tan \theta + \frac{P}{A'H} = L = \frac{H_n - H_s}{H_n + H_s} \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad (16.)$$

$$b = \frac{H_w + H_e}{2\sqrt{H_n H_s}} \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad (17.)$$

$$d \tan \theta + \frac{R}{A'H} = N = \frac{H_n \tan \theta_n + H_s \tan \theta_s}{H_n + H_s} \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad (18.)$$

$$c = \frac{H_n \tan \theta_n - H_s \tan \theta_s}{H_n + H_s} \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad (19.)$$

“The values of  $H_n, H_s, H_e, H_w$ , are given by the square of the number of vibrations of a horizontal needle made in a given time, and beginning to vibrate in a given arc, and require no correction except for temperature.

“If  $n, s$ , represent the number of vibrations made by such a needle in the same time, with the ship's head successively on the north and south points, and if  $\Delta$  represent the value of  $\delta$  when  $\zeta' = \pm 90$ , the values of  $L$  and  $\Delta$  are given by the following simple expressions:—

“If  $\tan \lambda = \frac{n}{s}$ ,

$$L = \cos 2\lambda. \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad (20.)$$

$$\Delta = 90^\circ - 2\lambda. \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad (21.)$$

The equations (18.) and (19.) may be put under the form

$$d \tan \theta + \frac{R}{A'H} = N = \frac{\varphi_n \sin \theta_n + \varphi_s \sin \theta_s}{\varphi_n \cos \theta_n + \varphi_s \cos \theta_s} \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad (22.)$$

$$c = \frac{\varphi_n \sin \theta_n - \varphi_s \sin \theta_s}{\varphi_n \cos \theta_n + \varphi_s \cos \theta_s} \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad (23.)$$

and the values of  $N$  and  $c$  obtained, but probably with less accuracy, from observations of the total intensity and inclinations made with a Fox's instrument.

“*Note.*—The last equation in the former memorandum is erroneous. The value of  $\psi$  cannot be obtained from two observations of the true azimuth of the ship's head, when  $\zeta'_1 + \zeta'_2 = 180$ , independently of  $a$ .”

General Table of the Declinations observed on board Her Majesty's Ships Erebus and Terror, between May 1841 and August 1842.

| Lat.    | Long.   | Ship.                               | No. of<br>observa-<br>tions. | Declina-<br>tion. | Lat.    | Long.  | Ship.   | No. of<br>observa-<br>tions. | Declina-<br>tion. |
|---------|---------|-------------------------------------|------------------------------|-------------------|---------|--------|---------|------------------------------|-------------------|
| ° ' ° ' | ° ' ° ' |                                     |                              | ° ' ° '           | ° ' ° ' |        |         |                              | ° ' ° '           |
| -42 52  | 147 24  | { On shore<br>at Ho-<br>barton. }   | ....                         | -10 24            | -56 19  | 211 53 | Erebus. | 18                           | -14 47            |
| -43 30  | 147 20  | Terror.                             | 4                            | -12 35            | -56 54  | 212 23 | Erebus. | 8                            | -13 32            |
| -42 40  | 148 45  | Erebus.                             | 2                            | -10 06            | -57 03  | 212 15 | Terror. | 10                           | -15 14            |
| -42 17  | 149 30  | Terror.                             | 5                            | -11 49            | -57 16  | 212 45 | Erebus. | 13                           | -13 54            |
| -40 40  | 149 23  | Erebus.                             | 2                            | -9 51             | -58 21  | 213 00 | Terror. | 9                            | -17 34            |
| -40 51  | 149 21  | Terror.                             | 5                            | -11 11            | -58 20  | 213 13 | Erebus. | 12                           | -14 37            |
| -37 48  | 150 21  | Erebus.                             | 10                           | -11 01            | -62 49  | 212 13 | Erebus. | 12                           | -20 14            |
| -37 54  | 150 20  | Terror.                             | 8                            | -10 38            | -62 46  | 212 13 | Terror. | 15                           | -20 03            |
| -37 14  | 151 34  | Erebus.                             | 13                           | -9 31             | -63 19  | 210 22 | Erebus. | 6                            | -20 39            |
| -37 10  | 151 32  | Terror.                             | 10                           | -11 32            | -63 23  | 210 05 | On ice. | 5                            | -19 59            |
|         |         | { On shore<br>at Syd-<br>ney. }     | ....                         | -9 51             | -63 23  | 209 43 | Erebus. | 14                           | -20 44            |
| -33 51  | 151 17  | Terror.                             | 4                            | -11 18            | -63 21  | 209 48 | Terror. | 17                           | -20 56            |
| -33 56  | 151 00  | Erebus.                             | 2                            | -10 07            | -64 29  | 206 55 | Erebus. | 11                           | -22 00            |
| -33 54  | 153 50  | Terror.                             | 10                           | -14 26            | -64 48  | 206 10 | Terror. | 9                            | -22 55            |
| -33 35  | 162 47  | Erebus.                             | 8                            | -12 02            | -64 54  | 206 05 | Erebus. | 8                            | -22 51            |
| -33 33  | 162 01  | Erebus.                             | 8                            | -13 34            | -65 14  | 205 56 | Erebus. | 8                            | -21 51            |
| -33 41  | 166 26  | Terror.                             | 16                           | -13 40            | -65 30  | 205 57 | Erebus. | 8                            | -22 46            |
| -33 48  | 166 29  | Erebus.                             | 7                            | -13 27            | -66 04  | 203 51 | Erebus. | 4                            | -24 13            |
| -33 32  | 167 35  | Terror.                             | 12                           | -15 02            | -65 32  | 204 57 | Terror. | 7                            | -24 27            |
| -33 37  | 168 04  | Erebus.                             | 11                           | -12 54            | -66 22  | 203 40 | Erebus. | 11                           | -25 36            |
| -33 42  | 169 44  | Terror.                             | 9                            | -13 45            | -66 04  | 203 16 | Erebus. | 8                            | -26 59            |
| -34 15  | 172 33  | Erebus.                             | 11                           | -13 56            | -66 10  | 203 37 | Terror. | 7                            | -27 24            |
| -34 31  | 173 28  | Terror.                             | 5                            | -13 42            | -66 16  | 204 39 | Erebus. | 6                            | -26 36            |
| -34 32  | 173 47  | { On shore,<br>Bay of<br>Islands. } | ....                         | -13 36            | -66 15  | 204 23 | Erebus. | 10                           | -25 55            |
| -35 16  | 174 00  | Erebus.                             | 11                           | -14 24            | -66 04  | 204 14 | Erebus. | 16                           | -25 48            |
| -36 39  | 177 58  | Terror.                             | 10                           | -14 55            | -66 02  | 204 00 | Terror. | 18                           | -26 48            |
| -38 03  | 179 32  | Erebus.                             | 13                           | -14 44            | -66 00  | 204 11 | Erebus. | 11                           | -25 26            |
| -38 02  | 179 51  | Terror.                             | 11                           | -16 55            | -65 58  | 203 54 | Terror. | 11                           | -25 00            |
| -39 29  | 182 42  | Erebus.                             | 13                           | -14 43            | -65 57  | 204 14 | Erebus. | 13                           | -25 24            |
| -39 10  | 182 43  | Terror.                             | 11                           | -12 57            | -65 58  | 203 54 | Terror. | 11                           | -25 59            |
| -40 51  | 183 16  | Erebus.                             | 19                           | -15 13            | -65 55  | 203 28 | Erebus. | 17                           | -24 58            |
| -41 59  | 183 28  | Terror.                             | 11                           | -14 24            | -65 47  | 202 13 | On ice. | 6                            | -25 15            |
| -42 02  | 183 31  | Erebus.                             | 13                           | -16 35            | -65 59  | 203 07 | Terror. | 15                           | -26 24            |
| -46 09  | 183 59  | Terror.                             | 11                           | -15 17            | -67 38  | 204 20 | Erebus. | 9                            | -27 46            |
| -47 05  | 184 30  | Erebus.                             | 11                           | -15 45            | -67 40  | 204 10 | Terror. | 9                            | -28 19            |
| -47 32  | 184 52  | Terror.                             | 15                           | -16 23            | -67 20  | 202 02 | Erebus. | 8                            | -27 36            |
| -48 53  | 186 48  | Erebus.                             | 7                            | -16 52            | -67 19  | 202 35 | Terror. | 11                           | -28 37            |
| -49 21  | 188 32  | Terror.                             | 8                            | -17 51            | -67 19  | 201 56 | Erebus. | 8                            | -28 12            |
| -49 28  | 189 00  | Erebus.                             | 7                            | -16 36            | -67 20  | 201 40 | Terror. | 11                           | -28 33            |
| -49 57  | 191 10  | Terror.                             | 12                           | -18 23            | -68 32  | 200 07 | Erebus. | 14                           | -30 25            |
| -50 03  | 191 27  | Erebus.                             | 6                            | -16 37            | -68 24  | 199 57 | Terror. | 13                           | -32 43            |
| -50 54  | 192 33  | Terror.                             | 8                            | -15 16            | -68 47  | 199 45 | Erebus. | 13                           | -32 33            |
| -50 53  | 192 30  | Erebus.                             | 18                           | -15 14            | -68 52  | 199 40 | Terror. | 7                            | -30 47            |
| -51 39  | 194 53  | Terror.                             | 8                            | -13 58            | -70 10  | 186 15 | Erebus. | 9                            | -35 42            |
| -51 50  | 195 06  | Erebus.                             | 10                           | -14 54            | -70 25  | 185 38 | Terror. | 11                           | -38 55            |
| -52 43  | 202 14  | Terror.                             | 11                           | -13 06            | -70 33  | 185 22 | Erebus. | 11                           | -38 21            |
| -53 05  | 204 33  | Erebus.                             | 12                           | -13 06            | -70 32  | 185 13 | Terror. | 12                           | -38 17            |
| -53 10  | 205 28  | Terror.                             | 8                            | -15 16            | -70 23  | 184 31 | Erebus. | 10                           | -37 35            |
| -54 54  | 209 24  | Erebus.                             | 8                            | -15 14            | -70 14  | 184 00 | Terror. | 17                           | -37 19            |
| -56 20  | 211 40  | Terror.                             | 14                           | -15 14            | -70 14  | 183 52 | Erebus. | 11                           | -36 28            |
|         |         |                                     |                              |                   | -71 04  | 180 46 | Terror. | 5                            | -40 45            |
|         |         |                                     |                              |                   | -72 10  | 180 58 | Erebus. | 1                            | -45 37            |
|         |         |                                     |                              |                   | -73 14  | 181 08 | Terror. | 2                            | -51 48            |
|         |         |                                     |                              |                   | -75 06  | 173 14 | Erebus. | 3                            | -77 17            |

## Observations of Declination. (Continued.)

| Lat.   | Long.  | Ship.   | No. of observations. | Declination. | Lat.   | Long.  | Ship.                             | No. of observations. | Declination. |
|--------|--------|---------|----------------------|--------------|--------|--------|-----------------------------------|----------------------|--------------|
| —75 40 | 174 56 | Terror. | 5                    | —76 03       | —58 50 | 222 00 | Terror.                           | 4                    | —16 03       |
| —76 48 | 182 33 | Erebus. | 6                    | —86 23       | —58 58 | 227 00 | Terror.                           | 1                    | —17 01       |
| —76 54 | 182 17 | Terror. | 3                    | —82 28       | —59 04 | 229 00 | Erebus.                           | 4                    | —17 49       |
| —76 12 | 191 40 | Terror. | 2                    | —70 22       | —60 18 | 236 30 | Terror.                           | 3                    | —20 57       |
| —76 42 | 194 37 | Erebus. | 10                   | —79 57       | —60 14 | 236 32 | Erebus.                           | 3                    | —20 56       |
| —76 46 | 194 40 | Terror. | 8                    | —81 23       | —60 02 | 240 31 | Terror.                           | 1                    | —20 48       |
| —78 03 | 197 31 | Erebus. | 10                   | —87 31       | —59 17 | 245 40 | Erebus.                           | 1                    | —20 14       |
| —77 57 | 197 54 | Terror. | 8                    | —88 01       | —58 28 | 251 40 | Terror.                           | 4                    | —22 46       |
| —77 44 | 198 07 | Erebus. | 10                   | —88 08       | —58 40 | 251 52 | Erebus.                           | 3                    | —21 47       |
| —75 17 | 195 06 | Terror. | 5                    | —64 33       | —58 40 | 254 59 | Erebus.                           | 4                    | —23 28       |
| —74 49 | 193 56 | Erebus. | 6                    | —62 17       | —58 36 | 255 20 | Terror.                           | 7                    | —24 46       |
| —71 56 | 186 36 | Erebus. | 2                    | —45 11       | —58 46 | 257 50 | Terror.                           | 3                    | —26 13       |
| —71 08 | 184 54 | Erebus. | 5                    | —39 20       | —58 46 | 258 07 | Erebus.                           | 3                    | —25 25       |
| —70 58 | 184 03 | Terror. | 3                    | —38 26       | —59 00 | 267 56 | Terror.                           | 8                    | —26 25       |
| —70 10 | 180 20 | Terror. | 3                    | —31 26       | —59 01 | 268 34 | Erebus.                           | 9                    | —26 17       |
| —69 50 | 180 16 | Erebus. | 12                   | —30 50       | —59 02 | 272 04 | Erebus.                           | 1                    | —26 51       |
| —68 17 | 183 27 | Erebus. | 12                   | —27 32       | —59 04 | 272 20 | Terror.                           | 4                    | —27 08       |
| —68 02 | 183 35 | Terror. | 4                    | —28 50       | —58 51 | 276 04 | Erebus.                           | 5                    | —26 18       |
| —67 30 | 185 00 | Terror. | 7                    | —29 46       | —58 55 | 276 26 | Terror.                           | 7                    | —28 25       |
| —67 25 | 186 42 | Erebus. | 4                    | —27 32       | —58 21 | 279 48 | Terror.                           | 10                   | —27 13       |
| —65 51 | 190 25 | Terror. | 6                    | —25 02       | —58 20 | 280 27 | Erebus.                           | 5                    | —25 04       |
| —65 07 | 192 24 | Erebus. | 7                    | —23 40       | —58 30 | 282 00 | Terror.                           | 10                   | —26 49       |
| —63 33 | 194 53 | Erebus. | 1                    | —21 57       | —58 30 | 282 05 | Erebus.                           | 8                    | —26 14       |
| —62 26 | 195 40 | Terror. | 4                    | —19 41       | —58 32 | 283 40 | Erebus.                           | 7                    | —26 18       |
| —62 20 | 196 15 | Erebus. | 5                    | —19 51       | —58 29 | 283 33 | Terror.                           | 8                    | —26 13       |
| —61 00 | 199 00 | Terror. | 4                    | —19 49       | —57 35 | 288 54 | Terror.                           | 1                    | —25 16       |
| —61 02 | 199 25 | Erebus. | 8                    | —18 42       | —56 46 | 294 30 | Terror.                           | 2                    | —20 26       |
| —60 20 | 205 12 | Terror. | 4                    | —18 20       | —52 14 | 301 09 | Terror.                           | 4                    | —18 25       |
| —60 26 | 203 26 | Erebus. | 4                    | —17 31       | —52 16 | 301 06 | Erebus.                           | 6                    | —16 29       |
| —60 16 | 212 59 | Erebus. | 4                    | —17 01       |        |        | { On shore<br>at Port<br>Louis* } | ....                 | —17 36       |
| —60 05 | 213 51 | Terror. | 6                    | —17 19       | —51 32 | 301 53 |                                   |                      |              |
| —58 59 | 220 30 | Erebus. | 6                    | —15 30       |        |        |                                   |                      |              |

\* The mean monthly results with the magnetometers of the Expedition at the observatory at Port Louis at the Falkland Islands were as follows:—

|                      |          |  |
|----------------------|----------|--|
| April . . . 1 to 23. | —17 50·3 | } Mean corresponding to<br>August 15, 1842.<br>—17 36·2. |
| May . . . 1 to 31.   | —17 43·7 |  |
| June . . . 1 to 30.  | —17 38·1 |  |
| July . . . 1 to 31.  | —17 35·6 |  |
| August . . 1 to 31.  | —17 33·0 |  |
| September 1 to 30.   | —17 32·3 |  |
| October . . 1 to 31. | —17 30·2 |  |
| November 1 to 26.    | —17 26·7 |  |

The easterly declination appears to be decreasing very rapidly at the Falkland Islands.

General Table of the Inclinations observed on board Her Majesty's Ships Erebus and Terror, between May 1841 and August 1842.

| Lat.   | Long.  | Ship.   | No. of observations. | Inclination. | Lat.   | Long.  | Ship.   | No. of observations. | Inclination. |
|--------|--------|---------|----------------------|--------------|--------|--------|---------|----------------------|--------------|
| —43 00 | 148 28 | Erebus. | 5                    | —70 25       | —40 47 | 183 03 | Erebus. | 5                    | —62 21       |
| —42 43 | 148 55 | Terror. | 8                    | —70 44       | —40 42 | 183 05 | Terror. | 15                   | —61 56       |
| —42 13 | 149 25 | Erebus. | 5                    | —69 37       | —41 34 | 183 40 | Terror. | 7                    | —62 57       |
| —40 51 | 149 28 | Terror. | 4                    | —69 05       | —41 49 | 183 41 | Erebus. | 5                    | —63 28       |
| —40 55 | 149 12 | Erebus. | 4                    | —68 41       | —42 40 | 183 46 | Terror. | 7                    | —63 46       |
| —38 17 | 150 22 | Terror. | 4                    | —66 57       | —43 32 | 183 03 | Erebus. | 5                    | —64 44       |
| —37 50 | 150 22 | Erebus. | 4                    | —66 36       | —43 56 | 183 04 | Terror. | 15                   | —65 22       |
| —37 28 | 151 30 | Terror. | 4                    | —66 22       | —45 40 | 183 20 | Erebus. | 5                    | —66 35       |
| —37 21 | 151 33 | Erebus. | 5                    | —66 01       | —45 39 | 183 18 | Terror. | 14                   | —66 43       |
| —36 21 | 151 39 | Terror. | 3                    | —66 11       | —47 19 | 184 40 | Erebus. | 5                    | —67 56       |
| —36 01 | 151 48 | Erebus. | 4                    | —65 04       | —47 26 | 184 42 | Terror. | 14                   | —67 32       |
| —34 06 | 151 19 | Terror. | 4                    | —62 58       | —48 42 | 186 25 | Terror. | 15                   | —68 40       |
| —33 51 | 151 20 | Erebus. | 19                   | —62 47       | —48 43 | 186 30 | Erebus. | 6                    | —69 05       |
| —33 51 | 151 17 | Terror. | 7                    | —62 59*      | —49 24 | 187 23 | Terror. | 15                   | —68 59       |
| —33 51 | 151 17 | Erebus. | 8                    | —62 48*      | —49 23 | 188 29 | Erebus. | 9                    | —69 41       |
| —33 51 | 151 17 | Terror. | 11                   | —62 52       | —49 30 | 189 19 | Terror. | 14                   | —68 55       |
| —33 51 | 151 17 | Erebus. | 7                    | —62 42       | —50 03 | 191 20 | Terror. | 14                   | —68 43       |
| —33 58 | 153 35 | Terror. | 8                    | —62 30       | —50 24 | 191 40 | Erebus. | 10                   | —69 43       |
| —33 52 | 154 07 | Erebus. | 5                    | —62 47       | —50 38 | 192 05 | Terror. | 14                   | —69 25       |
| —33 56 | 156 38 | Terror. | 4                    | —61 46       | —51 48 | 194 25 | Terror. | 15                   | —69 51       |
| —33 51 | 157 18 | Erebus. | 5                    | —62 07       | —51 48 | 196 20 | Erebus. | 10                   | —70 21       |
| —33 31 | 160 20 | Terror. | 4                    | —61 04       | —52 28 | 199 05 | Terror. | 11                   | —70 10       |
| —33 27 | 160 43 | Erebus. | 5                    | —61 30       | —52 51 | 203 56 | Terror. | 8                    | —70 01       |
| —33 42 | 164 05 | Terror. | 4                    | —60 52       | —52 54 | 203 00 | Erebus. | 11                   | —70 44       |
| —33 38 | 163 42 | Erebus. | 5                    | —60 48       | —53 01 | 205 08 | Erebus. | 6                    | —70 10       |
| —33 38 | 166 28 | Erebus. | 5                    | —60 07       | —53 12 | 205 40 | Terror. | 15                   | —69 52       |
| —33 44 | 166 37 | Terror. | 10                   | —59 55       | —54 31 | 208 46 | Terror. | 11                   | —70 10       |
| —33 33 | 167 38 | Terror. | 9                    | —59 58       | —54 53 | 209 24 | Terror. | 12                   | —70 21       |
| —33 22 | 167 40 | Erebus. | 5                    | —59 39       | —55 01 | 209 47 | Erebus. | 10                   | —70 58       |
| —33 00 | 169 00 | Terror. | 9                    | —58 43       | —55 50 | 211 10 | Erebus. | 10                   | —71 28       |
| —32 58 | 169 20 | Erebus. | 5                    | —59 04       | —56 14 | 211 43 | Terror. | 14                   | —71 41       |
| —32 12 | 170 27 | Erebus. | 4                    | —58 33       | —56 39 | 212 10 | Erebus. | 10                   | —72 18       |
| —32 11 | 171 01 | Terror. | 11                   | —57 28       | —56 06 | 212 20 | Erebus. | 6                    | —72 08       |
| —33 57 | 171 58 | Erebus. | 8                    | —58 24       | —56 40 | 211 57 | Terror. | 12                   | —72 00       |
| —33 55 | 171 59 | Terror. | 5                    | —58 24       | —57 06 | 212 12 | Terror. | 12                   | —72 14       |
| —34 29 | 173 36 | Erebus. | 6                    | —58 26       | —57 57 | 213 02 | Terror. | 10                   | —73 09       |
| —33 58 | 172 06 | Terror. | 7                    | —58 14       | —58 38 | 213 10 | Terror. | 11                   | —73 45       |
| —34 15 | 172 50 | Terror. | 10                   | —58 48       | —58 39 | 213 17 | Erebus. | 11                   | —73 45       |
| —34 24 | 173 43 | Terror. | 7                    | —59 00       | —61 12 | 213 52 | Terror. | 14                   | —75 32       |
| —35 16 | 174 00 | Terror. | 3                    | —59 36       | —61 18 | 213 57 | Erebus. | 11                   | —75 32       |
| —35 16 | 174 00 | Erebus. | 10                   | —59 31†      | —62 36 | 212 36 | Terror. | 8                    | —76 37       |
| —35 16 | 174 00 | Terror. | 14                   | —59 25‡      | —62 40 | 212 53 | Erebus. | 7                    | —76 36       |
| —35 16 | 174 23 | Erebus. | 10                   | —59 28       | —63 11 | 210 18 | Terror. | 12                   | —77 37       |
| —36 05 | 176 17 | Terror. | 12                   | —59 20       | —63 23 | 210 02 | Erebus. | 5                    | —77 26       |
| —36 27 | 177 34 | Erebus. | 5                    | —59 54       | —63 23 | 210 02 | Erebus. | 4                    | —77 25§      |
| —38 17 | 179 51 | Erebus. | 6                    | —60 34       | —63 23 | 210 02 | Erebus. | 3                    | —77 30       |
| —38 16 | 179 58 | Terror. | 15                   | —60 37       | —63 36 | 208 20 | Terror. | 10                   | —77 53       |
| —38 54 | 182 17 | Terror. | 17                   | —61 21       | —63 49 | 208 29 | Terror. | 10                   | —77 56       |
| —39 08 | 182 30 | Erebus. | 11                   | —61 34       | —63 47 | 208 26 | Erebus. | 5                    | —77 57       |
| —39 21 | 182 57 | Terror. | 16                   | —61 15       | —64 25 | 206 29 | Terror. | 14                   | —78 30       |

\* On shore at Garden Island, Sydney; inclination by needles whose poles were reversed, —62° 49' 1.

† Correct; in page 174 it is printed by mistake —59° 29'.

‡ On shore at the Bay of Islands, New Zealand; inclination by needles whose poles are reversed, —59° 31' 9.

§ On ice; the inclination observed with needles whose poles were reversed, was —77° 23' 3.

General Table of Inclination. (Continued.)

| Lat.   | Long.  | Ship.   | No. of observations. | Inclination. | Lat.   | Long.  | Ship.   | No. of observations. | Inclination. |
|--------|--------|---------|----------------------|--------------|--------|--------|---------|----------------------|--------------|
| —64 42 | 206 47 | Erebus. | 8                    | —78 20       | —69 53 | 182 51 | Terror. | 7                    | —84 09       |
| —65 13 | 206 03 | Erebus. | 11                   | —78 57       | —70 37 | 181 09 | Erebus. | 9                    | —84 06       |
| —65 26 | 205 04 | Terror. | 15                   | —79 16       | —71 03 | 180 57 | Terror. | 8                    | —84 20       |
| —65 47 | 204 19 | Terror. | 13                   | —79 26       | —72 46 | 181 46 | Erebus. | 6                    | —85 04       |
| —65 47 | 204 19 | Terror. | 13                   | —79 28       | —72 07 | 181 50 | Terror. | 9                    | —84 59       |
| —65 50 | 204 08 | Terror. | 11                   | —79 30       | —73 08 | 181 03 | Terror. | 9                    | —85 22       |
| —65 58 | 204 03 | Erebus. | 22                   | —79 31*      | —73 53 | 180 06 | Erebus. | 2                    | —86 02       |
| —65 59 | 204 03 | Terror. | 8                    | —79 39       | —74 56 | 173 36 | Erebus. | 6                    | —86 52       |
| —66 08 | 203 50 | Terror. | 10                   | —79 39       | —74 59 | 173 40 | Terror. | 13                   | —87 05       |
| —66 06 | 203 41 | Erebus. | 12                   | —79 53       | —75 10 | 173 08 | Erebus. | 5                    | —86 59       |
| —66 19 | 203 09 | Terror. | 14                   | —80 01       | —75 59 | 175 13 | Erebus. | 6                    | —86 44       |
| —66 26 | 203 25 | Erebus. | 13                   | —79 57       | —76 05 | 174 58 | Terror. | 8                    | —87 03       |
| —66 21 | 203 34 | Terror. | 6                    | —80 03       | —76 58 | 181 03 | Erebus. | 5                    | —86 46       |
| —66 20 | 203 59 | Terror. | 9                    | —79 52       | —77 03 | 181 35 | Terror. | 8                    | —86 56       |
| —66 34 | 203 34 | Erebus. | 42                   | —79 55       | —76 43 | 184 30 | Erebus. | 6                    | —86 07       |
| —66 05 | 204 02 | Terror. | 12                   | —79 51       | —76 48 | 184 58 | Terror. | 8                    | —86 30       |
| —66 01 | 204 04 | Terror. | 12                   | —79 50       | —76 15 | 191 10 | Terror. | 9                    | —85 59       |
| —66 11 | 204 21 | Erebus. | 14                   | —79 44       | —76 03 | 193 43 | Erebus. | 2                    | —85 18       |
| —66 13 | 204 33 | Erebus. | 11                   | —79 34       | —76 42 | 194 42 | Erebus. | 6                    | —85 25       |
| —65 59 | 204 01 | Erebus. | 14                   | —79 38       | —76 48 | 194 21 | Terror. | 15                   | —85 12       |
| —65 57 | 203 56 | Terror. | 14                   | —79 47       | —77 05 | 194 38 | Erebus. | 5                    | —85 24       |
| —65 53 | 203 29 | Terror. | 10                   | —79 51       | —77 47 | 197 25 | Terror. | 9                    | —84 49       |
| —66 11 | 202 12 | Terror. | 13                   | —79 48       | —77 45 | 197 48 | Erebus. | 5                    | —84 49       |
| —66 12 | 203 04 | Erebus. | 8                    | —79 35       | —77 12 | 199 24 | Terror. | 8                    | —85 35       |
| —66 08 | 201 46 | Terror. | 11                   | —79 35       | —74 50 | 193 45 | Erebus. | 6                    | —84 49       |
| —65 49 | 202 02 | Erebus. | 4                    | —79 47†      | —75 20 | 194 36 | Terror. | 9                    | —85 46       |
| —65 50 | 202 14 | Terror. | 13                   | —79 38       | —72 46 | 189 59 | Erebus. | 5                    | —84 38       |
| —66 09 | 202 56 | Erebus. | 9                    | —79 33       | —73 10 | 189 41 | Terror. | 7                    | —85 08       |
| —67 02 | 201 00 | Terror. | 12                   | —80 22       | —72 01 | 187 35 | Erebus. | 5                    | —84 10       |
| —66 39 | 202 14 | Erebus. | 6                    | —80 01       | —71 01 | 187 37 | Terror. | 9                    | —84 56       |
| —67 12 | 202 12 | Terror. | 10                   | —80 06       | —71 08 | 184 59 | Erebus. | 6                    | —84 04       |
| —67 36 | 204 00 | Erebus. | 9                    | —80 22       | —71 12 | 184 20 | Terror. | 10                   | —84 37       |
| —67 46 | 204 17 | Terror. | 15                   | —80 43       | —69 54 | 179 55 | Terror. | 8                    | —84 30       |
| —67 47 | 204 17 | Terror. | 15                   | —80 48       | —69 52 | 180 04 | Erebus. | 5                    | —83 34       |
| —67 16 | 203 20 | Terror. | 16                   | —80 44       | —69 44 | 179 53 | Erebus. | 5                    | —83 31       |
| —67 19 | 202 52 | Erebus. | 11                   | —80 26       | —68 09 | 183 10 | Terror. | 7                    | —82 26       |
| —67 14 | 201 34 | Terror. | 18                   | —80 35       | —68 04 | 183 25 | Erebus. | 10                   | —82 13       |
| —67 57 | 200 00 | Erebus. | 7                    | —80 46       | —67 37 | 186 06 | Terror. | 15                   | —81 33       |
| —68 38 | 199 57 | Terror. | 14                   | —81 18       | —67 31 | 185 13 | Erebus. | 6                    | —81 51       |
| —68 33 | 199 52 | Erebus. | 11                   | —81 14       | —67 09 | 188 02 | Terror. | 7                    | —81 03       |
| —68 46 | 199 38 | Terror. | 11                   | —81 33       | —67 19 | 188 10 | Erebus. | 5                    | —81 02       |
| —68 59 | 195 54 | Erebus. | 6                    | —81 54       | —65 18 | 191 39 | Terror. | 10                   | —79 42       |
| —68 52 | 198 24 | Terror. | 7                    | —82 30       | —65 21 | 191 43 | Erebus. | 5                    | —79 19       |
| —69 48 | 192 25 | Erebus. | 5                    | —82 35       | —63 30 | 194 15 | Terror. | 7                    | —78 30       |
| —69 55 | 192 17 | Terror. | 10                   | —83 00       | —63 30 | 194 22 | Erebus. | 6                    | —78 11       |
| —70 05 | 191 03 | Terror. | 9                    | —83 20       | —62 17 | 195 55 | Terror. | 7                    | —77 30       |
| —70 07 | 191 11 | Erebus. | 6                    | —82 51       | —62 16 | 196 10 | Erebus. | 5                    | —77 17       |
| —70 26 | 189 00 | Erebus. | 5                    | —83 07       | —61 06 | 198 08 | Terror. | 9                    | —76 32       |
| —70 18 | 186 01 | Erebus. | 5                    | —83 18       | —61 11 | 198 45 | Erebus. | 5                    | —76 34       |
| —70 12 | 186 23 | Terror. | 17                   | —83 23       | —60 50 | 200 11 | Erebus. | 5                    | —75 33       |
| —70 39 | 185 31 | Erebus. | 6                    | —83 35       | —60 57 | 199 03 | Terror. | 7                    | —75 08       |
| —70 32 | 185 38 | Terror. | 10                   | —83 30       | —60 18 | 204 46 | Erebus. | 7                    | —75 08       |
| —70 11 | 183 50 | Erebus. | 5                    | —83 33       | —60 15 | 208 06 | Terror. | 7                    | —74 21       |
| —69 56 | 184 43 | Terror. | 8                    | —84 03       | —60 13 | 211 44 | Erebus. | 6                    | —74 21       |

\* The inclination observed in Lat. —65° 59', Long. 204° 14', with needles whose poles were reversed, was —79° 31' 0.

† Observed on ice; inclination with needles whose poles were reversed, —79° 39' 5.

General Table of Inclination. (Continued.)

| Lat.   | Long.  | Ship.   | No. of observations. | Inclination. | Lat.   | Long.  | Ship.   | No. of observations. | Inclination. |
|--------|--------|---------|----------------------|--------------|--------|--------|---------|----------------------|--------------|
| —60 16 | 211 52 | Terror. | 8                    | —74 14       | —59 00 | 267 18 | Erebus. | 6                    | —67 39       |
| —59 58 | 216 28 | Terror. | 7                    | —73 36       | —59 02 | 271 58 | Erebus. | 5                    | —67 01       |
| —59 24 | 218 55 | Erebus. | 11                   | —73 30       | —59 01 | 272 06 | Terror. | 8                    | —66 53       |
| —59 07 | 219 12 | Terror. | 17                   | —73 48       | —58 54 | 276 18 | Terror. | 7                    | —66 10       |
| —58 53 | 222 27 | Erebus. | 7                    | —73 38       | —58 51 | 277 05 | Erebus. | 6                    | —65 27       |
| —59 04 | 228 09 | Terror. | 9                    | —73 25       | —58 25 | 279 44 | Terror. | 8                    | —64 44       |
| —59 03 | 228 33 | Erebus. | 7                    | —72 57       | —58 23 | 280 03 | Erebus. | 5                    | —64 49       |
| —59 39 | 232 48 | Erebus. | 5                    | —72 54       | —58 31 | 281 38 | Terror. | 9                    | —63 48       |
| —59 45 | 233 55 | Erebus. | 4                    | —72 51       | —58 29 | 282 10 | Erebus. | 5                    | —63 41       |
| —60 09 | 236 11 | Terror. | 11                   | —73 01       | —58 36 | 285 33 | Terror. | 7                    | —63 00       |
| —60 16 | 236 11 | Erebus. | 5                    | —73 00       | —58 31 | 285 56 | Erebus. | 5                    | —63 05       |
| —60 21 | 237 02 | Erebus. | 5                    | —72 45       | —57 21 | 289 36 | Terror. | 7                    | —61 36       |
| —60 22 | 237 14 | Terror. | 10                   | —73 08       | —57 22 | 289 50 | Erebus. | 5                    | —61 15       |
| —60 20 | 237 54 | Erebus. | 9                    | —72 44       | —57 26 | 291 36 | Terror. | 8                    | —59 52       |
| —60 01 | 241 31 | Erebus. | 5                    | —72 40       | —57 11 | 292 14 | Erebus. | 6                    | —58 51       |
| —59 17 | 245 40 | Erebus. | 5                    | —71 29       | —56 37 | 294 34 | Terror. | 7                    | —59 02       |
| —59 11 | 246 37 | Terror. | 10                   | —71 24       | —56 40 | 294 46 | Erebus. | 5                    | —59 01       |
| —59 15 | 248 12 | Erebus. | 5                    | —71 26       | —54 48 | 297 21 | Terror. | 7                    | —56 48       |
| —58 59 | 249 18 | Erebus. | 6                    | —71 04       | —54 50 | 298 08 | Erebus. | 4                    | —56 10       |
| —58 26 | 251 42 | Terror. | 7                    | —70 55       | —52 54 | 300 27 | Erebus. | 5                    | —53 52       |
| —58 29 | 252 18 | Erebus. | 5                    | —70 50       | —52 34 | 300 10 | Terror. | 15                   | —53 25       |
| —58 33 | 254 45 | Terror. | 7                    | —70 16       | —52 03 | 301 56 | Erebus. | 3                    | —52 34       |
| —58 35 | 255 10 | Erebus. | 5                    | —70 11       | —51 42 | 301 36 | Terror. | 7                    | —52 04       |
| —58 42 | 257 44 | Terror. | 10                   | —69 50       | —51 32 | 301 53 | Erebus. | 8                    | —52 36*      |
| —58 45 | 257 58 | Erebus. | 5                    | —69 47       | —51 32 | 301 53 | Terror. | 25                   | —52 15*      |
| —58 58 | 267 18 | Terror. | 8                    | —68 00       |        |        |         |                      |              |

\* Observed on shore at the Falkland Islands; the Inclination with needles whose poles were reversed, was 52° 26'2.

General Table of the Intensity of the Magnetic Force, from the observations made on board Her Majesty's Ships Erebus and Terror, between April 1841 and August 1842.

| Lat.   | Long.  | Ship.   | No. of observations. | Intensity.      | Lat.   | Long.  | Ship.   | No. of observations. | Intensity.      |
|--------|--------|---------|----------------------|-----------------|--------|--------|---------|----------------------|-----------------|
|        |        |         |                      | London = 1.372. |        |        |         |                      | London = 1.372. |
| —43 00 | 148 28 | Erebus. | 2                    | 1.853           | —43 54 | 183 06 | Terror. | 8                    | 1.707           |
| —43 03 | 148 20 | Terror. | 2                    | 1.849           | —45 39 | 183 18 | Terror. | 8                    | 1.733           |
| —42 13 | 149 29 | Erebus. | 2                    | 1.823           | —46 29 | 184 00 | Erebus. | 4                    | 1.744           |
| —42 24 | 149 30 | Terror. | 2                    | 1.822           | —47 26 | 184 37 | Terror. | 8                    | 1.753           |
| —40 54 | 149 13 | Erebus. | 2                    | 1.818           | —48 18 | 185 54 | Terror. | 10                   | 1.772           |
| —40 51 | 149 28 | Terror. | 2                    | 1.814           | —49 04 | 187 11 | Erebus. | 7                    | 1.767           |
| —38 17 | 150 22 | Terror. | 2                    | 1.795           | —49 05 | 186 54 | Terror. | 10                   | 1.772           |
| —37 31 | 151 09 | Erebus. | 3                    | 1.769           | —49 27 | 189 13 | Erebus. | 5                    | 1.773           |
| —37 28 | 151 30 | Terror. | 2                    | 1.758           | —49 24 | 187 23 | Terror. | 11                   | 1.772           |
| —34 35 | 151 30 | Erebus. | 3                    | 1.734           | —49 27 | 189 51 | Terror. | 14                   | 1.775           |
| —34 51 | 151 25 | Terror. | 3                    | 1.738           | —49 50 | 190 46 | Terror. | 10                   | 1.766           |
| —33 51 | 151 17 | Erebus. | 14                   | 1.698*          | —50 14 | 191 06 | Erebus. | 7                    | 1.780           |
| —33 51 | 151 17 | Terror. | 16                   | 1.699*          | —50 08 | 191 39 | Terror. | 6                    | 1.771           |
| —33 51 | 151 17 | Erebus. | 6                    | 1.719           | —50 42 | 192 11 | Terror. | 14                   | 1.777           |
| —33 51 | 151 17 | Terror. | 4                    | 1.719           | —51 34 | 194 29 | Erebus. | 5                    | 1.806           |
| —32 52 | 154 07 | Erebus. | 2                    | 1.708           | —51 37 | 194 00 | Terror. | 10                   | 1.794           |
| —33 57 | 153 35 | Terror. | 4                    | 1.703           | —52 13 | 197 03 | Terror. | 9                    | 1.799           |
| —33 51 | 157 18 | Erebus. | 2                    | 1.680           | —52 43 | 201 40 | Erebus. | 7                    | 1.822           |
| —33 56 | 156 38 | Terror. | 2                    | 1.679           | —52 52 | 204 31 | Terror. | 20                   | 1.820           |
| —33 27 | 160 43 | Erebus. | 2                    | 1.668           | —53 01 | 205 08 | Erebus. | 5                    | 1.825           |
| —33 31 | 160 20 | Terror. | 2                    | 1.671           | —53 31 | 206 14 | Terror. | 10                   | 1.834           |
| —33 38 | 163 42 | Erebus. | 2                    | 1.655           | —54 54 | 209 16 | Terror. | 13                   | 1.814           |
| —33 42 | 163 50 | Terror. | 4                    | 1.658           | —55 08 | 210 00 | Erebus. | 6                    | 1.846           |
| —33 41 | 166 23 | Erebus. | 2                    | 1.638           | —56 14 | 211 43 | Terror. | 8                    | 1.836           |
| —33 44 | 166 37 | Terror. | 5                    | 1.627           | —56 38 | 211 30 | Erebus. | 8                    | 1.851           |
| —33 22 | 167 40 | Erebus. | 2                    | 1.630           | —56 30 | 211 50 | Terror. | 10                   | 1.841           |
| —33 34 | 167 37 | Terror. | 5                    | 1.600           | —57 04 | 212 06 | Terror. | 8                    | 1.843           |
| —32 58 | 169 20 | Erebus. | 2                    | 1.620           | —58 08 | 212 40 | Erebus. | 4                    | 1.866           |
| —32 58 | 169 20 | Terror. | 4                    | 1.604           | —57 44 | 212 59 | Terror. | 8                    | 1.863           |
| —32 11 | 171 02 | Terror. | 6                    | 1.589           | —58 32 | 213 09 | Terror. | 14                   | 1.878           |
| —33 32 | 171 59 | Erebus. | 6                    | 1.596           | —58 45 | 213 19 | Erebus. | 7                    | 1.888           |
| —33 57 | 172 04 | Terror. | 6                    | 1.601           | —61 02 | 213 52 | Terror. | 14                   | 1.892           |
| —34 15 | 172 50 | Terror. | 5                    | 1.597           | —61 20 | 213 57 | Erebus. | 4                    | 1.923           |
| —34 24 | 173 43 | Terror. | 4                    | 1.619           | —62 34 | 212 34 | Terror. | 10                   | 1.916           |
| —35 16 | 174 00 | Erebus. | 26                   | 1.607†          | —62 40 | 212 53 | Erebus. | 2                    | 1.937           |
|        |        | Terror. | 24                   | 1.608†          | —63 21 | 209 37 | Terror. | 8                    | 1.910           |
| —35 16 | 174 00 | Terror. | 2                    | 1.610           | —63 23 | 210 02 | Erebus. | 2                    | 1.952           |
| —35 16 | 174 00 | Erebus. | 2                    | 1.620           | —63 23 | 210 02 | Erebus. | 2                    | 1.938‡          |
| —36 20 | 177 27 | Terror. | 4                    | 1.616           | —64 02 | 207 33 | Terror. | 8                    | 1.927           |
| —35 15 | 173 39 | Erebus. | 2                    | 1.624           | —63 47 | 208 26 | Erebus. | 6                    | 1.945           |
| —36 27 | 177 34 | Erebus. | 2                    | 1.625           | —64 49 | 206 36 | Erebus. | 8                    | 1.948           |
| —38 13 | 179 46 | Terror. | 8                    | 1.634           | —64 51 | 206 19 | Terror. | 8                    | 1.943           |
| —38 17 | 179 31 | Erebus. | 2                    | 1.627           | —65 26 | 205 04 | Terror. | 8                    | 1.931           |
| —38 54 | 182 05 | Terror. | 10                   | 1.640           | —66 00 | 204 09 | Erebus. | 15                   | 1.971           |
| —39 10 | 182 58 | Erebus. | 4                    | 1.628           | —65 50 | 204 12 | Terror. | 8                    | 1.950           |
| —40 02 | 183 02 | Terror. | 16                   | 1.652           | —66 33 | 203 28 | Erebus. | 4                    | 1.981           |
| —40 47 | 183 03 | Erebus. | 2                    | 1.672           | —66 09 | 203 51 | Terror. | 5                    | 1.949           |
| —41 34 | 183 40 | Terror. | 10                   | 1.666           | —66 09 | 204 26 | Erebus. | 11                   | 1.970           |
| —41 49 | 183 41 | Erebus. | 2                    | 1.684           | —66 07 | 204 00 | Terror. | 18                   | 1.944           |
| —42 40 | 183 46 | Terror. | 4                    | 1.682           | —66 10 | 203 58 | Erebus. | 12                   | 1.973           |
| —43 32 | 183 03 | Erebus. | 2                    | 1.714           | —65 57 | 203 56 | Terror. | 14                   | 1.949           |

\* On shore at Garden Island, Sydney.

† On shore at the Bay of Islands, New Zealand.

‡ Observed on ice.

General Table of the Intensity of the Magnetic Force. (Continued.)

| Lat.     | Long.    | Ship.   | No. of observations. | Intensity.      | Lat.     | Long.    | Ship.   | No. of observations. | Intensity.      |
|----------|----------|---------|----------------------|-----------------|----------|----------|---------|----------------------|-----------------|
|          |          |         |                      | London = 1°372. |          |          |         |                      | London = 1°372. |
| —66° 03' | 202° 29' | Terror. | 12                   | 1·945           | —67° 35' | 185° 18' | Terror. | 10                   | 1·978           |
| —65 49   | 202 02   | Erebus. | 6                    | 1·959*          | —67 24   | 187 51   | Terror. | 8                    | 1·981           |
| —65 47   | 202 08   | Terror. | 10                   | 1·948*          | —66 56   | 189 36   | Erebus. | 4                    | 1·980           |
| —67 16   | 203 40   | Erebus. | 8                    | 1·976           | —65 17   | 191 58   | Terror. | 10                   | 1·955           |
| —67 46   | 204 17   | Terror. | 10                   | 1·960           | —63 30   | 194 15   | Terror. | 4                    | 1·942           |
| —67 37   | 204 12   | Terror. | 10                   | 1·965           | —63 05   | 195 18   | Erebus. | 6                    | 1·941           |
| —67 21   | 202 15   | Erebus. | 6                    | 1·967           | —61 57   | 196 33   | Terror. | 14                   | 1·916           |
| —67 12   | 202 24   | Terror. | 6                    | 1·946           | —61 07   | 199 05   | Erebus. | 7                    | 1·924           |
| —67 15   | 201 34   | Terror. | 8                    | 1·935           | —60 19   | 203 42   | Terror. | 4                    | 1·920           |
| —68 08   | 199 57   | Terror. | 8                    | 1·955           | —60 16   | 207 52   | Erebus. | 4                    | 1·881           |
| —68 29   | 199 55   | Erebus. | 9                    | 1·991           | —60 15   | 209 55   | Terror. | 8                    | 1·907           |
| —68 46   | 199 39   | Terror. | 13                   | 1·961           | —59 13   | 216 28   | Terror. | 4                    | 1·910           |
| —68 52   | 198 24   | Terror. | 10                   | 1·966           | —59 22   | 218 14   | Terror. | 4                    | 1·900           |
| —69 29   | 192 24   | Erebus. | 8                    | 2·001           | —58 33   | 220 27   | Erebus. | 7                    | 1·878           |
| —70 00   | 191 36   | Terror. | 9                    | 1·965           | —58 49   | 221 25   | Terror. | 4                    | 1·913           |
| —70 14   | 196 16   | Terror. | 15                   | 1·976           | —59 01   | 227 43   | Terror. | 4                    | 1·897           |
| —70 18   | 185 16   | Terror. | 10                   | 1·983           | —59 29   | 231 53   | Erebus. | 6                    | 1·890           |
| —70 23   | 185 33   | Erebus. | 8                    | 1·996           | —60 18   | 236 31   | Erebus. | 6                    | 1·909           |
| —70 27   | 181 59   | Terror. | 8                    | 1·988           | —60 05   | 235 56   | Terror. | 4                    | 1·884           |
| —70 28   | 181 20   | Erebus. | 5                    | 1·999           | —60 17   | 236 38   | Terror. | 4                    | 1·892           |
| —72 41   | 181 41   | Terror. | 8                    | 2·001           | —60 20   | 237 55   | Erebus. | 4                    | 1·907           |
| —72 46   | 181 46   | Erebus. | 4                    | 1·989           | —60 24   | 237 29   | Terror. | 4                    | 1·907           |
| —74 58   | 173 34   | Terror. | 10                   | 2·008           | —59 05   | 247 27   | Terror. | 4                    | 1·875           |
| —75 05   | 173 17   | Erebus. | 9                    | 2·024           | —59 31   | 245 13   | Erebus. | 8                    | 1·861           |
| —75 42   | 174 14   | Terror. | 7                    | 2·006           | —58 26   | 251 42   | Terror. | 4                    | 1·885           |
| —76 33   | 180 09   | Erebus. | 6                    | 2·021           | —58 33   | 254 45   | Terror. | 10                   | 1·824           |
| —77 02   | 181 37   | Terror. | 4                    | 2·007           | —58 36   | 255 30   | Erebus. | 7                    | 1·821           |
| —76 48   | 184 46   | Terror. | 4                    | 2·009           | —58 47   | 258 13   | Terror. | 8                    | 1·832           |
| —76 20   | 191 26   | Terror. | 4                    | 2·024           | —58 59   | 267 50   | Terror. | 4                    | 1·783           |
| —76 24   | 184 54   | Terror. | 4                    | 2·004           | —59 01   | 272 06   | Terror. | 4                    | 1·747           |
| —77 00   | 194 38   | Erebus. | 8                    | 2·009           | —58 58   | 272 35   | Erebus. | 6                    | 1·747           |
| —77 13   | 193 52   | Terror. | 10                   | 2·011           | —58 24   | 276 18   | Terror. | 4                    | 1·722           |
| —77 47   | 197 25   | Terror. | 4                    | 2·001           | —58 27   | 280 20   | Terror. | 12                   | 1·672           |
| —77 14   | 199 29   | Terror. | 10                   | 1·992           | —58 27   | 282 04   | Erebus. | 5                    | 1·652           |
| —75 20   | 194 36   | Terror. | 4                    | 2·003           | —58 36   | 285 33   | Terror. | 4                    | 1·648           |
| —74 50   | 193 45   | Erebus. | 2                    | 1·999           | —57 23   | 290 34   | Terror. | 8                    | 1·592           |
| —73 10   | 189 21   | Terror. | 4                    | 2·000           | —57 16   | 292 01   | Erebus. | 5                    | 1·544           |
| —72 24   | 188 47   | Erebus. | 4                    | 1·990           | —55 42   | 295 57   | Terror. | 8                    | 1·495           |
| —72 03   | 187 40   | Terror. | 10                   | 1·999           | —56 03   | 295 54   | Erebus. | 3                    | 1·478           |
| —71 34   | 186 09   | Terror. | 10                   | 1·999           | —52 40   | 299 52   | Terror. | 9                    | 1·355           |
| —71 08   | 184 59   | Erebus. | 4                    | 2·009           | —52 54   | 300 57   | Erebus. | 5                    | 1·367           |
| —69 54   | 179 55   | Terror. | 4                    | 1·999           | —52 05   | 301 39   | Terror. | 8                    | 1·340           |
| —69 48   | 179 56   | Erebus. | 4                    | 1·994           | —51 32   | 301 53   | Erebus. | 24                   | 1·333†          |
| —68 09   | 183 10   | Terror. | 4                    | 1·981           | —51 32   | 301 53   | Terror. | 30                   | 1·336†          |
| —68 04   | 183 25   | Erebus. | 4                    | 1·981           |          |          |         |                      |                 |

\* Observed on ice.

† On shore at the Falkland Islands.



## DECLINATIONS observed on board Her Majesty's Ship Erebus, between June 1841 and August 1842.

The Observers are distinguished in the column of Initials as follows:—R. Captain ROSS; S. Lieut. SIBBALD; W. Lieut. WOOD; T. Mr. TUCKER, Master; SM. Mr. SMITH, and O. Mr. OAKLEY, Mates; Y. Mr. YULE, Second Master. East Declination is characterised by the sign—.

| 1841.       | Position.         |                                 | Initials.  | Declination<br>observed. | Direction of<br>ship's head.                          | Inclination.                                     | Correction<br>for ship's<br>attraction. | Corrected<br>Declina-<br>tion. | Correction<br>for index<br>error. | True<br>Declination. | Remarks.                     |
|-------------|-------------------|---------------------------------|------------|--------------------------|---|--|---|--------------------------------|-----------------------------------|----------------------|------------------------------|
|             | Lat.              | Long.                           |            |                          |   |  |   |                                |                                   |                      |                              |
| May 10      | -42° 52' 147° 24' | Hobarton, Van<br>Diemen Island. | R.         | -10° 24.5                | Mean, 7 days' hourly observations with Declin. No. 1. | To obtain corrections for the ship's attraction. |   |                                |                                   | -10° 24'             | At the Magnetic Observatory. |
| 19          |                   |                                 | R.         | -10° 24.3                | Mean, 7 days' hourly observations with Declin. No. 2. |  |   |                                |                                   |                      |                              |
|             |                   |                                 | R.         | -10 36                   | N.  |  |   |                                |                                   |                      |                              |
|             |                   |                                 | R.         | -11 24                   | N. by W.  |  |   |                                |                                   |                      |                              |
|             |                   |                                 | R.         | -12 11                   | N.N.W.  |  |   |                                |                                   |                      |                              |
|             |                   |                                 | R.         | -12 44                   | N. W. by N.   |  |   |                                |                                   |                      |                              |
|             |                   |                                 | R.         | -13 04                   | N.W.  |  |   |                                |                                   |                      |                              |
|             |                   |                                 | R.         | -13 22                   | N.W. by W.  |  |   |                                |                                   |                      |                              |
|             |                   |                                 | R.         | -14 01                   | W.N.W.  |  |   |                                |                                   |                      |                              |
|             |                   |                                 | R.         | -14 42                   | W. by N.  |  |   |                                |                                   |                      |                              |
|             |                   |                                 | R.         | -15 08                   | W.  |  |   |                                |                                   |                      |                              |
|             |                   |                                 | R.         | -15 06                   | W. by S.  |  |   |                                |                                   |                      |                              |
|             |                   |                                 | R.         | -14 51                   | W.S.W.  |  |   |                                |                                   |                      |                              |
|             |                   |                                 | R.         | -14 29                   | S.W. by W.  |  |   |                                |                                   |                      |                              |
|             |                   |                                 | R.         | -13 51                   | S.W.  |  |   |                                |                                   |                      |                              |
|             |                   |                                 | R.         | -13 08                   | S.W. by S.  |  |   |                                |                                   |                      |                              |
|             | R.                | -12 25                          | S.S.W.     |                          |   |  |   |                                |                                   |                      |                              |
|             | R.                | -10 29                          | S. by W.   |                          |   |  |   |                                |                                   |                      |                              |
|             | R.                | - 9 26                          | S.         |                          |   |  |   |                                |                                   |                      |                              |
|             | R.                | - 7 38                          | S. by E.   |                          |   |  |   |                                |                                   |                      |                              |
|             | R.                | - 7 03                          | S.S.E.     |                          |   |  |   |                                |                                   |                      |                              |
|             | R.                | - 6 19                          | S.E. by S. |                          |   |  |   |                                |                                   |                      |                              |
|             | R.                | - 5 36                          | S.E.       |                          |   |  |   |                                |                                   |                      |                              |
|             | R.                | - 5 09                          | S.E. by E. |                          |   |  |   |                                |                                   |                      |                              |
|             | R.                | - 4 24                          | E.S.E.     |                          |   |  |   |                                |                                   |                      |                              |
|             | R.                | - 4 49                          | E. by S.   |                          |   |  |   |                                |                                   |                      |                              |
|             | R.                | - 5 02                          | E.         |                          |   |  |   |                                |                                   |                      |                              |
|             | R.                | - 5 24                          | E. by N.   |                          |   |  |   |                                |                                   |                      |                              |
|             | R.                | - 6 04                          | E.N.E.     |                          |   |  |   |                                |                                   |                      |                              |
|             | R.                | - 6 24                          | N.E. by E. |                          |   |  |   |                                |                                   |                      |                              |
|             | R.                | - 7 01                          | N.E.       |                          |   |  |   |                                |                                   |                      |                              |
|             | R.                | - 7 30                          | N.E. by N. |                          |   |  |   |                                |                                   |                      |                              |
|             | R.                | - 8 40                          | N.N.E.     |                          |   |  |   |                                |                                   |                      |                              |
|             | R.                | - 9 32                          | N. by E.   |                          |   |  |   |                                |                                   |                      |                              |
| July 7 P.M. | -43 17            | 148 07                          | R.         | - 5 33                   | E.S.E.  | -70 50   | -4 44                                   | -10 17                         | -0 37                             | -10 06               |                              |
| 9 P.M.      | -42 04            | 149 24                          | T.         | -12 30                   | W.N.W.  | -69 40   | +3 49                                   | - 8 41                         |                                   |                      |                              |
| 10 A.M.     | -40 55            | 149 12                          | T.         | -10 15                   | N. by W.  | -68 40   | +0 39                                   | - 9 36                         | -0 37                             | - 9 51               |                              |
| 10 P.M.     | -40 26            | 149 34                          | T.         | - 8 52                   | N.  |  | 0 00                                    | - 8 52                         |                                   |                      |                              |
| 11 P.M.     | -37 49            | 150 21                          | R.         | -10 47                   | N.  | -66 40   | 0 00                                    | -10 47                         | -0 37                             | -11 01               |                              |
|             |                   |                                 | R.         | - 9 57                   | N.  |  | 0 00                                    | - 9 57                         |                                   |                      |                              |
|             |                   |                                 | T.         | -10 56                   | N. by W.  |  | +0 35                                   | -10 21                         |                                   |                      |                              |
|             |                   |                                 | T.         | -10 55                   | N. by W.  |  | +0 35                                   | -10 20                         |                                   |                      |                              |
|             |                   |                                 | R.         | -10 54                   | N. by W.  |  | +0 35                                   | -10 19                         |                                   |                      |                              |
|             |                   |                                 | R.         | -10 04                   | N.  |  | 0 00                                    | -10 04                         |                                   |                      |                              |
|             |                   |                                 | R.         | -11 44                   | N.N.W.  |  | +1 10                                   | -10 34                         |                                   |                      |                              |
|             |                   |                                 | S.         | -11 53                   | N. by W.  |  | +0 35                                   | -11 18                         |                                   |                      |                              |
|             |                   |                                 | T.         | -11 17                   | N. by W.  |  | +0 35                                   | -10 42                         |                                   |                      |                              |
|             | -37 43            | 150 22                          | R.         | -10 18                   | N. by W.  |  | +0 35                                   | - 9 43                         |                                   |                      |                              |

## Observations of Declination. (Continued.)

| 1841.        | Position.                 |          | Initials. | Declination<br>observed. | Direction of<br>ship's head. | Inclination. | Correction<br>for ship's<br>attraction. | Corrected<br>Declina-<br>tion. | Correction<br>for index<br>error. | True<br>Declination. | Remarks.                       |
|--------------|---------------------------|----------|-----------|--------------------------|------------------------------|--------------|---|--------------------------------|-----------------------------------|----------------------|--------------------------------|
|              | Lat.                      | Long.    |           |                          |                              |              |   |                                |                                   |                      |                                |
| July 12 A.M. | -37° 24'                  | 151° 27' | R.        | - 6 30 "                 | N.E.                         | -66 00       | -2 10                                   | - 8 40                         | -0 37                             | - 9 31               | By the magnetometers on shore. |
|              |                           |          | R.        | - 6 11                   | N.E.                         |              | -2 10                                   | - 8 21                         |                                   |                      |                                |
|              |                           |          | R.        | - 5 39                   | N.E.                         |              | -2 10                                   | - 7 49                         |                                   |                      |                                |
|              | -37 22                    | 151 28   | W.        | - 7 53                   | N.N.E.                       |              | -1 07                                   | - 9 00                         |                                   |                      |                                |
| 12 P.M.      | -37 17                    | 151 39   | S.        | - 6 06                   | N.E. $\frac{3}{4}$ E.        |              | -2 34                                   | - 8 40                         |                                   |                      |                                |
|              |                           |          | S.        | - 6 37                   | N.E.                         |              | -2 10                                   | - 8 47                         |                                   |                      |                                |
|              | -37 16                    | 151 37   | Y.        | - 9 36                   | N. by w.                     |              | +0 34                                   | - 9 02                         |                                   |                      |                                |
|              |                           |          | R.        | - 8 34                   | N. by w.                     |              | +0 34                                   | - 8 00                         |                                   |                      |                                |
|              |                           |          | S.        | - 9 33                   | N. by w.                     |              | +0 34                                   | - 8 59                         |                                   |                      |                                |
|              |                           |          | S.        | - 9 45                   | N. by w.                     |              | +0 34                                   | - 9 11                         |                                   |                      |                                |
|              |                           |          | R.        | - 9 29                   | N. by w.                     |              | +0 34                                   | - 8 55                         |                                   |                      |                                |
|              | -37 11                    | 151 37   | T.        | - 9 09                   | N.                           | 0 00         | - 9 09                                  |                                |                                   |                      |                                |
| 13 A.M.      | -36 26                    | 151 42   | T.        | -12 04                   | N.N.W.                       | -65 00       | +1 03                                   | -11 01                         |                                   |                      |                                |
| Aug. 3       | Garden Island,<br>Sydney. |          | R.        | - 9 51.5                 | .....                        | .....        | .....                                   | .....                          |                                   | - 9 51.5             |                                |
|              | -33 51                    | 151 17   |           |                          |                              |              |   |                                |                                   |                      |                                |
| 6 A.M.       | -33 54                    | 153 50   | S.        | - 7 05                   | E.                           | -62 40       | -3 13                                   | -10 18                         | -0 37                             | -10 07               |                                |
|              |                           |          | T.        | - 5 42                   | E. by N.                     |              | -3 00                                   | - 8 42                         |                                   |                      |                                |
| 8 P.M.       | -33 30                    | 160 56   | S.        | - 7 47                   | E. by N.                     | -61 30       | -2 50                                   | -10 37                         | -0 37                             | -12 02               |                                |
|              |                           |          | S.        | - 7 58                   | E.                           |              | -3 03                                   | -11 01                         |                                   |                      |                                |
|              |                           |          | O.        | - 7 54                   | E. by N.                     |              | -2 50                                   | -10 44                         |                                   |                      |                                |
|              |                           |          | R.        | - 8 21                   | E.                           |              | -3 03                                   | -11 24                         |                                   |                      |                                |
|              |                           |          | R.        | - 6 30                   | E.                           | -60 40       | -3 03                                   | - 9 33                         | -0 37                             | -13 34               |                                |
| 9 A.M.       | -33 38                    | 163 50   | T.        | -10 37                   | E.                           |              | -2 56                                   | -13 13                         |                                   |                      |                                |
|              |                           |          | R.        | - 9 45                   | E.                           |              | -2 56                                   | -12 41                         |                                   |                      |                                |
|              |                           |          | T.        | - 9 23                   | E.                           |              | -2 56                                   | -12 19                         |                                   |                      |                                |
| 10 A.M.      | -33 42                    | 166 25   | R.        | -12 53                   | N.N.E.                       | -60 10       | -0 48                                   | -13 41                         | -0 37                             | -13 27               |                                |
|              |                           |          | T.        | -10 59                   | S.E. by E.                   |              | -2 50                                   | -13 49                         |                                   |                      |                                |
|              |                           |          | S.        | - 9 55                   | E.                           |              | -2 52                                   | -12 47                         |                                   |                      |                                |
|              |                           |          | T.        | - 9 28                   | E. by S.                     |              | -2 59                                   | -12 27                         |                                   |                      |                                |
|              | -33 41                    | 166 19   | W.        | -11 20                   | E.S.E.                       | -59 40       | -2 59                                   | -14 19                         | -0 37                             | -12 54               |                                |
|              |                           |          | SM.       | - 8 55                   | E.                           |              | -2 52                                   | -11 47                         |                                   |                      |                                |
| 10 P.M.      | -33 39                    | 166 34   | O.        | - 8 35                   | E. by N.                     |              | -2 39                                   | -11 14                         |                                   |                      |                                |
|              |                           |          | T.        | -10 50                   | E. by N.                     |              | -2 39                                   | -13 29                         |                                   |                      |                                |
| 11 A.M.      | -33 32                    | 167 34   | R.        | -11 56                   | N.E. by N.                   | -59 30       | -1 10                                   | -13 06                         | -0 37                             | -13 56               |                                |
|              |                           |          | T.        | -10 46                   | E.S.E.                       |              | -2 56                                   | -13 42                         |                                   |                      |                                |
|              |                           |          | W.        | -10 32                   | E. $\frac{1}{2}$ N.          |              | -2 42                                   | -13 14                         |                                   |                      |                                |
|              |                           |          | O.        | -10 51                   | E.S.E.                       |              | -2 56                                   | -13 47                         |                                   |                      |                                |
|              |                           |          | SM.       | - 7 46                   | E. by S.                     | -58 10       | -2 56                                   | -10 42                         | -0 37                             | -12 54               |                                |
|              |                           |          | T.        | -10 32                   | E.                           |              | -2 49                                   | -13 21                         |                                   |                      |                                |
|              | -33 32                    | 167 41   | S.        | - 9 03                   | E. by S.                     |              | -2 56                                   | -11 59                         |                                   |                      |                                |
|              | -33 31                    | 167 51   | S.        | -11 11                   | E.N.E.                       |              | -2 16                                   | -13 27                         |                                   |                      |                                |
|              |                           |          | R.        | -11 04                   | E.N.E.                       | -59 30       | -2 16                                   | -13 20                         | -0 37                             | -12 54               |                                |
|              |                           |          | R.        | -11 13                   | E.                           |              | -2 48                                   | -14 01                         |                                   |                      |                                |
|              |                           |          | O.        | -10 48                   | E. by N.                     |              | -2 42                                   | -13 30                         |                                   |                      |                                |
|              |                           |          | S.        | - 9 45                   | E. by N.                     |              | -2 42                                   | -12 27                         |                                   |                      |                                |
|              | -33 32                    | 167 59   | R.        | -10 29                   | E. by N.                     | -58 10       | -2 42                                   | -13 11                         | -0 37                             | -12 54               |                                |
| 15 A.M.      | -33 55                    | 171 58   | T.        | - 8 13                   | E. by S.                     |              | -2 47                                   | -11 00                         |                                   |                      |                                |
|              |                           |          | O.        | - 8 02                   | E. $\frac{1}{2}$ S.          |              | -2 44                                   | -10 46                         |                                   |                      |                                |
|              |                           |          | S.        | - 8 33                   | E. $\frac{1}{2}$ S.          |              | -2 44                                   | -11 17                         |                                   |                      |                                |
|              |                           |          | T.        | - 8 15                   | E. by S.                     | -58 10       | -2 47                                   | -11 02                         | -0 37                             | -13 56               |                                |
|              | -33 54                    | 171 58   | R.        | - 8 22                   | E. by S. $\frac{1}{2}$ S.    |              | -2 47                                   | -11 09                         |                                   |                      |                                |
| 16 A.M.      | -34 25                    | 172 51   | Y.        | -14 11                   | N.N.W. $\frac{1}{2}$ W.      |              | +0 53                                   | -13 18                         |                                   |                      |                                |
|              |                           |          | Y.        | -13 09                   | N.W. $\frac{1}{2}$ W.        |              | +1 38                                   | -11 31                         |                                   |                      |                                |
|              |                           |          | Y.        | -14 46                   | N.W. by N.                   | -58 10       | +1 04                                   | -13 42                         | -0 37                             | -13 56               |                                |
|              |                           |          | T.        | -14 58                   | N.W. $\frac{1}{2}$ N.        |              | +1 14                                   | -13 44                         |                                   |                      |                                |

## Observations of Declination. (Continued.)

| 1841.        | Position. |                 | Initials. | Declination<br>observed. | Direction of<br>ship's head. | Inclination.      | Correction<br>for ship's<br>attraction. | Corrected<br>Declina-<br>tion. | Correction<br>for index<br>error. | True<br>Declination. | Remarks. |                                |       |
|--------------|-----------|-----------------|-----------|--------------------------|------------------------------|-------------------|---|--------------------------------|-----------------------------------|----------------------|----------|--------------------------------|-------|
|              | Lat.      | Long.           |           |                          |                              |                   |   |                                |                                   |                      |          |                                |       |
| Aug. 17      | A.M.      | 34 15           | 173 12    | T.                       | 11 14                        | E. by S.          | 58 10                                   | 2 48                           | 14 02                             | 0 37                 | 13 56    | By the magnetometers on shore. |       |
|              | 17 P.M.   | 34 37           | 173 55    | S.                       | 10 11                        | E.S.E.            |   | 2 48                           | 12 59                             |                      |          |                                |       |
|              |           |                 |           | O.                       | 11 20                        | E.S.E.            |   | 2 48                           | 14 08                             |                      |          |                                |       |
|              |           |                 |           | R.                       | 10 18                        | E.S.E.            |   | 2 48                           | 13 06                             |                      |          |                                |       |
|              |           |                 |           | R.                       | 10 39                        | E. by S. 1/2 S.   |   | 2 48                           | 13 27                             |                      |          |                                |       |
|              |           |                 |           | O.                       | 9 25                         | E. by S. 1/2 S.   |   | 2 48                           | 12 13                             |                      |          |                                |       |
|              |           |                 |           | R.                       | 11 27                        | E. by S.          |   | 2 48                           | 14 15                             |                      |          |                                |       |
| Aug. & Sept. |           | Bay of Islands. |           | R.                       | 13 36                        |                   |   |                                |                                   |                      | 13 36    |                                |       |
| Nov. 24      | A.M.      | 36 27           | 177 20    | SM.                      | 8 57                         | E.S.E.            |   | 2 45                           | 11 42                             |                      |          |                                |       |
|              |           |                 | 177 21    | O.                       | 8 51                         | E.S.E.            |   | 2 45                           | 11 36                             |                      |          |                                |       |
| 24           | P.M.      | 36 34           | 177 47    | S.                       | 10 45                        | S.E. by E.        |   | 2 36                           | 13 21                             |                      |          |                                |       |
|              |           |                 | 177 56    | S.                       | 11 46                        | S.E. by E.        |   | 2 36                           | 14 22                             |                      |          |                                |       |
|              |           | 36 40           | 177 58    | O.                       | 11 52                        | S.E. by E.        |   | 2 36                           | 14 28                             |                      |          |                                |       |
|              |           | 36 42           | 178 08    | R.                       | 9 47                         | S.E. by E.        |   | 2 36                           | 12 23                             |                      |          |                                |       |
|              |           | 36 44           | 178 10    | R.                       | 10 38                        | S.E. by E.        |   | 2 36                           | 13 14                             |                      |          |                                | 14 24 |
|              |           |                 |           | T.                       | 10 19                        | S.E. by E.        |   | 2 36                           | 12 55                             |                      |          |                                |       |
|              |           |                 |           | T.                       | 11 20                        | S.E. by E.        |   | 2 36                           | 13 56                             |                      |          |                                |       |
|              |           | 36 50           | 178 18    | R.                       | 10 13                        | S.E. by E.        |   | 2 36                           | 12 49                             |                      |          |                                |       |
|              |           |                 |           | R.                       | 10 27                        | S.E. by E.        |   | 2 36                           | 13 03                             |                      |          |                                |       |
| 25           | A.M.      | 37 59           | 179 37    | T.                       | 11 54                        | S.E. by S.        |   | 1 56                           | 13 50                             |                      |          |                                |       |
|              |           |                 |           | SM.                      | 11 11                        | S.E. by S.        | 1 56                                    | 13 07                          |                                   |                      |          |                                |       |
|              |           | 38 01           | 179 40    | T.                       | 11 07                        | S.E. 1/2 S.       |   | 2 09                           | 13 16                             |                      |          |                                |       |
|              |           |                 |           | SM.                      | 10 29                        | S.E. by S.        |   | 1 56                           | 12 25                             |                      |          |                                |       |
|              |           |                 |           | O.                       | 11 42                        | S.E. 1/2 S.       |   | 2 09                           | 13 51                             |                      |          |                                |       |
|              |           |                 |           | S.                       | 10 06                        | S.E.              |   | 2 22                           | 12 28                             |                      |          |                                |       |
| 25           | P.M.      | 38 03           | 179 41    | T.                       | 11 15                        | S.E. 1/2 S.       |   | 2 09                           | 13 24                             |                      | 14 44    |                                |       |
|              |           | 38 22           | 180 10    | R.                       | 10 43                        | E.S.E.            |   | 2 49                           | 13 32                             |                      |          |                                |       |
|              |           | 38 27           | 180 02    | Y.                       | 10 19                        | S.E. 1/2 E.       |   | 2 32                           | 12 51                             |                      |          |                                |       |
|              |           |                 |           | R.                       | 11 09                        | S.E. 1/2 E.       |   | 2 32                           | 13 41                             |                      |          |                                |       |
|              |           |                 |           | R.                       | 11 26                        | S.E. by E.        |   | 2 40                           | 14 06                             |                      |          |                                |       |
|              |           |                 |           | T.                       | 10 06                        | S.E. by E. 1/2 E. |   | 2 44                           | 12 50                             |                      |          |                                |       |
| 26           | P.M.      | 39 04           | 182 29    | R.                       | 11 39                        | S.E. by E.        |   | 2 40                           | 14 17                             |                      |          |                                |       |
|              |           |                 |           | O.                       | 11 29                        | S.E. by E.        |   | 2 44                           | 14 13                             |                      |          |                                |       |
|              |           |                 |           | T.                       | 10 10                        | S.E. 1/2 E.       |   | 2 35                           | 12 45                             |                      |          |                                |       |
|              |           | 39 05           | 182 32    | T.                       | 11 05                        | S.E. by E.        |   | 2 44                           | 13 49                             |                      |          |                                |       |
|              |           |                 |           | R.                       | 10 37                        | S.E. by E. 1/2 E. |   | 2 49                           | 13 26                             |                      |          |                                |       |
|              |           |                 |           | R.                       | 9 39                         | E.S.E.            |   | 2 53                           | 12 32                             |                      |          |                                |       |
|              |           |                 |           | R.                       | 10 36                        | S.E. by E.        |   | 2 44                           | 13 20                             |                      |          |                                |       |
|              |           | 39 08           | 182 36    | T.                       | 9 49                         | S.E. by E.        |   | 2 44                           | 12 33                             |                      |          |                                |       |
|              |           | 39 09           | 182 40    | R.                       | 9 49                         | E.S.E.            |   | 2 53                           | 12 42                             |                      | 14 43    |                                |       |
| 27           | A.M.      | 39 16           | 182 59    | T.                       | 11 47                        | N.E. by E.        |   | 1 58                           | 13 45                             |                      |          |                                |       |
|              |           |                 |           | SM.                      | 11 09                        | S.E. by E.        | 2 48                                    | 13 57                          |                                   |                      |          |                                |       |
|              |           |                 |           | S.                       | 12 33                        | N.                |   | 0 00                           | 12 33                             |                      |          |                                |       |
|              |           |                 |           | T.                       | 12 30                        | N.N.E. 1/4 E.     |   | 0 53                           | 13 23                             |                      |          |                                |       |
| 28           | A.M.      | 39 17           | 182 58    | O.                       | 12 41                        | N.N.E. 1/2 E.     |   | 0 58                           | 13 39                             |                      |          |                                |       |
|              |           | 40 23           | 183 04    | S.                       | 12 02                        | s. by E.          |   | 0 45                           | 12 47                             |                      |          |                                |       |
|              |           | 40 27           | 183 03    | T.                       | 11 20                        | s. by E.          |   | 0 45                           | 12 05                             |                      |          |                                |       |
| 28           | P.M.      | 40 22           | 183 14    | R.                       | 9 10                         | S.S.E. 1/2 E.     |   | 1 46                           | 10 56                             |                      |          |                                |       |
|              |           |                 |           | T.                       | 9 32                         | S.S.E.            | 1 27                                    | 10 59                          |                                   |                      |          |                                |       |
|              |           |                 | 183 16    | R.                       | 8 46                         | S.E. by S.        |   | 2 04                           | 10 50                             |                      |          |                                |       |
|              |           |                 |           | O.                       | 8 53                         | S.E. 1/2 S.       |   | 2 17                           | 11 10                             |                      |          |                                |       |
|              |           | 41 07           | 183 22    | R.                       | 9 34                         | S.E.              |   | 2 31                           | 12 05                             |                      | 12 57    |                                |       |
|              |           |                 |           | S.                       | 10 10                        | S.E.              |   | 2 31                           | 12 41                             |                      |          |                                |       |
|              |           | 41 09           | 183 23    | R.                       | 10 33                        | S.S.E.            |   | 1 26                           | 11 59                             |                      |          |                                |       |
|              |           | 41 10           | 183 24    | R.                       | 9 12                         | S.E. by S.        |   | 2 03                           | 11 15                             |                      |          |                                |       |
|              |           | 41 11           | 183 25    | R.                       | 8 56                         | S.E. by S.        |   | 2 03                           | 10 59                             |                      |          |                                |       |

## Observations of Declination. (Continued.)

| 1841.        | Position. |        | Initials. | Declination<br>observed. | Direction of<br>ship's head. | Inclination. | Correction<br>for ship's<br>attraction. | Corrected<br>Declina-<br>tion. | Correction<br>for index<br>error. | True<br>Declination. | Remarks. |
|--------------|-----------|--------|-----------|--------------------------|------------------------------|--------------|---|--------------------------------|-----------------------------------|----------------------|----------|
|              | Lat.      | Long.  |           |                          |                              |              |   |                                |                                   |                      |          |
| Nov. 29 A.M. | -41 28    | 183 41 | Y.        | -15 20                   | w.s.w.                       | -63 20       | +3 09                                   | -12 11                         | -1 20                             | -14 24               |          |
|              |           |        | T.        | -14 41                   | s.w. $\frac{1}{2}$ s.        |              | +2 23                                   | -12 18                         |                                   |                      |          |
|              |           |        | T.        | -11 59                   | s. by E.                     |              | -0 47                                   | -12 46                         |                                   |                      |          |
|              |           |        | T.        | -12 55                   | s. by E.                     |              | -0 47                                   | -13 42                         |                                   |                      |          |
|              | -41 30    | 183 43 | T.        | -13 02                   | s. by E.                     | -65 00       | -0 47                                   | -13 49                         |                                   |                      |          |
|              |           |        | S.        | -10 38                   | s. by E.                     |              | -0 47                                   | -11 25                         |                                   |                      |          |
|              |           |        | T.        | -12 15                   | s. by E.                     |              | -0 47                                   | -13 02                         |                                   |                      |          |
|              |           |        | S.        | -13 14                   | s. by E.                     |              | -0 47                                   | -14 01                         |                                   |                      |          |
| 30 A.M.      | -41 31    | 183 40 | O.        | -13 14                   | s. by E.                     | -66 30       | -0 47                                   | -14 01                         |                                   |                      |          |
|              | -43 28    | 183 04 | R.        | -13 23                   | s. $\frac{1}{4}$ E.          |              | -0 16                                   | -13 39                         |                                   |                      |          |
|              |           |        | T.        | -14 02                   | s.                           |              | 0 0                                     | -14 02                         |                                   |                      |          |
|              | -43 30    | 183 03 | O.        | -12 49                   | s.                           |              | 0 0                                     | -12 49                         |                                   |                      |          |
| Dec. 1 A.M.  | -45 30    | 183 15 | T.        | -12 16                   | S.E. by E. $\frac{1}{2}$ E.  | -67 55       | -3 24                                   | -15 40                         | -1 20                             | -16 35               |          |
|              |           |        | W.        | -11 47                   | S.E. by E.                   |              | -3 18                                   | -15 05                         |                                   |                      |          |
|              |           |        | Y.        | -13 08                   | S.E. by E.                   |              | -3 18                                   | -16 26                         |                                   |                      |          |
|              | -45 32    | 183 11 | T.        | -11 02                   | S.E. by E. $\frac{1}{2}$ E.  |              | -3 24                                   | -14 26                         |                                   |                      |          |
|              |           |        | W.        | -10 22                   | S.E. by E.                   | -67 55       | -3 18                                   | -13 40                         |                                   |                      |          |
|              |           | 183 15 | S.        | -12 26                   | S.E. by E.                   |              | -3 18                                   | -15 44                         |                                   |                      |          |
| 2 A.M.       | -46 40    | 184 18 | T.        | -12 30                   | S.E. by E. $\frac{1}{2}$ E.  |              | -3 44                                   | -16 14                         |                                   |                      |          |
|              |           |        | W.        | -11 54                   | S.E. by E.                   |              | -3 26                                   | -15 30                         |                                   |                      |          |
|              |           |        | Y.        | -10 33                   | S.E. by E.                   | -67 55       | -3 36                                   | -14 09                         | -1 20                             | -15 45               |          |
|              |           |        | Sm.       | -11 24                   | S.E. by E.                   |              | -3 36                                   | -15 00                         |                                   |                      |          |
|              |           |        | T.        | -12 31                   | S.E. by E. $\frac{1}{2}$ E.  |              | -3 44                                   | -16 15                         |                                   |                      |          |
|              |           |        | T.        | -11 33                   | E.S.E.                       |              | -3 52                                   | -15 25                         |                                   |                      |          |
|              | -46 45    | 183 13 | Sm.       | -11 07                   | S.E. by E.                   | -67 55       | -3 36                                   | -14 43                         |                                   |                      |          |
| 2 P.M.       | -47 26    | 184 42 | S.        | -11 28                   | E. by S.                     |              | -3 57                                   | -15 25                         |                                   |                      |          |
|              | -47 31    | 184 50 | T.        | -11 00                   | S.E. $\frac{1}{2}$ E.        |              | -3 24                                   | -14 24                         |                                   |                      |          |
|              |           |        | T.        | -11 29                   | S.E. by E. $\frac{1}{2}$ E.  |              | -3 44                                   | -15 13                         |                                   |                      |          |
|              | -47 32    | 184 53 | T.        | -10 36                   | S.E. by E.                   | -67 55       | -3 36                                   | -14 12                         | -1 20                             | -15 45               |          |
|              |           |        | W.        | -11 28                   | S.E. $\frac{1}{2}$ E.        |              | -3 24                                   | -14 52                         |                                   |                      |          |
|              |           |        | S.        | -11 32                   | S.E. by E.                   |              | -3 36                                   | -15 08                         |                                   |                      |          |
|              |           |        | T.        | -10 43                   | S.E. by E.                   |              | -3 36                                   | -14 19                         |                                   |                      |          |
|              | -47 34    | 184 55 | O.        | -11 07                   | S.E. $\frac{1}{2}$ E.        | -69 05       | -3 24                                   | -14 31                         | -1 20                             | -16 23               |          |
|              |           |        | R.        | -10 27                   | S.E. $\frac{3}{4}$ E.        |              | -3 30                                   | -13 57                         |                                   |                      |          |
|              |           |        | R.        | -9 25                    | S.E. by E.                   |              | -3 36                                   | -13 01                         |                                   |                      |          |
|              | -47 38    | 185 00 | R.        | -9 47                    | S.E. by E. $\frac{1}{2}$ E.  |              | -3 44                                   | -13 31                         |                                   |                      |          |
| 3 P.M.       | -48 50    | 186 47 | S.        | -12 19                   | N.E. by E. $\frac{1}{2}$ E.  | -69 05       | -3 11                                   | -15 30                         | -1 20                             | -16 23               |          |
|              |           |        | S.        | -11 26                   | E.S.E.                       |              | -4 04                                   | -15 30                         |                                   |                      |          |
|              |           |        | T.        | -11 35                   | E. $\frac{1}{2}$ N.          |              | -3 52                                   | -15 27                         |                                   |                      |          |
|              | -48 53    | 186 49 | R.        | -10 25                   | S.E. by E.                   |              | -3 47                                   | -14 12                         |                                   |                      |          |
|              |           |        | R.        | -11 01                   | S.E. by E.                   | -69 05       | -3 47                                   | -14 48                         | -1 20                             | -16 23               |          |
|              |           |        | O.        | -10 53                   | S.E. by E. $\frac{1}{2}$ E.  |              | -3 55                                   | -14 48                         |                                   |                      |          |
|              |           |        | Sm.       | -11 32                   | S.E. by E.                   |              | -3 47                                   | -15 19                         |                                   |                      |          |
|              | -48 50    | 186 44 | Y.        | -10 48                   | S.E. by E. $\frac{1}{2}$ E.  |              | -3 55                                   | -14 43                         |                                   |                      |          |
|              |           |        | T.        | -10 49                   | S.E. by E.                   | -69 40       | -3 47                                   | -14 36                         | -1 20                             | -17 51               |          |
|              | -48 51    | 186 44 | W.        | -10 59                   | S.E. by E.                   |              | -3 47                                   | -14 46                         |                                   |                      |          |
|              |           |        | S.        | -11 20                   | S.E. by E.                   |              | -3 47                                   | -15 07                         |                                   |                      |          |
|              |           |        | R.        | -10 23                   | E.S.E.                       |              | -4 04                                   | -14 27                         |                                   |                      |          |
|              | -48 54    | 186 46 | T.        | -10 49                   | E.S.E.                       | -69 40       | -4 04                                   | -14 53                         | -1 20                             | -17 51               |          |
|              | -48 55    | 186 52 | R.        | -11 42                   | S.E. by E.                   |              | -3 47                                   | -15 29                         |                                   |                      |          |
|              | -48 56    | 186 53 | R.        | -12 35                   | S.E. $\frac{1}{2}$ E.        |              | -3 33                                   | -16 08                         |                                   |                      |          |
| 4 A.M.       | -49 10    | 187 32 | R.        | -12 52                   | E. by S.                     |              | -4 18                                   | -17 10                         |                                   |                      |          |
| 5 A.M.       | -49 32    | 188 59 | T.        | -11 28                   | E. by S.                     | -69 40       | -4 18                                   | -15 46                         | -1 20                             | -17 51               |          |
|              |           |        | O.        | -11 12                   | E. by S.                     |              | -4 18                                   | -15 30                         |                                   |                      |          |
|              |           |        | S.        | -13 13                   | E. by S.                     |              | -4 18                                   | -17 31                         |                                   |                      |          |
|              | -49 31    | 189 20 | S.        | -13 21                   | E. by S.                     |              | -4 18                                   | -17 39                         |                                   |                      |          |
|              |           |        | W.        | -11 45                   | E. by S.                     | -69 40       | -4 18                                   | -16 03                         | -1 20                             | -17 51               |          |
|              |           |        | T.        | -12 35                   | E. by S.                     |              | -4 18                                   | -16 53                         |                                   |                      |          |
|              | -49 32    | 189 28 | R.        | -11 28                   | E.                           |              | -4 07                                   | -15 35                         |                                   |                      |          |
|              |           |        |           |                          |                              |              |   |                                |                                   |                      |          |

## Observations of Declination. (Continued.)

| 1841.       | Position. |        | Initials. | Declination<br>observed. | Direction of<br>ship's head. | Inclination. | Correction<br>for ship's<br>attraction. | Corrected<br>Declina-<br>tion. | Correction<br>for index<br>error. | True<br>Declination. | Remarks. |
|-------------|-----------|--------|-----------|--------------------------|------------------------------|--------------|---|--------------------------------|-----------------------------------|----------------------|----------|
|             | Lat.      | Long.  |           |                          |                              |              |   |                                |                                   |                      |          |
| Dec. 6 A.M. | -49 57    | 191 06 | R.        | -11 47                   | E. by S.                     |              | -4 18                                   | -16 05                         |                                   |                      |          |
|             |           |        | R.        | -12 34                   | E. by S.                     |              | -4 18                                   | -16 52                         |                                   |                      |          |
|             |           |        | T.        | -12 58                   | E. by S.                     |              | -4 18                                   | -17 16                         |                                   |                      |          |
|             |           |        | O.        | -13 50                   | E. by S.                     |              | -4 18                                   | -18 08                         |                                   |                      |          |
|             |           |        | S.        | -13 13                   | E. by S.                     |              | -4 18                                   | -17 31                         |                                   |                      |          |
| 6 P.M.      | -50 04    | 191 15 | T.        | -14 25                   | N.E. $\frac{3}{4}$ E.        | -69 37       | -2 52                                   | -17 17                         | -1 20                             | -18 23               |          |
|             | -50 03    | 191 38 | T.        | -14 02                   | E. by N.                     |              | -3 53                                   | -17 55                         |                                   |                      |          |
|             |           |        | T.        | -15 52                   | N.E. by N.                   |              | -1 54                                   | -17 46                         |                                   |                      |          |
|             |           |        | S.        | -12 37                   | E.S.E.                       |              | -4 12                                   | -16 49                         |                                   |                      |          |
|             | -50 04    | 191 40 | T.        | -13 40                   | E. by S. $\frac{1}{2}$ S.    |              | -4 15                                   | -17 55                         |                                   |                      |          |
|             |           | 191 44 | R.        | -11 21                   | E.S.E.                       |              | -4 12                                   | -15 33                         |                                   |                      |          |
|             | -50 06    | 191 56 | S.        | -11 44                   | S.E. $\frac{1}{2}$ E.        |              | -3 40                                   | -15 24                         |                                   |                      |          |
| 7 A.M.      | -50 36    | 192 00 | Sm.       | -15 43                   | S. by E. $\frac{3}{4}$ E.    |              | -1 40                                   | -17 23                         |                                   |                      |          |
|             | -50 51    | 192 20 | S.        | -13 39                   | E.S.E.                       |              | -4 14                                   | -17 53                         |                                   |                      |          |
|             | -50 54    | 192 40 | R.        | -13 51                   | S.E. $\frac{1}{2}$ S.        |              | -3 06                                   | -16 57                         |                                   |                      |          |
|             |           | 192 45 | T.        | -13 58                   | S.E.                         | -69 49       | -3 26                                   | -17 24                         | -1 20                             | -18 18               |          |
|             |           |        | R.        | -12 42                   | S.E. $\frac{1}{2}$ E.        |              | -3 40                                   | -16 22                         |                                   |                      |          |
|             | -50 56    | 192 44 | R.        | -12 24                   | S.E.                         |              | -3 26                                   | -15 50                         |                                   |                      |          |
| 8 A.M.      | -51 30    | 193 57 | T.        | -11 39                   | E. by S.                     |              | -4 25                                   | -16 04                         |                                   |                      |          |
|             | -51 31    | 194 00 | T.        | -11 54                   | E. by S.                     |              | -4 25                                   | -16 19                         |                                   |                      |          |
|             |           |        | W.        | -11 28                   | E. by S.                     | -70 11       | -4 25                                   | -15 53                         |                                   |                      |          |
|             |           |        | W.        | -11 27                   | E. by S.                     |              | -4 25                                   | -15 52                         |                                   |                      |          |
|             |           |        | T.        | -12 48                   | E. by S.                     |              | -4 25                                   | -17 13                         |                                   |                      |          |
|             |           |        | Sm.       | -13 15                   | E. by S.                     |              | -4 25                                   | -17 40                         |                                   |                      |          |
|             | -51 31    | 194 03 | O.        | -12 32                   | E. by S.                     |              | -4 25                                   | -16 57                         |                                   |                      |          |
| 8 P.M.      | -51 41    | 195 04 | T.        | - 8 21                   | E. $\frac{1}{2}$ S.          |              | -4 20                                   | -12 41                         | -1 20                             | -15 16               |          |
|             |           |        | O.        | - 8 34                   | E. $\frac{1}{2}$ S.          |              | -4 20                                   | -12 54                         |                                   |                      |          |
|             |           |        | S.        | - 9 39                   | E. $\frac{1}{2}$ S.          |              | -4 20                                   | -13 59                         |                                   |                      |          |
|             |           |        | T.        | - 9 54                   | E. $\frac{1}{2}$ S.          |              | -4 20                                   | -14 14                         |                                   |                      |          |
|             | -51 45    | 195 26 | R.        | - 8 29                   | E. $\frac{1}{2}$ S.          |              | -4 20                                   | -12 49                         |                                   |                      |          |
|             |           |        | T.        | - 8 27                   | E. $\frac{1}{2}$ S.          | -70 11       | -4 20                                   | -12 47                         |                                   |                      |          |
|             | -51 46    |        | W.        | - 9 09                   | E. $\frac{1}{2}$ S.          |              | -4 20                                   | -13 29                         |                                   |                      |          |
|             |           |        | R.        | - 8 48                   | E. $\frac{1}{2}$ S.          |              | -4 20                                   | -13 08                         |                                   |                      |          |
|             | -51 47    | 195 37 | R.        | - 8 07                   | E. by S.                     |              | -4 25                                   | -12 32                         |                                   |                      |          |
|             |           |        | T.        | - 8 24                   | E. by S.                     |              | -4 25                                   | -12 49                         |                                   |                      |          |
| 9 A.M.      | -51 49    | 195 46 | R.        | - 8 06                   | E. by S.                     |              | -4 25                                   | -12 31                         |                                   |                      |          |
|             | -52 26    | 198 23 | T.        | - 9 29                   | E. by S.                     |              | -4 30                                   | -13 59                         |                                   |                      |          |
|             |           |        | R.        | - 9 09                   | E. by S.                     |              | -4 30                                   | -13 39                         |                                   |                      |          |
|             |           |        | O.        | - 9 17                   | E. by S.                     |              | -4 30                                   | -13 47                         |                                   |                      |          |
|             | -52 50    | 204 00 | T.        | - 8 01                   | E. $\frac{1}{2}$ N.          |              | -4 15                                   | -12 16                         |                                   |                      |          |
| 11 P.M.     |           |        | S.        | - 9 04                   | E. $\frac{3}{4}$ N.          |              | -4 12                                   | -13 16                         | -1 20                             | -13 58               |          |
|             |           |        | O.        | - 8 14                   | E. $\frac{1}{4}$ S.          |              | -4 25                                   | -12 39                         |                                   |                      |          |
|             |           |        | T.        | - 7 05                   | E.                           |              | -4 22                                   | -11 27                         |                                   |                      |          |
|             |           |        | R.        | - 6 22                   | E.S.E.                       |              | -4 27                                   | -10 49                         |                                   |                      |          |
|             |           |        | T.        | - 7 35                   | E.S.E.                       |              | -4 27                                   | -12 02                         |                                   |                      |          |
|             |           | 203 15 | W.        | - 7 58                   | E.S.E.                       |              | -4 27                                   | -12 25                         |                                   |                      |          |
| 12 A.M.     | -53 10    | 205 15 | Sm.       | - 6 47                   | E.S.E.                       |              | -4 20                                   | -11 07                         |                                   |                      |          |
|             |           |        | Y.        | - 7 35                   | E.S.E.                       |              | -4 20                                   | -11 55                         |                                   |                      |          |
|             |           |        | O.        | - 7 37                   | E.S.E.                       |              | -4 20                                   | -11 57                         |                                   |                      |          |
|             |           |        | S.        | - 7 55                   | E.S.E.                       |              | -4 20                                   | -12 15                         |                                   |                      |          |
|             | -53 04    | 205 18 | T.        | - 7 21                   | E.S.E.                       | -70 11       | -4 20                                   | -11 41                         | -1 20                             | -13 06               |          |
|             |           |        | O.        | - 7 23                   | E.S.E.                       |              | -4 20                                   | -11 43                         |                                   |                      |          |
|             |           |        | R.        | - 7 23                   | E.S.E.                       |              | -4 20                                   | -11 43                         |                                   |                      |          |
|             |           |        | T.        | - 7 22                   | E.S.E.                       |              | -4 20                                   | -11 42                         |                                   |                      |          |
|             |           |        | R.        | - 7 15                   | E.S.E.                       |              | -4 20                                   | -11 35                         |                                   |                      |          |
|             |           |        | T.        | - 8 08                   | E.S.E.                       |              | -4 20                                   | -12 28                         |                                   |                      |          |
|             |           |        | W.        | - 7 14                   | E.S.E.                       |              | -4 20                                   | -11 34                         |                                   |                      |          |
| 12 P.M.     | -53 22    | 206 10 | R.        | - 7 19                   | S.E. by E. $\frac{1}{2}$ E.  |              | -4 10                                   | -11 29                         |                                   |                      |          |

## Observations of Declination. (Continued.)

| 1841.        | Position. |        | Initials. | Declination<br>observed. | Direction of<br>ship's head. | Inclination. | Correction<br>for ship's<br>attraction. | Corrected<br>Declina-<br>tion. | Correction<br>for index<br>error. | True<br>Declination. | Remarks. |
|--------------|-----------|--------|-----------|--------------------------|------------------------------|--------------|---|--------------------------------|-----------------------------------|----------------------|----------|
|              | Lat.      | Long.  |           |                          |                              |              |   |                                |                                   |                      |          |
| Dec. 13 A.M. | -54 45    | 209 02 | S.        | - 7 35                   | E.S.E.                       | -70 47       | -4 27                                   | -12 02                         | -1 20                             | -14 26               |          |
|              |           |        | T.        | - 7 51                   | S.E. by E. $\frac{1}{2}$ E.  |              | -4 17                                   | -12 08                         |                                   |                      |          |
|              | -54 46    | 209 07 | R.        | - 7 18                   | S.E. by E. $\frac{1}{2}$ E.  |              | -4 17                                   | -11 35                         |                                   |                      |          |
|              |           |        | T.        | - 7 06                   | S.E. by E. $\frac{1}{2}$ E.  |              | -4 17                                   | -11 23                         |                                   |                      |          |
| 13 P.M.      | -54 48    | 209 10 | W.        | - 7 40                   | S.E. by E.                   | -72 00       | -4 07                                   | -11 47                         | -1 20                             | -15 43               |          |
|              |           |        | R.        | -10 24                   | S.E. by E. $\frac{1}{2}$ E.  |              | -4 17                                   | -14 41                         |                                   |                      |          |
|              | -55 16    | 210 14 | S.        | -11 36                   | S.E. by E.                   |              | -4 07                                   | -15 43                         |                                   |                      |          |
|              | -55 17    | 210 20 | S.        | -11 20                   | S.E. by E.                   |              | -4 07                                   | -15 27                         |                                   |                      |          |
| 14 A.M.      | -56 06    | 211 33 | T.        | -12 31                   | S.E. by S.                   | -72 00       | -3 03                                   | -15 34                         | -1 20                             | -15 43               |          |
|              | -56 04    |        | Y.        | -12 14                   | S.E. by S.                   |              | -3 03                                   | -15 17                         |                                   |                      |          |
|              | -56 10    | 211 44 | T.        | -11 45                   | S.E. by S.                   |              | -3 03                                   | -14 48                         |                                   |                      |          |
|              |           |        | Sm.       | -12 52                   | S.E. by S.                   |              | -3 03                                   | -15 55                         |                                   |                      |          |
| 14 P.M.      | -56 15    | 211 49 | R.        | -11 57                   | S.E. by S.                   | -72 00       | -3 03                                   | -15 00                         | -1 20                             | -15 43               |          |
|              | -56 22    | 211 56 | T.        | - 8 36                   | E. $\frac{1}{4}$ N.          |              | -4 35                                   | -13 11                         |                                   |                      |          |
|              |           |        | S.        | - 9 02                   | E.N.E.                       |              | -4 02                                   | -13 04                         |                                   |                      |          |
|              |           |        | T.        | - 9 44                   | E.N.E.                       |              | -4 02                                   | -13 46                         |                                   |                      |          |
|              |           |        | T.        | -10 01                   | N.E.                         | -72 00       | -2 54                                   | -12 55                         | -1 20                             | -13 50               |          |
|              |           |        | S.        | - 9 03                   | N.E. $\frac{1}{2}$ E.        |              | -3 13                                   | -12 16                         |                                   |                      |          |
|              |           | 211 58 | S.        | - 8 11                   | E. $\frac{1}{2}$ N.          |              | -4 35                                   | -12 46                         |                                   |                      |          |
|              |           |        | R.        | - 8 51                   | E.N.E.                       |              | -4 02                                   | -12 53                         |                                   |                      |          |
|              | -56 23    | 211 59 | W.        | - 8 51                   | E. by N.                     | -72 00       | -4 27                                   | -13 18                         | -1 20                             | -13 50               |          |
|              |           |        | R.        | - 8 37                   | S.E. by S.                   |              | -3 03                                   | -11 40                         |                                   |                      |          |
|              |           |        | T.        | - 9 10                   | S.E. by S.                   |              | -3 03                                   | -12 13                         |                                   |                      |          |
|              |           |        | W.        | - 9 02                   | S.E. by S.                   |              | -3 03                                   | -12 05                         |                                   |                      |          |
|              |           |        | T.        | - 9 31                   | S.E. by S.                   | -72 39       | -3 03                                   | -12 34                         | -1 20                             | -13 32               |          |
|              | -56 24    | 211 59 | W.        | - 9 44                   | S.E. by S.                   |              | -3 03                                   | -12 47                         |                                   |                      |          |
|              | -56 50    | 212 12 | T.        | -11 01                   | S. by E. $\frac{1}{2}$ E.    |              | -1 40                                   | -12 41                         |                                   |                      |          |
|              |           |        | Sm.       | -11 34                   | S. by E.                     |              | -1 08                                   | -12 42                         |                                   |                      |          |
|              |           |        | Y.        | -10 29                   | S.S.E.                       | -72 39       | -2 13                                   | -12 42                         | -1 20                             | -13 32               |          |
|              |           |        | T.        | -10 25                   | S.S.E.                       |              | -2 13                                   | -12 38                         |                                   |                      |          |
|              |           |        | S.        | - 9 31                   | S.S.E.                       |              | -2 13                                   | -11 44                         |                                   |                      |          |
|              | -56 59    | 212 41 | O.        | - 9 21                   | S.E. by S.                   |              | -3 09                                   | -12 30                         |                                   |                      |          |
|              |           |        | R.        | - 8 24                   | S.E. by S.                   | -72 12       | -3 09                                   | -11 33                         | -1 20                             | -13 54               |          |
|              | -57 01    | 212 42 | R.        | - 7 56                   | S.E. by S.                   |              | -3 09                                   | -11 05                         |                                   |                      |          |
|              | -57 13    | 212 45 | T.        | - 9 41                   | S.S.E.                       |              | -2 10                                   | -11 51                         |                                   |                      |          |
|              |           |        | S.        | - 9 43                   | S.S.E.                       |              | -2 10                                   | -11 53                         |                                   |                      |          |
|              |           |        | W.        | - 9 36                   | S.S.E.                       | -72 12       | -2 10                                   | -11 46                         | -1 20                             | -13 54               |          |
|              |           |        | R.        | - 9 45                   | S.S.E.                       |              | -2 10                                   | -11 55                         |                                   |                      |          |
|              | -57 14    | 212 45 | T.        | - 9 28                   | S.S.E.                       |              | -2 10                                   | -11 38                         |                                   |                      |          |
|              |           |        | R.        | - 9 51                   | S.S.E.                       |              | -2 10                                   | -12 01                         |                                   |                      |          |
|              |           |        | Y.        | -11 51                   | S.S.E.                       | -72 12       | -2 10                                   | -14 01                         | -1 20                             | -13 54               |          |
|              | -57 16    | 212 45 | T.        | -10 12                   | S.S.E.                       |              | -2 10                                   | -12 22                         |                                   |                      |          |
|              |           |        | T.        | - 9 11                   | E.N.E.                       |              | -4 05                                   | -13 16                         |                                   |                      |          |
|              |           |        | S.        | - 8 07                   | E.N.E.                       |              | -4 05                                   | -12 12                         |                                   |                      |          |
|              |           |        | S.        | - 9 29                   | E.S.E.                       | -73 55       | -4 47                                   | -14 16                         | -1 20                             | -14 37               |          |
|              |           |        | S.        | - 8 53                   | S.E.                         |              | -3 51                                   | -12 44                         |                                   |                      |          |
|              | -57 19    | 212 47 | R.        | -11 12                   | S.S.E.                       |              | -2 10                                   | -13 22                         |                                   |                      |          |
|              | -58 12    | 213 09 | S.        | - 9 20                   | S.S.E.                       |              |   |                                |                                   |                      |          |
| 16 A.M.      | -58 13    | 213 08 | T.        | - 9 27                   | S.S.E.                       | -73 55       | -2 21                                   | -13 12                         | -1 20                             | -14 37               |          |
|              |           |        | O.        | - 9 44                   | S.S.E.                       |              |   |                                |                                   |                      |          |
|              |           |        | S.        | -10 37                   | S.S.E.                       |              |   |                                |                                   |                      |          |
|              | -58 15    | 213 08 | T.        | -10 08                   | S.S.E.                       |              |   |                                |                                   |                      |          |
|              |           |        | Y.        | -10 47                   | S.S.E.                       | -75 40       |   |                                |                                   |                      |          |
|              |           |        | T.        | -11 56                   | S.S.E.                       |              |   |                                |                                   |                      |          |
|              | -58 21    | 213 17 | R.        | -12 32                   | S.S.E.                       |              |   |                                |                                   |                      |          |
|              |           |        | W.        | -11 17                   | S.S.E.                       |              |   |                                |                                   |                      |          |
|              |           |        | R.        | -12 08                   | S.S.E.                       | -75 40       |   |                                |                                   |                      |          |
|              | -58 25    | 213 06 | R.        | -11 28                   | S.S.E.                       |              |   |                                |                                   |                      |          |
|              | -60 02    | 213 45 | S.        | -11 32                   | S.S.E.                       |              | -2 40                                   | -14 12                         |                                   |                      |          |
|              |           |        |           |                          |                              |              |   |                                |                                   |                      |          |

## Observations of Declination. (Continued.)

| 1841.        | Position. |          | Initials. | Declination<br>observed. | Direction of<br>ship's head. | Inclination. | Correction<br>for ship's<br>attraction. | Corrected<br>Declina-<br>tion. | Correction<br>for index<br>error. | True<br>Declination. | Remarks. |        |       |
|--------------|-----------|----------|-----------|--------------------------|------------------------------|--------------|---|--------------------------------|-----------------------------------|----------------------|----------|--------|-------|
|              | Lat.      | Long.    |           |                          |                              |              |   |                                |                                   |                      |          |        |       |
| Dec. 18 A.M. | -62° 40'  | 212° 49' | T.        | -17° 18'                 | S. $\frac{1}{2}$ E.          | -76 49       | -0° 44'                                 | -18° 02'                       | -1 20                             | -20 14               |          |        |       |
|              |           |          | R.        | -19 25                   | s. by w.                     |              | +1 28                                   | -17 57                         |                                   |                      |          |        |       |
|              |           |          | W.        | -19 14                   | S. $\frac{1}{4}$ W.          |              | +0 22                                   | -18 52                         |                                   |                      |          |        |       |
|              | -62 45    | 212 44   | R.        | -20 47                   | s. by w.                     |              | +1 28                                   | -19 19                         |                                   |                      |          |        |       |
| 18 P.M.      |           |          | Sm.       | -19 54                   | S. $\frac{1}{2}$ W.          | -76 49       | +0 44                                   | -19 10                         | -1 20                             | -20 14               |          |        |       |
|              |           |          | R.        | -26 11                   | S.W. $\frac{1}{2}$ W.        |              | +5 30                                   | -20 41                         |                                   |                      |          |        |       |
|              |           | -62 50   | 211 46    | R.                       | -25 40                       |              | S.W. $\frac{1}{2}$ W.                   | +5 30                          |                                   |                      |          | -19 10 |       |
|              |           | -62 53   | 211 34    | R.                       | -23 59                       |              | S.W. $\frac{1}{2}$ W.                   | +5 30                          |                                   |                      |          | -18 29 |       |
|              | -62 56    | 211 20   | R.        | -23 59                   | S.W. $\frac{1}{2}$ W.        | -76 49       | +5 30                                   | -18 29                         | -1 20                             | -20 14               |          |        |       |
|              |           |          | T.        | -23 47                   | S.W. $\frac{1}{2}$ W.        |              | +5 30                                   | -18 17                         |                                   |                      |          |        |       |
|              |           |          | W.        | -25 11                   | S.W. $\frac{3}{4}$ W.        |              | +5 41                                   | -19 30                         |                                   |                      |          |        |       |
|              |           |          | R.        | -21 25                   | S.S.W.                       |              | +2 57                                   | -18 28                         |                                   |                      |          |        |       |
| 19 A.M.      |           |          | R.        | -21 49                   | S.S.W.                       | -77 40       | +2 57                                   | -18 52                         | -1 20                             | -20 39               |          |        |       |
|              |           | -62 57   | 211 20    | S.                       | -23 12                       |              | S.W.                                    | +5 27                          |                                   |                      |          | -17 45 |       |
|              |           | -63 19   | 210 25    | O.                       | -23 26                       |              | S.S.W. $\frac{1}{2}$ W.                 | +3 45                          |                                   |                      |          | -19 41 |       |
|              |           | -63 20   | 210 22    | W.                       | -23 32                       |              | S.S.W. $\frac{1}{2}$ W.                 | +3 45                          |                                   |                      |          | -19 47 |       |
|              |           |          | T.        | -23 34                   | S.W. by S.                   | -77 40       | +4 25                                   | -19 09                         | -1 20                             | -20 39               |          |        |       |
|              |           |          | T.        | -22 11                   | S.S.W.                       |              | +3 11                                   | -19 00                         |                                   |                      |          |        |       |
|              | -63 19    | 210 17   | R.        | -22 07                   | S. by W.                     |              | +1 33                                   | -20 34                         |                                   |                      |          |        |       |
|              | -63 23    | 210 05   | R.        | -19 19                   | Observed<br>on ice.          |              | -77 36                                  |                                |                                   |                      |          | -19 19 | -0 06 |
|              |           |          | R.        | -20 43                   |                              |              |   |                                | -20 43                            | -0 28                |          |        |       |
|              |           |          | R.        | -22 35                   |                              |              |   |                                | -22 35                            | +1 00                |          |        |       |
|              |           |          | R.        | -18 24                   |                              |              |   |                                | -18 24                            | -0 06                |          |        |       |
|              |           |          | R.        | -18 44                   | Observed<br>on ice.          | -77 36       |   | -18 44                         | -0 28                             | -20 44               |          |        |       |
| 19 P.M.      | -63 23    | 210 05   | S.        | -13 00                   |                              |              | E.N.E.                                  | -6 07                          |                                   |                      |          | -19 07 |       |
|              |           |          | T.        | -13 39                   |                              |              | E. by N.                                | -6 40                          |                                   |                      |          | -20 19 |       |
|              |           |          | T.        | -26 28                   |                              |              | W.S.W.                                  | +6 46                          |                                   |                      |          | -19 42 |       |
|              |           |          | T.        | -21 32                   | S. by W. $\frac{3}{4}$ W.    | -77 36       | +2 44                                   | -18 48                         | -1 20                             | -20 44               |          |        |       |
|              |           |          | S.        | -23 31                   | S.S.W. $\frac{1}{4}$ W.      |              | +3 27                                   | -20 04                         |                                   |                      |          |        |       |
|              |           |          | T.        | -23 58                   | S. 42° W.                    |              | +5 10                                   | -18 48                         |                                   |                      |          |        |       |
|              |           |          | S.        | -24 37                   | S.W.                         |              | +5 25                                   | -19 12                         |                                   |                      |          |        |       |
|              |           |          | S.        | -26 46                   | S.W. by W. $\frac{1}{2}$ W.  | -77 36       | +6 22                                   | -20 24                         | -1 20                             | -20 44               |          |        |       |
|              |           |          | T.        | -21 44                   | S. 22° W.                    |              | +3 07                                   | -18 37                         |                                   |                      |          |        |       |
|              |           |          | T.        | -24 23                   | S. 42° W.                    |              | +5 10                                   | -19 13                         |                                   |                      |          |        |       |
|              |           |          | T.        | -23 43                   | S. 33° W.                    |              | +4 18                                   | -19 25                         |                                   |                      |          |        |       |
|              |           |          | S.        | -23 21                   | S.W. by S.                   | -78 30       | +4 21                                   | -19 00                         | -1 20                             | -22 00               |          |        |       |
|              |           |          | T.        | -25 01                   | S. 54° W.                    |              | +6 20                                   | -18 41                         |                                   |                      |          |        |       |
|              | -63 24    | 209 39   | T.        | -27 10                   | W.S.W.                       |              | +6 47                                   | -20 23                         |                                   |                      |          |        |       |
|              | -63 36    | 208 45   | S.        | -23 40                   | S.W. by S.                   |              | +4 39                                   | -19 01                         |                                   |                      |          |        |       |
| 20 A.M.      |           |          | O.        | -23 49                   | S.S.W.                       | -78 30       | +3 17                                   | -20 32                         | -1 20                             | -22 00               |          |        |       |
|              | -63 52    | 208 00   | T.        | -23 16                   | S. by W. $\frac{1}{2}$ W.    |              | +2 29                                   | -20 47                         |                                   |                      |          |        |       |
| 21 A.M.      | -64 39    | 206 55   | T.        | -19 00                   | S. $\frac{1}{2}$ E.          |              | -0 50                                   | -19 50                         |                                   |                      |          |        |       |
|              | -64 48    | 206 18   | S.        | -18 26                   | S.S.E.                       |              | -5 17                                   | -21 43                         |                                   |                      |          |        |       |
|              |           |          | T.        | -18 31                   | S. by E.                     | -78 30       | -1 40                                   | -20 11                         | -1 20                             | -22 00               |          |        |       |
|              |           |          | W.        | -18 08                   | S. by E. $\frac{1}{2}$ E.    |              | -2 29                                   | -20 37                         |                                   |                      |          |        |       |
|              |           |          | T.        | -20 30                   | S.                           |              | 0 0                                     | -20 30                         |                                   |                      |          |        |       |
|              |           |          | S.        | -21 18                   | S.                           |              | 0 0                                     | -21 18                         |                                   |                      |          |        |       |
|              | -64 49    | 206 10   | R.        | -25 18                   | S.W. by S.                   | -78 50       | +4 39                                   | -20 39                         | -1 20                             | -22 51               |          |        |       |
|              | -64 50    | 206 05   | W.        | -20 29                   | S. by E.                     |              | -1 40                                   | -22 09                         |                                   |                      |          |        |       |
|              |           |          | T.        | -19 35                   | S. $\frac{1}{2}$ E.          |              | -0 51                                   | -20 26                         |                                   |                      |          |        |       |
|              |           |          | R.        | -21 56                   | S. $\frac{3}{4}$ W.          |              | +1 16                                   | -20 40                         |                                   |                      |          |        |       |
|              | -64 54    | 206 06   | R.        | -19 25                   | S. $\frac{3}{4}$ E.          | -78 50       | -1 16                                   | -20 41                         | -1 20                             | -22 51               |          |        |       |
|              | -64 56    | 206 04   | R.        | -18 54                   | S. by E.                     |              | -1 40                                   | -20 34                         |                                   |                      |          |        |       |
|              |           |          | R.        | -22 38                   | S. 11° E.                    |              | -1 36                                   | -24 14                         |                                   |                      |          |        |       |
|              |           |          | R.        | -20 24                   | S. 9° E.                     |              | -1 18                                   | -21 42                         |                                   |                      |          |        |       |
|              |           |          | R.        | -17 56                   | S. 8° E.                     | -78 50       | -1 09                                   | -19 05                         | -1 20                             | -22 51               |          |        |       |
|              |           |          | R.        | -23 07                   | S. 11° E.                    |              | -1 36                                   | -24 43                         |                                   |                      |          |        |       |

## Observations of Declination. (Continued.)

| 1841.        | Position. |        | Initials. | Declination<br>observed. | Direction of<br>ship's head. | Inclination. | Correction<br>for ship's<br>attraction. | Corrected<br>Declina-<br>tion. | Correction<br>for index<br>error. | True<br>Declination. | Remarks. |
|--------------|-----------|--------|-----------|--------------------------|------------------------------|--------------|---|--------------------------------|-----------------------------------|----------------------|----------|
|              | Lat.      | Long.  |           |                          |                              |              |   |                                |                                   |                      |          |
| Dec. 22 A.M. | -65 14    | 206 07 | S.        | -22 02                   | s. $\frac{3}{4}$ w.          | -79 20       | +1 20                                   | -20 42                         | -1 20                             | -21 51               |          |
|              |           |        | O.        | -24 24                   | s. by w. $\frac{1}{2}$ w.    |              | +2 38                                   | -21 46                         |                                   |                      |          |
|              | -65 13    | 205 55 | T.        | -22 14                   | s. by w.                     |              | +1 47                                   | -20 27                         |                                   |                      |          |
|              |           |        | S.        | -22 39                   | s. by w.                     |              | +1 47                                   | -20 52                         |                                   |                      |          |
|              | -65 13    | 205 47 | Y.        | -22 02                   | s. by w.                     |              | +1 47                                   | -20 15                         |                                   |                      |          |
|              |           |        | O.        | -20 44                   | s. by w.                     |              | +1 47                                   | -18 57                         |                                   |                      |          |
|              |           |        | T.        | -22 13                   | s. by w.                     |              | +1 47                                   | -20 26                         |                                   |                      |          |
|              |           |        | T.        | -22 58                   | s. by w. $\frac{1}{4}$ w.    |              | +2 14                                   | -20 44                         |                                   |                      |          |
|              | -65 16    | 206 00 | W.        | -23 00                   | s.s.w.                       |              | +3 28                                   | -19 32                         |                                   |                      |          |
|              |           |        | W.        | -19 56                   | s.                           |              | 0 0                                     | -19 56                         |                                   |                      |          |
|              | -65 21    | 206 08 | R.        | -22 43                   | s. $\frac{1}{2}$ w.          |              | +0 53                                   | -21 50                         |                                   |                      |          |
|              | -65 23    | 206 06 | R.        | -23 11                   | s. $\frac{1}{2}$ w.          |              | +0 53                                   | -22 18                         |                                   |                      |          |
|              |           | 205 50 | S.        | -18 11                   | s.s.e.                       |              | -3 28                                   | -21 39                         |                                   |                      |          |
|              | -65 38    | 205 47 | T.        | -21 14                   | s. $\frac{1}{2}$ w.          |              | +0 26                                   | -20 48                         |                                   |                      |          |
| 22 P.M.      | -65 39    | 205 44 | Y.        | -22 02                   | s.                           | -79 20       | 0 0                                     | -22 02                         | -1 20                             | -22 46               |          |
|              | -66 00    | 205 46 | R.        | -21 18                   | N. by E. $\frac{1}{2}$ E.    |              | -2 06                                   | -23 24                         |                                   |                      |          |
| 24 P.M.      | -65 59    | 203 47 | T.        | -27 28                   | s.s.w.                       | -79 45       | +3 35                                   | -23 53                         | -1 20                             | -24 13               |          |
| 25 P.M.      | -66 01    | 203 56 | T.        | -26 45                   | N.W. by N.                   |              | +4 20                                   | -22 25                         |                                   |                      |          |
|              |           |        | T.        | -14 34                   | S.E. by E. $\frac{1}{2}$ E.  |              | -7 50                                   | -22 24                         |                                   |                      |          |
| 27 A.M.      | -66 16    | 203 44 | S.        | -14 42                   | E.S.E.                       |              | -8 10                                   | -22 52                         |                                   |                      |          |
|              | -66 17    | 203 36 | S.        | -16 17                   | E. by N. $\frac{1}{2}$ N.    |              | -8 02                                   | -24 19                         |                                   |                      |          |
|              |           |        | T.        | -30 17                   | S.W. by S.                   |              | +5 17                                   | -25 00                         |                                   |                      |          |
|              |           |        | T.        | -29 00                   | S.S.W. $\frac{1}{2}$ W.      |              | +4 28                                   | -24 32                         |                                   |                      |          |
|              |           |        | R.        | -30 56                   | S.W.                         |              | +6 39                                   | -24 17                         |                                   |                      |          |
|              |           |        | W.        | -30 50                   | S.W.                         |              | +6 39                                   | -24 11                         |                                   |                      |          |
| 29 A.M.      | -66 24    | 203 51 | W.        | -31 36                   | W.N.W.                       |              | +7 43                                   | -23 53                         |                                   |                      |          |
|              |           |        | T.        | -31 41                   | W.N.W.                       |              | +7 43                                   | -23 58                         |                                   |                      |          |
|              |           |        | T.        | -30 30                   | N.W. $\frac{1}{2}$ W.        |              | +6 18                                   | -24 12                         |                                   |                      |          |
|              | -66 25    | 203 51 | S.        | -17 13                   | E. by N. $\frac{1}{2}$ N.    |              | +8 02                                   | -25 15                         |                                   |                      |          |
|              |           |        | R.        | -31 25                   | S.W. by W. $\frac{1}{2}$ W.  |              | +8 02                                   | -23 23                         |                                   |                      |          |
|              | -66 31    | 203 06 | T.        | -30 38                   | S.W.                         |              | +6 39                                   | -23 59                         |                                   |                      |          |
| 1842.        |           |        |           |                          |                              |              |   |                                |                                   |                      |          |
| Jan. 6 P.M.  | -66 04    | 203 17 | R.        | -26 58                   | s. $\frac{1}{4}$ w.          | -79 56       | +0 28                                   | -26 30                         | -1 20                             | -26 59               |          |
|              |           |        | SM.       | -26 38                   | s. $\frac{1}{2}$ w.          |              | +0 56                                   | -25 42                         |                                   |                      |          |
|              |           |        | R.        | -28 16                   | s. by w. $\frac{1}{4}$ w.    |              | +2 20                                   | -25 56                         |                                   |                      |          |
|              |           |        | SM.       | -28 38                   | s. by w. $\frac{1}{2}$ w.    |              | +2 46                                   | -25 52                         |                                   |                      |          |
|              |           |        | R.        | -23 42                   | N. by E.                     |              | -1 33                                   | -25 14                         |                                   |                      |          |
|              |           |        | R.        | -27 26                   | N. by w. $\frac{1}{4}$ w.    |              | +1 54                                   | -25 32                         |                                   |                      |          |
|              |           |        | T.        | -27 14                   | N. by w. $\frac{1}{2}$ w.    |              | +2 16                                   | -24 58                         |                                   |                      |          |
|              | -66 05    | 203 13 | T.        | -30 55                   | N.W. $\frac{1}{4}$ N.        |              | +6 26                                   | -25 29                         |                                   |                      |          |
| 7 P.M.       | -66 20    | 204 19 | T.        | -32 04                   | N.W. $\frac{1}{2}$ W.        |              | +6 07                                   | -25 57                         |                                   |                      |          |
|              |           |        |           | -32 41                   | N.W. $\frac{1}{2}$ W.        |              | +6 07                                   | -26 37                         |                                   |                      |          |
| 8 P.M.       | -66 14    | 204 48 | R.        | -32 34                   | S.W. by W.                   |              | +7 31                                   | -25 03                         |                                   |                      |          |
|              | -66 15    | 204 50 | R.        | -16 07                   | E. by S.                     |              | -8 28                                   | -24 35                         |                                   |                      |          |
|              |           |        | R.        | -33 01                   | S.W. by W.                   |              | +7 31                                   | -25 30                         |                                   |                      |          |
|              |           | 204 49 | R.        | -28 21                   | S.S.W. $\frac{1}{2}$ W.      |              | +4 26                                   | -23 56                         |                                   |                      |          |
| 9 A.M.       | -66 12    | 204 26 | SM.       | -16 58                   | E.                           |              | -8 25                                   | -25 23                         |                                   |                      |          |
|              |           |        | O.        | -16 49                   | S.E. by E. $\frac{1}{2}$ E.  |              | -7 55                                   | -24 44                         |                                   |                      |          |
|              | -66 15    | 204 26 | S.        | -16 50                   | E. by S. $\frac{1}{2}$ S.    |              | -8 24                                   | -25 14                         |                                   |                      |          |
|              |           | 204 23 | T.        | -31 46                   | S.W.                         |              | +6 33                                   | -25 13                         |                                   |                      |          |
|              |           |        | O.        | -30 14                   | S.W. $\frac{1}{2}$ S.        | -79 52       | +5 54                                   | -24 20                         | -1 20                             | -25 55               |          |
|              |           |        | S.        | -17 09                   | E. $\frac{1}{2}$ S.          |              | -8 26                                   | -25 35                         |                                   |                      |          |
|              |           |        | T.        | -15 31                   | E. by S. $\frac{1}{2}$ S.    |              | -8 24                                   | -23 55                         |                                   |                      |          |
|              |           |        | Y.        | -15 38                   | E. $\frac{1}{2}$ S.          |              | -8 26                                   | -24 04                         |                                   |                      |          |
|              |           |        | W.        | -14 22                   | E. by S. $\frac{1}{2}$ S.    |              | -8 24                                   | -22 46                         |                                   |                      |          |
|              | -66 16    | 204 24 | T.        | -16 12                   | E. by S. $\frac{1}{2}$ S.    |              | -8 24                                   | -24 36                         |                                   |                      |          |



## Observations of Declination. (Continued.)

| 1842.       | Position. |        | Initials. | Declination<br>observed. | Direction of<br>ship's head. | Inclination. | Correction<br>for ship's<br>attraction. | Corrected<br>Declina-<br>tion. | Correction<br>for index<br>error. | True<br>Declination. | Remarks. |
|-------------|-----------|--------|-----------|--------------------------|------------------------------|--------------|---|--------------------------------|-----------------------------------|----------------------|----------|
|             | Lat.      | Long.  |           |                          |                              |              |   |                                |                                   |                      |          |
| Jan. 9 P.M. | -66 05    | 204 22 | T.        | -30 35                   | S.W. $\frac{1}{2}$ S.        | -79 52       | +5 54                                   | -24 42                         | -1 20                             | -25 48               |          |
|             |           |        | R.        | -32 12                   | W.S.W.                       |              | +8 15                                   | -23 57                         |                                   |                      |          |
|             |           |        | T.        | -31 41                   | S.W. $\frac{1}{2}$ W.        |              | +7 04                                   | -24 37                         |                                   |                      |          |
|             |           |        | T.        | -33 36                   | W. by S. $\frac{1}{4}$ S.    |              | +8 28                                   | -25 08                         |                                   |                      |          |
|             | -66 03    | 204 25 | T.        | -31 17                   | S.W. $\frac{1}{4}$ W.        |              | +6 48                                   | -24 29                         |                                   |                      |          |
|             |           |        | S.        | -30 16                   | S.W.                         |              | +6 33                                   | -23 43                         |                                   |                      |          |
|             |           |        | T.        | -15 20                   | S.E. by E. $\frac{1}{2}$ E.  |              | -7 55                                   | -23 15                         |                                   |                      |          |
|             |           |        | T.        | -16 04                   | E. by S. $\frac{1}{2}$ S.    |              | -8 24                                   | -24 28                         |                                   |                      |          |
|             | -66 04    | 204 17 | R.        | -17 33                   | S.E. $\frac{1}{4}$ S.        |              | -6 14                                   | -23 47                         |                                   |                      |          |
|             |           |        | R.        | -32 25                   | S.W. by W. $\frac{3}{4}$ W.  |              | +8 05                                   | -24 20                         |                                   |                      |          |
|             |           |        | T.        | -32 10                   | S.W. by W.                   |              | +7 35                                   | -24 35                         |                                   |                      |          |
|             |           |        | R.        | -16 55                   | S.E. by E. $\frac{3}{4}$ E.  |              | -8 05                                   | -25 00                         |                                   |                      |          |
|             | -66 06    | 204 11 | T.        | -17 02                   | S.E. by E.                   |              | -7 35                                   | -24 37                         |                                   |                      |          |
|             |           |        | R.        | -33 07                   | S.W. by W. $\frac{1}{2}$ W.  |              | +7 55                                   | -25 12                         |                                   |                      |          |
|             |           |        | Sm.       | -33 10                   | W.S.W.                       |              | +8 15                                   | -24 55                         |                                   |                      |          |
|             |           |        | R.        | -16 37                   | E. by N.                     |              | -8 15                                   | -24 52                         |                                   |                      |          |
| 10 A.M.     | -66 00    | 204 08 | S.        | -17 38                   | S.E.                         | -79 48       | -6 28                                   | -24 06                         | -1 20                             | -25 26               |          |
|             |           |        | O.        | -17 28                   | S.E. $\frac{1}{4}$ E.        |              | -6 44                                   | -24 12                         |                                   |                      |          |
|             |           |        | S.        | -17 30                   | S.E. $\frac{1}{4}$ E.        |              | -6 44                                   | -24 14                         |                                   |                      |          |
|             |           |        | T.        | -15 30                   | E. by S.                     |              | -8 31                                   | -24 01                         |                                   |                      |          |
|             | -65 58    | 204 11 | Y.        | -15 21                   | E. by S.                     |              | -8 31                                   | -23 52                         |                                   |                      |          |
|             |           |        | W.        | -17 02                   | S.E. by E. $\frac{1}{2}$ E.  |              | -7 50                                   | -24 52                         |                                   |                      |          |
|             |           |        | T.        | -16 03                   | S.E. by E. $\frac{1}{2}$ E.  |              | -7 50                                   | -23 53                         |                                   |                      |          |
|             |           |        | T.        | -31 55                   | W. by S. $\frac{1}{2}$ S.    |              | +8 18                                   | -23 37                         |                                   |                      |          |
|             | -66 04    | 204 18 | W.        | -32 25                   | W.S.W.                       |              | +8 09                                   | -24 16                         |                                   |                      |          |
|             |           |        | Y.        | -31 49                   | W.S.W.                       |              | +8 09                                   | -23 40                         |                                   |                      |          |
|             |           |        | T.        | -31 50                   | S.W. by W.                   |              | +7 31                                   | -24 19                         |                                   |                      |          |
|             |           |        | R.        | -16 36                   | S.E. by E.                   |              | -7 31                                   | -24 07                         |                                   |                      |          |
| 10 P.M.     | -65 58    | 204 14 | T.        | -15 49                   | S.E. by E. $\frac{3}{4}$ E.  | -79 48       | -8 00                                   | -23 49                         | -1 20                             | -25 24               |          |
|             |           |        | T.        | -32 23                   | W. by S.                     |              | +8 31                                   | -23 52                         |                                   |                      |          |
|             |           |        | T.        | -27 46                   | S.S.W.                       |              | +3 37                                   | -24 09                         |                                   |                      |          |
|             |           |        | O.        | -32 16                   | S.W. by W.                   |              | +7 31                                   | -24 45                         |                                   |                      |          |
|             | -65 57    | 204 16 | R.        | -16 26                   | E. by S. $\frac{1}{4}$ S.    |              | -8 25                                   | -24 51                         |                                   |                      |          |
|             |           |        | T.        | -16 15                   | E. by S.                     |              | -8 31                                   | -24 46                         |                                   |                      |          |
|             |           |        | T.        | -31 12                   | S.W. by W.                   |              | +7 31                                   | -23 41                         |                                   |                      |          |
|             |           |        | W.        | -32 18                   | S.W.                         |              | +6 28                                   | -25 50                         |                                   |                      |          |
|             | -65 58    | 204 13 | R.        | -30 27                   | S.W. $\frac{1}{4}$ S.        |              | +6 10                                   | -24 17                         |                                   |                      |          |
|             |           |        | R.        | -29 31                   | S.W. $\frac{3}{4}$ S.        |              | +5 30                                   | -24 01                         |                                   |                      |          |
|             |           |        | R.        | -30 14                   | S.W. $\frac{1}{2}$ S.        |              | +5 50                                   | -24 24                         |                                   |                      |          |
|             |           |        | R.        | -32 13                   | W. by S. $\frac{3}{4}$ S.    |              | +8 18                                   | -23 55                         |                                   |                      |          |
| 11 A.M.     | -66 01    | 203 51 | Sm.       | -21 04                   | S. by E.                     | -79 48       | -1 52                                   | -22 56                         | -1 20                             | -24 58               |          |
|             | -65 56    | 203 44 | Y.        | -19 51                   | S.E. by S.                   |              | -5 12                                   | -25 03                         |                                   |                      |          |
|             |           |        | T.        | -26 27                   | S. by W. $\frac{1}{4}$ W.    |              | +2 16                                   | -24 43                         |                                   |                      |          |
|             |           |        | Y.        | -27 21                   | N.N.W. $\frac{1}{2}$ W.      |              | +3 40                                   | -23 41                         |                                   |                      |          |
| 12 A.M.     | -65 52    | 203 45 | T.        | -31 34                   | N.W. by W. $\frac{1}{2}$ W.  | -79 48       | +7 07                                   | -24 27                         | -1 20                             | -24 58               |          |
|             |           |        | T.        | -31 42                   | S.W. by W.                   |              | +7 31                                   | -24 11                         |                                   |                      |          |
|             |           |        | R.        | -31 52                   | S.W. by W.                   |              | +7 31                                   | -24 21                         |                                   |                      |          |
|             |           |        | W.        | -31 58                   | W. by S. $\frac{3}{4}$ S.    |              | +8 18                                   | -23 40                         |                                   |                      |          |
| 12 P.M.     | -65 56    | 203 24 | R.        | -26 53                   | S.S.W.                       | -79 43       | +3 37                                   | -23 16                         | -1 20                             | -24 58               |          |
|             |           |        | T.        | -27 00                   | S.S.W.                       |              | +3 37                                   | -23 23                         |                                   |                      |          |
|             |           |        | T.        | -23 49                   | S.                           |              | 0 0                                     | -23 49                         |                                   |                      |          |
|             |           |        | S.        | -22 48                   | S.                           |              | 0 0                                     | -22 48                         |                                   |                      |          |
| 14 A.M.     | -65 57    | 203 29 | T.        | -22 36                   | S. $\frac{3}{4}$ E.          | -79 43       | -1 24                                   | -24 00                         | -1 20                             | -24 58               |          |
|             |           |        | R.        | -20 23                   | S. by E.                     |              | -1 52                                   | -22 15                         |                                   |                      |          |
|             |           |        | Sm.       | -24 36                   | S. by W.                     |              | +1 52                                   | -22 44                         |                                   |                      |          |
|             |           |        | Sm.       | -22 06                   | S. $\frac{3}{4}$ E.          |              | -1 24                                   | -23 30                         |                                   |                      |          |
|             | -66 10    | 202 50 | T.        | -15 17                   | E. by N. $\frac{3}{4}$ N.    |              | -7 40                                   | -22 57                         |                                   |                      |          |

## Observations of Declination. (Continued.)

| 1842.        | Position. |        | Initials. | Declination<br>observed. | Direction of<br>ship's head. | Inclination. | Correction<br>for ship's<br>attraction. | Corrected<br>Declina-<br>tion. | Correction<br>for index<br>error. | True<br>Declination. | Remarks.                        |
|--------------|-----------|--------|-----------|--------------------------|------------------------------|--------------|---|--------------------------------|-----------------------------------|----------------------|---------------------------------|
|              | Lat.      | Long.  |           |                          |                              |              |   |                                |                                   |                      |                                 |
| Jan. 16 P.M. | -65 47    | 202 13 | R.        | -22 19                   | Observed<br>on ice.          | ° ' ° '      | ° ' ° '                                 | -22 19                         | -3 03                             | -25 15               | R<br>H 162<br>CCL<br>CCL<br>CCH |
|              |           |        | R.        | -26 36                   |                              |              |   | -26 36                         | -0 05                             |                      |                                 |
|              |           |        | R.        | -24 45                   |                              |              |   | -24 45                         | -0 28                             |                      |                                 |
|              |           |        | R.        | -24 00                   |                              |              |   | -24 00                         | -1 20                             |                      |                                 |
|              |           |        | R.        | -23 16                   |                              |              |   | -23 16                         | -1 20                             |                      |                                 |
|              |           |        | R.        | -22 58                   |                              |              |   | -22 58                         | -1 20                             |                      |                                 |
| 28 P.M.      | -67 39    | 204 24 | T.        | -29 56                   | N. by W. $\frac{1}{2}$ W.    | -80 34       | +2 25                                   | -27 31                         | -1 20                             | -27 46               |                                 |
|              |           |        | T.        | -19 02                   | S.S.E. $\frac{1}{2}$ E.      |              | -4 44                                   | -23 46                         |                                   |                      |                                 |
|              |           | 204 28 | R.        | -36 04                   | W. by N. $\frac{1}{4}$ N.    |              | +8 44                                   | -27 20                         |                                   |                      |                                 |
|              |           |        | T.        | -17 30                   | E.N.E.                       |              | -8 13                                   | -25 43                         |                                   |                      |                                 |
|              | -67 40    | 204 27 | T.        | -17 42                   | E. $\frac{1}{2}$ S.          |              | -9 12                                   | -26 54                         |                                   |                      |                                 |
|              |           |        | R.        | -16 49                   | E. $\frac{1}{2}$ S.          |              | -9 12                                   | -26 01                         |                                   |                      |                                 |
| 29 A.M.      | -67 34    | 203 59 | R.        | -35 09                   | S.W. $\frac{1}{4}$ W.        | -80 44       | +7 20                                   | -27 49                         | -1 20                             | -27 36               |                                 |
|              |           |        | T.        | -27 58                   | S. $\frac{1}{2}$ W.          |              | +1 00                                   | -26 58                         |                                   |                      |                                 |
|              |           |        | T.        | -16 57                   | E. $\frac{3}{4}$ N.          |              | -8 57                                   | -25 54                         |                                   |                      |                                 |
| 31 A.M.      | -67 20    | 202 20 | T.        | -28 40                   | S. by W. $\frac{1}{2}$ W.    |              | +3 00                                   | -25 40                         |                                   |                      |                                 |
|              | -67 21    | 202 02 | T.        | -28 20                   | S. $\frac{1}{2}$ W.          |              | +1 01                                   | -27 19                         |                                   |                      |                                 |
|              |           |        | R.        | -25 59                   | S. $\frac{1}{2}$ E.          |              | -1 01                                   | -27 00                         |                                   |                      |                                 |
|              |           |        | T.        | -26 30                   | S.                           | -80 44       | 0 0                                     | -26 30                         | -1 20                             | -28 12               |                                 |
|              |           |        | T.        | -22 51                   | S. by E. $\frac{3}{4}$ E.    |              | -3 28                                   | -26 19                         |                                   |                      |                                 |
|              |           |        | R.        | -24 19                   | S. by E. $\frac{1}{2}$ E.    |              | -3 00                                   | -27 19                         |                                   |                      |                                 |
| Feb. 1 P.M.  | -67 19    | 201 56 | T.        | -20 23                   | S.S.E. $\frac{1}{2}$ E.      |              | -4 45                                   | -25 08                         |                                   |                      |                                 |
|              |           |        | W.        | -19 08                   | S.E. by S.                   |              | -5 42                                   | -24 50                         |                                   |                      |                                 |
|              |           |        | T.        | -34 20                   | N.W. by W.                   |              | +7 27                                   | -26 53                         |                                   |                      |                                 |
|              |           |        | R.        | -37 09                   | W. $\frac{3}{4}$ N.          | -80 44       | +9 09                                   | -26 00                         | -1 20                             | -30 25               |                                 |
|              |           |        | O.        | -34 45                   | N.W. by W.                   |              | +7 27                                   | -26 18                         |                                   |                      |                                 |
|              |           |        | T.        | -28 10                   | S. by W.                     |              | +2 02                                   | -26 08                         |                                   |                      |                                 |
|              |           |        | W.        | -29 43                   | S. by W.                     |              | +2 02                                   | -27 41                         |                                   |                      |                                 |
|              |           |        | R.        | -29 29                   | N.N.W. $\frac{1}{4}$ W.      |              | +3 26                                   | -26 03                         |                                   |                      |                                 |
|              |           |        | R.        | -25 12                   | N. $\frac{1}{2}$ E.          |              | -0 50                                   | -26 02                         |                                   |                      |                                 |
|              |           | 201 55 | R.        | -36 14                   | S.W. $\frac{1}{2}$ S.        | -81 00       | +6 26                                   | -29 48                         | -1 20                             | -32 33               |                                 |
| 2 A.M.       | -67 43    | 200 00 | T.        | -31 31                   | S.S.W.                       |              | +4 04                                   | -27 27                         |                                   |                      |                                 |
|              | -68 18    | 202 24 | R.        | -39 16                   | N.W. by W. $\frac{3}{4}$ W.  |              | +7 55                                   | -31 21                         |                                   |                      |                                 |
|              | -68 17    | 202 32 | T.        | -39 48                   | W.S.W.                       |              | +9 19                                   | -30 29                         |                                   |                      |                                 |
| 3 A.M.       | -68 04    | 199 45 | W.        | -21 19                   | S. by E. $\frac{1}{4}$ E.    |              | -2 34                                   | -23 53                         |                                   |                      |                                 |
|              | -68 03    | 199 47 | T.        | -21 36                   | S.S.E. $\frac{1}{2}$ E.      |              | -4 57                                   | -26 33                         |                                   |                      |                                 |
|              | -68 37    | 200 03 | S.        | -21 34                   | S.E. $\frac{1}{2}$ S.        | -81 38       | -6 36                                   | -28 10                         | -1 20                             | -32 33               |                                 |
|              |           |        | R.        | -22 08                   | S.E. by S.                   |              | -5 51                                   | -27 59                         |                                   |                      |                                 |
|              | -68 41    | 199 54 | R.        | -23 06                   | S.E. $\frac{3}{4}$ S.        |              | -6 13                                   | -29 19                         |                                   |                      |                                 |
|              |           |        | R.        | -39 53                   | W. $\frac{3}{4}$ S.          |              | +9 42                                   | -30 11                         |                                   |                      |                                 |
|              |           |        | W.        | -38 58                   | W. $\frac{1}{2}$ S.          |              | +9 42                                   | -29 16                         |                                   |                      |                                 |
|              |           |        | T.        | -40 19                   | W. $\frac{1}{2}$ S.          |              | +9 42                                   | -30 37                         |                                   |                      |                                 |
|              |           |        | S.        | -40 25                   | W. $\frac{3}{4}$ S.          | -81 38       | +9 42                                   | -30 43                         | -1 20                             | -32 33               |                                 |
|              |           |        | O.        | -39 34                   | W. by S.                     |              | +9 42                                   | -29 52                         |                                   |                      |                                 |
|              | -68 44    | 199 50 | R.        | -40 56                   | W. by S. $\frac{1}{2}$ S.    |              | +9 30                                   | -31 26                         |                                   |                      |                                 |
| 4 A.M.       | -68 49    | 199 42 | Sm.       | -24 47                   | S. by E. $\frac{1}{2}$ E.    |              | -3 20                                   | -28 07                         |                                   |                      |                                 |
|              | -68 50    |        | T.        | -29 49                   | S. $\frac{1}{2}$ W.          |              | +1 08                                   | -28 41                         |                                   |                      |                                 |
|              | -68 51    |        | O.        | -29 42                   | S. by E.                     |              | -2 16                                   | -31 58                         |                                   |                      |                                 |
|              | -68 46    | 199 48 | W.        | -37 01                   | N.N.W. $\frac{1}{2}$ W.      | -81 38       | +4 35                                   | -32 26                         | -1 20                             | -32 33               |                                 |
|              |           |        | W.        | -35 15                   | N.W. $\frac{1}{2}$ N.        |              | +6 15                                   | -29 00                         |                                   |                      |                                 |
|              |           |        | R.        | -35 57                   | N.W. $\frac{1}{2}$ N.        |              | +6 15                                   | -29 42                         |                                   |                      |                                 |
|              |           |        | T.        | -35 54                   | N.W. $\frac{1}{2}$ N.        |              | +6 15                                   | -29 39                         |                                   |                      |                                 |
|              | -68 45    | 199 53 | R.        | -34 23                   | N.N.W. $\frac{3}{4}$ W.      |              | +5 03                                   | -29 20                         |                                   |                      |                                 |
|              | -68 44    | 199 46 | T.        | -32 17                   | N. by W.                     |              | +2 16                                   | -30 01                         |                                   |                      |                                 |
|              |           |        | R.        | -33 05                   | N. by W. $\frac{1}{4}$ W.    | -81 38       | +2 22                                   | -30 43                         | -1 20                             | -32 33               |                                 |
|              |           |        | R.        | -38 42                   | S.W. $\frac{1}{2}$ S.        |              | +7 07                                   | -31 35                         |                                   |                      |                                 |
|              |           |        | T.        | -38 31                   | S.W. $\frac{1}{4}$ S.        |              | +7 31                                   | -31 00                         |                                   |                      |                                 |
|              | -68 45    | 199 50 | R.        | -35 32                   | S.S.W. $\frac{1}{4}$ W.      |              | +4 52                                   | -30 40                         |                                   |                      |                                 |

## Observations of Declination. (Continued.)

| 1842.        | Position. |          | Initials. | Declination observed. | Direction of ship's head.   | Inclination. | Correction for ship's attraction. | Corrected Declination. | Correction for index error. | True Declination. | Remarks. |
|--------------|-----------|----------|-----------|-----------------------|-----------------------------|--------------|-----------------------------------|------------------------|-----------------------------|-------------------|----------|
|              | Lat.      | Long.    |           |                       |                             |              |                                   |                        |                             |                   |          |
| Feb. 8. A.M. | -70° 07'  | 186° 36' | S.        | -27° 52'              | S.S.E.                      | 83 39        | -5° 37'                           | -33° 29'               | -1° 20'                     | -35° 42'          |          |
|              |           |          | T.        | -26° 51'              | S.S.E. $\frac{1}{2}$ E.     |              | -6° 51'                           | -33° 42'               |                             |                   |          |
|              |           |          | O.        | -30° 31'              | S. by E. $\frac{1}{4}$ E.   |              | -3° 31'                           | -34° 02'               |                             |                   |          |
|              | -70° 08'  | 186° 25' | S.        | -33° 41'              | S.                          |              | 0° 00'                            | -33° 41'               |                             |                   |          |
|              |           |          | W.        | -30° 23'              | S. by E. $\frac{1}{4}$ E.   |              | -3° 31'                           | -33° 54'               |                             |                   |          |
|              |           |          | T.        | -29° 56'              | S. by E. $\frac{1}{2}$ E.   |              | -4° 12'                           | -34° 08'               |                             |                   |          |
| 8 P.M.       |           | 186° 24' | T.        | -33° 40'              | S. $\frac{1}{4}$ E.         |              | -0° 43'                           | -34° 23'               |                             |                   |          |
|              | -70° 34'  | 185° 47' | R.        | -32° 55'              | S. by E.                    |              | -2° 54'                           | -35° 49'               |                             |                   |          |
| 9 A.M.       |           |          | T.        | -33° 18'              | S. by E.                    |              | -2° 54'                           | -36° 12'               |                             |                   |          |
|              | -70° 34'  | 185° 33' | T.        | -52° 48'              | W. $\frac{1}{2}$ N.         |              | +14° 29'                          | -38° 19'               |                             |                   |          |
| 9 P.M.       |           |          | W.        | -50° 28'              | W. by N.                    |              | +14° 15'                          | -36° 13'               |                             |                   |          |
|              | -70° 30'  | 185° 25' | R.        | -50° 00'              | W. $\frac{1}{2}$ N.         |              | +14° 29'                          | -35° 31'               |                             |                   |          |
|              | -70° 38'  | 185° 26' | O.        | -52° 27'              | W. $\frac{1}{2}$ S.         |              | +14° 40'                          | -37° 47'               |                             |                   |          |
|              | -70° 33'  | 185° 20' | R.        | -51° 21'              | W. $\frac{1}{4}$ S.         |              | +14° 41'                          | -36° 20'               |                             |                   |          |
|              |           |          | T.        | -51° 05'              | W. $\frac{1}{4}$ S.         |              | +14° 41'                          | -36° 24'               |                             |                   |          |
|              |           |          | W.        | -52° 05'              | W. $\frac{1}{4}$ N.         |              | +14° 36'                          | -37° 29'               |                             |                   |          |
|              |           |          | T.        | -50° 17'              | W. $\frac{1}{4}$ N.         |              | +14° 36'                          | -35° 41'               |                             |                   |          |
|              | -70° 31'  | 185° 13' | R.        | -51° 58'              | W. $\frac{1}{4}$ S.         |              | +14° 41'                          | -37° 17'               |                             |                   |          |
|              |           |          | T.        | -52° 43'              | W.                          |              | +14° 43'                          | -38° 00'               |                             |                   |          |
|              |           |          | R.        | -52° 35'              | W. $\frac{3}{4}$ N.         |              | +14° 22'                          | -38° 13'               |                             |                   |          |
|              | -70° 26'  | 185° 05' | R.        | -53° 52'              | W. $\frac{1}{4}$ N.         |              | +14° 18'                          | -39° 34'               |                             |                   |          |
|              |           |          | T.        | -51° 49'              | W. $\frac{1}{2}$ N.         |              | +14° 11'                          | -37° 38'               |                             |                   |          |
|              |           |          | R.        | -51° 12'              | W. $\frac{1}{2}$ N.         |              | +14° 11'                          | -37° 01'               |                             |                   |          |
| 10 A.M.      | -70° 25'  | 185° 00' | S.        | -54° 00'              | W.                          |              | +14° 25'                          | -39° 35'               |                             |                   |          |
|              | -70° 22'  | 184° 17' | T.        | -49° 11'              | W. $\frac{1}{2}$ S.         |              | +14° 22'                          | -34° 49'               |                             |                   |          |
|              |           |          | SM.       | -49° 13'              | W.                          |              | +14° 25'                          | -34° 48'               |                             |                   |          |
|              |           |          | T.        | -49° 48'              | W. $\frac{1}{2}$ N.         |              | +14° 11'                          | -35° 37'               |                             |                   |          |
|              | -70° 20'  | 184° 10' | SM.       | -49° 51'              | W. $\frac{3}{4}$ S.         |              | +14° 20'                          | -35° 31'               |                             |                   |          |
|              |           |          | T.        | -47° 56'              | W. by S. $\frac{3}{4}$ S.   |              | +13° 50'                          | -34° 06'               |                             |                   |          |
|              | -70° 16'  | 183° 54' | O.        | -46° 47'              | S.W. by W. $\frac{1}{2}$ W. |              | +12° 59'                          | -33° 48'               |                             |                   |          |
|              |           |          | S.        | -47° 11'              | W.S.W.                      |              | +13° 34'                          | -33° 37'               |                             |                   |          |
|              |           |          | T.        | -47° 05'              | S.W. by W. $\frac{1}{2}$ W. |              | +12° 57'                          | -34° 08'               |                             |                   |          |
|              |           |          | S.        | -50° 09'              | W. by S. $\frac{1}{2}$ S.   |              | +13° 54'                          | -36° 15'               |                             |                   |          |
| 10 P.M.      | -70° 11'  | 183° 52' | R.        | -27° 10'              | S.E. by S.                  |              | -8° 24'                           | -35° 34'               |                             |                   |          |
|              | -70° 13'  | 183° 51' | R.        | -26° 53'              | S.E.                        |              | -10° 37'                          | -37° 30'               |                             |                   |          |
|              | -70° 12'  | 183° 50' | O.        | -50° 12'              | W. by S.                    |              | +14° 13'                          | -35° 59'               |                             |                   |          |
|              |           |          | T.        | -48° 52'              | W. by S.                    |              | +14° 13'                          | -34° 39'               |                             |                   |          |
|              |           |          | R.        | -48° 27'              | W. $\frac{1}{2}$ S.         |              | +14° 16'                          | -34° 11'               |                             |                   |          |
|              |           |          | T.        | -49° 13'              | W. $\frac{1}{4}$ N.         |              | +14° 12'                          | -35° 01'               |                             |                   |          |
|              |           |          | W.        | -47° 54'              | W. $\frac{1}{2}$ N.         |              | +14° 05'                          | -33° 49'               |                             |                   |          |
|              | -70° 14'  | 183° 54' | T.        | -49° 53'              | W. $\frac{1}{4}$ N.         |              | +14° 12'                          | -35° 41'               |                             |                   |          |
| 13 A.M.      | -72° 10'  | 180° 58' | S.        | -30° 58'              | S.E.                        | -85 07       | -13° 19'                          | -44° 17'               | -1° 20'                     | -45° 37'          |          |
| 16 A.M.      | -75° 08'  | 173° 20' | T.        | -55° 14'              | S.E. $\frac{3}{4}$ S.       |              | -19° 18'                          | -74° 32'               |                             |                   |          |
|              |           |          | R.        | -56° 11'              | S.E. $\frac{1}{2}$ S.       |              | -20° 33'                          | -76° 44'               |                             |                   |          |
|              | -75° 03'  | 173° 03' | T.        | -56° 01'              | S.E. $\frac{1}{2}$ S.       |              | -20° 33'                          | -76° 34'               |                             |                   |          |
|              | 18 P.M.   | -76° 48' | 182° 33'  | T.                    | -85° 00'                    | N.           | 0° 00'                            | -85° 00'               |                             |                   |          |
|              |           |          | R.        | -84° 09'              | N. $\frac{1}{2}$ E.         |              | -2° 39'                           | -86° 48'               |                             |                   |          |
|              |           |          | S.        | -88° 09'              | N.                          |              | 0° 00'                            | -88° 09'               |                             |                   |          |
|              |           |          | T.        | -84° 23'              | N.                          |              | 0° 00'                            | -84° 23'               |                             |                   |          |
|              |           |          | W.        | -90° 46'              | N. by W. $\frac{1}{2}$ W.   |              | +7° 53'                           | -82° 53'               |                             |                   |          |
|              | -76° 47'  | 182° 33' | R.        | -80° 25'              | N. $\frac{1}{2}$ E.         |              | -2° 39'                           | -83° 04'               |                             |                   |          |
| 22 A.M.      | -76° 21'  | 194° 43' | T.        | -63° 58'              | S.E. $\frac{3}{4}$ S.       |              | -12° 25'                          | -76° 23'               |                             |                   |          |
|              | -76° 29'  |          | O.        | -72° 18'              | S.S.E. $\frac{1}{2}$ E.     |              | -9° 49'                           | -82° 07'               |                             |                   |          |
|              |           |          | S.        | -70° 54'              | S.S.E.                      |              | -8° 03'                           | -78° 57'               |                             |                   |          |
|              |           |          | T.        | -71° 09'              | S. by E. $\frac{1}{2}$ E.   |              | -6° 05'                           | -77° 14'               |                             |                   |          |
|              | -76° 32'  | 194° 39' | T.        | -68° 08'              | S.S.E. $\frac{1}{4}$ E.     |              | -9° 00'                           | -77° 08'               |                             |                   |          |
|              |           |          | W.        | -72° 15'              | S. by E.                    |              | -4° 05'                           | -76° 20'               |                             |                   |          |
|              | -76° 58'  | 194° 35' | R.        | -59° 41'              | E. by S.                    |              | -20° 00'                          | -79° 41'               |                             |                   |          |
|              | -76° 57'  | 194° 28' | T.        | -59° 00'              | E. by S.                    |              | -20° 00'                          | -79° 00'               |                             |                   |          |
|              |           |          | R.        | -59° 18'              | E. by S.                    |              | -20° 00'                          | -79° 18'               |                             |                   |          |
|              |           |          | R.        | -59° 57'              | E. by S.                    |              | -20° 00'                          | -79° 57'               |                             |                   |          |

## Observations of Declination. (Continued.)

| 1842.        | Position. |        | Initials. | Declination<br>observed. | Direction of<br>ship's head. | Inclination. | Correction<br>for ship's<br>attraction. | Corrected<br>Declina-<br>tion. | Correction<br>for index<br>error. | True<br>Declina-<br>tion. | Remarks. |
|--------------|-----------|--------|-----------|--------------------------|------------------------------|--------------|---|--------------------------------|-----------------------------------|---------------------------|----------|
|              | Lat.      | Long.  |           |                          |                              |              |   |                                |                                   |                           |          |
| Feb. 23 A.M. | -77 45    | 198 16 | T.        | -96 30                   | S.S.W.                       | -85 00       | + 7 08                                  | -89 22                         | -1 20                             | -88 08                    |          |
|              |           |        | O.        | -96 31                   | S.S.W. $\frac{1}{2}$ W.      |              | + 8 43                                  | -87 48                         |                                   |                           |          |
|              |           |        | S.        | -96 05                   | S.S.W.                       |              | + 7 08                                  | -88 57                         |                                   |                           |          |
|              |           |        | T.        | -93 06                   | S.S.W.                       |              | + 7 08                                  | -85 58                         |                                   |                           |          |
|              |           |        | O.        | -93 39                   | S.W. by S.                   |              | +10 19                                  | -83 20                         |                                   |                           |          |
|              |           |        | T.        | -94 06                   | S.S.W. $\frac{1}{2}$ W.      |              | + 8 43                                  | -85 23                         |                                   |                           |          |
|              |           |        | S.        | -94 02                   | S.W. by S.                   |              | +10 19                                  | -83 43                         |                                   |                           |          |
|              |           |        | W.        | -98 12                   | S.W. by S.                   |              | +10 19                                  | -87 53                         |                                   |                           |          |
|              |           |        | T.        | -99 25                   | S.W. by S.                   |              | +10 19                                  | -89 06                         |                                   |                           |          |
|              |           |        | W.        | -98 09                   | S.W. $\frac{1}{2}$ S.        |              | +11 41                                  | -86 28                         |                                   |                           |          |
| 23 P.M.      | -77 50    | 197 54 | R.        | -69 54                   | E. $\frac{1}{2}$ S.          |              | -17 41                                  | -87 35                         |                                   |                           |          |
|              | -77 48    | 197 03 | T.        | -69 07                   | E. $\frac{3}{4}$ S.          |              | -17 39                                  | -86 46                         |                                   |                           |          |
|              | -77 56    | 197 40 | R.        | -70 06                   | E. by S.                     |              | -17 37                                  | -87 43                         |                                   |                           |          |
|              | -78 00    | 197 26 | T.        | -68 51                   | E. $\frac{3}{4}$ S.          |              | -17 39                                  | -86 30                         |                                   |                           |          |
|              |           |        | S.        | -70 14                   | E.                           |              | -17 46                                  | -88 00                         |                                   |                           |          |
|              |           |        | R.        | -67 13                   | E. $\frac{1}{2}$ S.          |              | -17 41                                  | -84 54                         |                                   |                           |          |
|              |           |        | T.        | -66 56                   | E. $\frac{1}{2}$ S.          |              | -17 41                                  | -84 37                         |                                   |                           |          |
|              |           |        | S.        | -68 23                   | E.                           |              | -17 46                                  | -86 09                         |                                   |                           |          |
|              |           |        | R.        | -67 53                   | E. $\frac{1}{2}$ S.          |              | -17 41                                  | -85 34                         |                                   |                           |          |
|              |           |        | T.        | -66 26                   | E. by S.                     |              | -17 37                                  | -84 03                         |                                   |                           |          |
| 25 A.M.      | -75 13    | 193 50 | T.        | -82 32                   | W.                           |              | +17 46                                  | -64 46                         |                                   |                           |          |
|              |           |        | O.        | -80 13                   | W.                           |              | +17 46                                  | -62 27                         |                                   |                           |          |
|              | -74 40    | 194 01 | R.        | -73 01                   | N.W. by W. $\frac{1}{2}$ W.  |              | +15 11                                  | -57 50                         |                                   |                           |          |
|              | -74 37    | 194 04 | R.        | -73 34                   | W.N.W.                       |              | +16 05                                  | -57 29                         |                                   |                           |          |
|              | -74 25    | 194 04 | T.        | -76 47                   | W.N.W.                       |              | +16 05                                  | -60 42                         |                                   |                           |          |
|              |           | 193 55 | R.        | -76 45                   | N.W. by W.                   |              | +14 17                                  | -62 28                         |                                   |                           |          |
| 27 P.M.      | -71 59    | 186 42 | T.        | -57 42                   | S.W. by W. $\frac{1}{4}$ W.  |              | +14 00                                  | -43 42                         |                                   |                           |          |
|              | -71 54    | 186 30 | R.        | -57 40                   | S.W. by W.                   |              | +13 40                                  | -44 00                         |                                   |                           |          |
| 28 A.M.      | -71 11    | 185 03 | T.        | -52 06                   | S.W. by W. $\frac{1}{2}$ W.  |              | +13 51                                  | -38 15                         |                                   |                           |          |
|              | -71 09    | 184 58 | S.        | -50 45                   | W.S.W.                       |              | +14 30                                  | -36 15                         |                                   |                           |          |
|              |           |        | T.        | -53 25                   | S.W. by W. $\frac{1}{2}$ W.  |              | +13 51                                  | -39 34                         |                                   |                           |          |
|              |           |        | T.        | -53 20                   | W. $\frac{1}{2}$ S.          |              | +15 19                                  | -38 01                         |                                   |                           |          |
|              |           |        | R.        | -53 16                   | W.                           |              | +15 23                                  | -37 53                         |                                   |                           |          |
|              |           |        | O.        | -46 44                   | W.N.W.                       |              | +13 52                                  | -32 52                         |                                   |                           |          |
| Mar. 1 A.M.  | -70 11    | 180 32 | T.        | -45 32                   | W. by N. $\frac{1}{2}$ N.    |              | +14 22                                  | -31 10                         |                                   |                           |          |
|              |           |        | S.        | -44 09                   | W.N.W.                       |              | +13 52                                  | -30 17                         |                                   |                           |          |
|              |           |        | T.        | -46 02                   | W.N.W.                       |              | +13 52                                  | -32 10                         |                                   |                           |          |
|              |           |        | W.        | -45 45                   | W.N.W.                       |              | +13 52                                  | -31 53                         |                                   |                           |          |
| 1 P.M.       | -69 36    | 180 02 | R.        | -24 21                   | N. by E.                     |              | - 2 47                                  | -27 08                         |                                   |                           |          |
|              |           |        | S.        | -24 00                   | N. by E.                     |              | - 2 47                                  | -26 47                         |                                   |                           |          |
|              |           |        | T.        | -24 01                   | N. by E. $\frac{1}{2}$ E.    |              | - 4 10                                  | -28 11                         |                                   |                           |          |
|              |           |        | O.        | -24 05                   | N. by E. $\frac{1}{2}$ E.    |              | - 4 10                                  | -28 15                         |                                   |                           |          |
|              |           |        | S.        | -22 09                   | N.N.E. $\frac{1}{2}$ E.      |              | - 6 45                                  | -28 54                         |                                   |                           |          |
|              |           |        | T.        | -21 28                   | N.N.E. $\frac{1}{2}$ E.      |              | - 6 45                                  | -28 13                         |                                   |                           |          |
|              |           |        | R.        | -21 20                   | N.N.E. $\frac{1}{2}$ E.      |              | - 6 45                                  | -28 05                         |                                   |                           |          |
|              |           |        | W.        | -22 58                   | N.N.E.                       |              | - 4 31                                  | -27 29                         |                                   |                           |          |
| 2 A.M.       | -68 50    | 182 38 | T.        | -22 15                   | N.N.E.                       |              | - 4 31                                  | -26 46                         |                                   |                           |          |
|              | -68 44    | 182 43 | W.        | -22 09                   | N.N.E.                       |              | - 4 31                                  | -26 40                         |                                   |                           |          |
|              |           |        | T.        | -23 34                   | N. by E. $\frac{1}{2}$ E.    |              | - 3 24                                  | -26 58                         |                                   |                           |          |
|              |           |        | R.        | -22 49                   | N. by E. $\frac{3}{4}$ E.    |              | - 3 57                                  | -26 46                         |                                   |                           |          |
| 2 P.M.       | -67 53    | 183 44 | S.        | -20 18                   | N.E. by N.                   |              | - 6 34                                  | -26 52                         |                                   |                           |          |
|              | -67 52    |        | T.        | -17 56                   | N.E.                         |              | - 8 27                                  | -26 23                         |                                   |                           |          |
|              | -67 49    | 184 05 | T.        | -18 59                   | N.N.E. $\frac{1}{2}$ E.      |              | - 5 33                                  | -24 32                         |                                   |                           |          |
|              | -67 47    | 184 25 | R.        | -19 10                   | N. by E. $\frac{3}{4}$ E.    |              | - 3 57                                  | -23 07                         |                                   |                           |          |
|              |           |        | W.        | -16 49                   | N.E.                         |              | - 8 27                                  | -25 16                         |                                   |                           |          |
|              |           |        | R.        | -18 58                   | N.E. by N.                   |              | - 6 34                                  | -25 32                         |                                   |                           |          |
|              | -67 45    | 184 15 | R.        | -21 25                   | N.E. by N.                   |              | - 6 34                                  | -27 59                         |                                   |                           |          |

## Observations of Declination. (Continued.)

| 1842.        | Position. |        | Initials. | Declination<br>observed. | Direction of<br>ship's head. | Inclination. | Correction<br>for ship's<br>attraction. | Corrected<br>Declina-<br>tion. | Correction<br>for index<br>error. | True<br>Declination. | Remarks. |
|--------------|-----------|--------|-----------|--------------------------|------------------------------|--------------|---|--------------------------------|-----------------------------------|----------------------|----------|
|              | Lat.      | Long.  |           |                          |                              |              |   |                                |                                   |                      |          |
| March 3 A.M. | -67 34    | 185 19 | O.        | -17 21                   | N.E. $\frac{1}{2}$ E.        | -82 00       | -8 41                                   | -26 02                         | -1 20                             | -27 32               |          |
|              | -67 28    | 185 39 | R.        | -18 06                   | N.E. $\frac{1}{2}$ E.        |              | -8 41                                   | -26 47                         |                                   |                      |          |
| 5 A.M.       | -67 20    | 187 56 | T.        | -16 16                   | E. by N.                     | -81 10       | -10 23                                  | -26 39                         | -1 20                             | -27 32               |          |
|              |           |        | W.        | -14 45                   | E. $\frac{1}{2}$ N.          |              | -10 35                                  | -25 20                         |                                   |                      |          |
| 6 A.M.       | -65 27    | 191 35 | SM.       | -19 52                   | N. by E.                     |              | -1 34                                   | -21 26                         |                                   |                      |          |
|              | -65 21    | 191 45 | T.        | -21 59                   | N. $\frac{1}{2}$ E.          |              | -0 47                                   | -22 46                         |                                   |                      |          |
| 6 P.M.       | -65 00    | 192 42 | T.        | -21 38                   | N. $\frac{3}{4}$ E.          | -79 25       | -1 10                                   | -22 48                         | -1 20                             | -23 40               |          |
|              |           | 192 40 | W.        | -20 48                   | N. by E.                     |              | -1 34                                   | -22 22                         |                                   |                      |          |
|              |           |        | T.        | -20 15                   | N. by E.                     |              | -1 34                                   | -21 49                         |                                   |                      |          |
|              |           |        | R.        | -20 33                   | N. by E.                     |              | -1 34                                   | -22 07                         |                                   |                      |          |
|              | -64 58    | 192 44 | T.        | -21 55                   | N. $\frac{3}{4}$ E.          | -78 17       | -1 10                                   | -23 05                         | -1 20                             | -21 57               |          |
| 7 P.M.       | -63 33    | 194 53 | R.        | -15 05                   | S.E. $\frac{1}{2}$ S.        |              | -5 32                                   | -20 37                         |                                   |                      |          |
| 8 A.M.       | -62 33    | 195 56 | W.        | -17 12                   | N. by E.                     |              | -1 17                                   | -18 29                         |                                   |                      |          |
|              |           |        | T.        | -19 19                   | N. $\frac{3}{4}$ E.          |              | -0 58                                   | -20 17                         |                                   |                      |          |
| 8 P.M.       | -62 11    | 196 26 | T.        | -11 28                   | S.E.                         | -77 23       | -5 44                                   | -17 12                         | -1 20                             | -19 51               |          |
|              |           | 196 29 | T.        | -15 05                   | N.N.E. $\frac{1}{2}$ E.      |              | -3 07                                   | -18 12                         |                                   |                      |          |
|              |           |        | R.        | -15 53                   | N.N.E.                       |              | -2 32                                   | -18 25                         |                                   |                      |          |
| 9 A.M.       | -61 15    | 198 29 | T.        | -14 36                   | N.E. by N.                   |              | -3 20                                   | -17 56                         |                                   |                      |          |
|              |           |        | SM.       | -13 54                   | N.E. by N.                   |              | -3 20                                   | -17 14                         |                                   |                      |          |
| 9 P.M.       | -60 54    | 199 40 | W.        | -12 25                   | N.E. $\frac{3}{4}$ E.        |              | -5 00                                   | -17 25                         |                                   |                      |          |
|              | -60 51    | 199 47 | R.        | -12 19                   | N.E. by E.                   | -76 09       | -5 12                                   | -17 30                         | -1 20                             | -18 42               |          |
|              |           |        | S.        | -12 12                   | N.E. by E.                   |              | -5 12                                   | -17 23                         |                                   |                      |          |
|              |           |        | W.        | -14 24                   | N.E.                         |              | -4 22                                   | -18 46                         |                                   |                      |          |
|              | -60 50    | 199 49 | R.        | -11 40                   | N.E. by E.                   |              | -5 12                                   | -16 52                         |                                   |                      |          |
|              | -60 47    | 200 20 | R.        | -10 12                   | E.N.E.                       |              | -6 00                                   | -16 12                         |                                   |                      |          |
| 10 A.M.      | -60 34    | 202 42 | S.        | -10 21                   | E.N.E.                       |              | -5 30                                   | -15 51                         |                                   |                      |          |
|              |           |        | O.        | -10 09                   | E.N.E.                       | -74 15       | -5 30                                   | -15 39                         | -1 20                             | -17 31               |          |
|              | -60 32    | 203 08 | T.        | -11 10                   | E.N.E.                       |              | -5 30                                   | -16 40                         |                                   |                      |          |
| 10 P.M.      | -60 18    | 206 10 | T.        | -10 34                   | E. by N.                     |              | -6 00                                   | -16 34                         |                                   |                      |          |
| 12 A.M.      | -60 17    | 212 56 | S.        | -10 54                   | E. by N.                     |              | -5 34                                   | -16 28                         |                                   |                      |          |
|              |           |        | O.        | -9 58                    | E. by N.                     | -73 55       | -5 34                                   | -15 30                         | -1 20                             | -17 01               |          |
|              |           |        | T.        | -8 29                    | E. by N. $\frac{1}{2}$ N.    |              | -5 20                                   | -13 49                         |                                   |                      |          |
|              | -60 13    | 213 07 | S.        | -11 19                   | E. by N.                     |              | -5 34                                   | -16 53                         |                                   |                      |          |
| 14 P.M.      | -59 15    | 219 01 | T.        | -8 53                    | N.E.                         |              | -3 37                                   | -12 30                         |                                   |                      |          |
|              |           |        | T.        | -8 33                    | N.E. by E.                   | -73 56       | -4 26                                   | -12 59                         |                                   |                      |          |
|              |           | 219 14 | T.        | -8 10                    | N.E. by E.                   |              | -4 26                                   | -12 36                         |                                   |                      |          |
| 15 A.M.      | -58 44    | 221 51 | T.        | -10 06                   | E. by N. $\frac{1}{4}$ N.    | -73 30       | -5 10                                   | -15 16                         | -1 20                             | -15 30               |          |
|              |           |        | S.        | -12 31                   | E.N.E.                       |              | -4 50                                   | -17 21                         |                                   |                      |          |
|              | -58 42    | 221 59 | T.        | -9 23                    | E.N.E.                       |              | -4 50                                   | -14 13                         |                                   |                      |          |
| 16 P.M.      | -59 04    | 229 00 | R.        | -11 08                   | E. $\frac{1}{2}$ S.          |              | -5 26                                   | -16 34                         |                                   |                      |          |
|              |           |        | S.        | -11 15                   | E. $\frac{1}{2}$ S.          | -73 00       | -5 26                                   | -16 41                         | -1 20                             | -17 49               |          |
|              |           |        | O.        | -10 47                   | E. $\frac{1}{2}$ S.          |              | -5 26                                   | -16 13                         |                                   |                      |          |
|              |           |        | T.        | -11 03                   | E. $\frac{1}{2}$ S.          |              | -5 26                                   | -16 29                         |                                   |                      |          |
| 18 A.M.      | -60 14    | 236 32 | S.        | -13 59                   | E.                           |              | -5 24                                   | -19 23                         |                                   |                      |          |
|              |           |        | O.        | -15 28                   | E.                           | -73 00       | -5 24                                   | -20 52                         | -1 20                             | -20 56               |          |
|              | -60 13    | 236 33 | T.        | -13 10                   | E.                           |              | -5 24                                   | -18 34                         |                                   |                      |          |
| 20 P.M.      | -59 17    | 245 40 | R.        | -14 40                   | E.N.E.                       | -71 33       | -4 14                                   | -18 54                         | -1 20                             | -20 14               |          |
| 22 A.M.      | -58 40    | 251 52 | T.        | -15 41                   | E. by N.                     |              | -4 29                                   | -20 10                         |                                   |                      |          |
|              |           |        | W.        | -15 48                   | E. by N.                     | -70 51       | -4 29                                   | -20 17                         | -1 20                             | -21 47               |          |
|              |           |        | S.        | -16 24                   | E. by N.                     |              | -4 29                                   | -20 53                         |                                   |                      |          |
| 23 A.M.      | -58 42    | 254 46 | T.        | -17 28                   | E. $\frac{1}{2}$ N.          |              | -4 26                                   | -21 54                         |                                   |                      |          |
|              |           |        | W.        | -17 40                   | E. $\frac{1}{2}$ N.          |              | -4 26                                   | -22 06                         |                                   |                      |          |
|              | -58 43    | 254 50 | T.        | -18 20                   | E.                           | -70 11       | -4 35                                   | -22 55                         | -1 20                             | -23 28               |          |
| 23 P.M.      | -58 38    | 255 34 | R.        | -17 58                   | N.E. by E. $\frac{1}{2}$ E.  |              | -3 40                                   | -21 38                         |                                   |                      |          |
| 24 A.M.      | -58 46    | 258 07 | T.        | -18 40                   | E.                           |              | -4 29                                   | -23 09                         | -1 20                             | -25 25               |          |
|              |           |        | O.        | -19 41                   | E. $\frac{1}{2}$ N.          |              | -4 21                                   | -24 02                         |                                   |                      |          |
|              |           |        | S.        | -20 42                   | E. $\frac{1}{2}$ N.          | -69 46       | -4 21                                   | -25 03                         |                                   |                      |          |
|              |           |        |           |                          |                              |              | -4 21                                   | -25 03                         |                                   |                      |          |

## Observations of Declination. (Continued.)

| 1842.        | Position. |        | Initials. | Declination<br>observed. | Direction of<br>ship's head. | Inclination. | Correction<br>for ship's<br>attraction. | Corrected<br>Declina-<br>tion. | Correction<br>for index<br>error. | True<br>Declination. | Remarks. |
|--------------|-----------|--------|-----------|--------------------------|------------------------------|--------------|---|--------------------------------|-----------------------------------|----------------------|----------|
|              | Lat.      | Long.  |           |                          |                              |              |   |                                |                                   |                      |          |
| Mar. 26 A.M. | -59 00    | 268 07 | T.        | -20 21                   | E. by N. $\frac{1}{2}$ N.    | 0            | -3 32                                   | -23 53                         | 0                                 | 0                    |          |
|              |           |        | W.        | -21 51                   | E. by N. $\frac{1}{2}$ N.    |              | -3 32                                   | -25 23                         |                                   |                      |          |
|              |           | 268 10 | T.        | -22 06                   | E. by N. $\frac{1}{2}$ N.    |              | -3 32                                   | -25 38                         |                                   |                      |          |
| 26 P.M.      | -59 02    | 268 40 | T.        | -22 17                   | E.N.E.                       | -67 38       | -3 24                                   | -25 41                         | -1 20                             | -26 17               |          |
|              |           |        | R.        | -22 10                   | E.N.E.                       |              | -3 24                                   | -25 34                         |                                   |                      |          |
|              |           | 268 45 | T.        | -21 40                   | E.N.E.                       |              | -3 24                                   | -25 04                         |                                   |                      |          |
|              |           |        | R.        | -21 31                   | E.N.E.                       |              | -3 24                                   | -24 55                         |                                   |                      |          |
|              |           |        | O.        | -20 32                   | E.N.E.                       |              | -3 24                                   | -23 56                         |                                   |                      |          |
|              |           | 269 10 | R.        | -21 02                   | E.N.E.                       |              | -3 24                                   | -24 26                         |                                   |                      |          |
| 27 A.M.      | -59 02    | 272 04 | Sm.       | -22 15                   | E.N.E.                       | -67 00       | -3 16                                   | -25 31                         | -1 20                             | -26 51               |          |
| 28 A.M.      | -58 50    | 275 44 | S.        | -21 42                   | N.E. by E. $\frac{1}{2}$ E.  | -65 30       | -2 50                                   | -24 32                         | -1 20                             | -26 18               |          |
|              |           |        | O.        | -21 37                   | N.E. by E. $\frac{1}{2}$ E.  |              | -2 50                                   | -24 27                         |                                   |                      |          |
|              |           |        | W.        | -24 04                   | N.E. by E.                   |              | -2 36                                   | -26 40                         |                                   |                      |          |
|              | -58 52    | 276 15 | T.        | -22 51                   | N.E. by E.                   | -64 50       | -2 36                                   | -25 27                         | -1 20                             | -25 04               |          |
|              | -58 54    | 276 53 | R.        | -21 06                   | N.E. by E.                   |              | -2 36                                   | -23 42                         |                                   |                      |          |
| 29 A.M.      | -58 24    | 280 05 | T.        | -22 22                   | N.E. $\frac{1}{2}$ E.        |              | -2 15                                   | -24 37                         |                                   |                      |          |
| 29 P.M.      | -58 20    | 280 34 | R.        | -20 55                   | N.E.                         | -64 50       | -2 02                                   | -22 57                         | -1 20                             | -25 04               |          |
|              | -58 19    | 280 31 | T.        | -22 12                   | N.E. $\frac{1}{2}$ E.        |              | -2 15                                   | -24 27                         |                                   |                      |          |
|              |           |        | W.        | -21 09                   | N.E. $\frac{1}{2}$ E.        |              | -2 15                                   | -23 24                         |                                   |                      |          |
|              |           | 280 32 | T.        | -21 01                   | N.E. $\frac{1}{2}$ E.        | -63 40       | -2 15                                   | -23 16                         | -1 20                             | -26 14               |          |
| 30 A.M.      | -58 30    | 282 07 | T.        | -22 52                   | E.N.E.                       |              | -2 47                                   | -25 39                         |                                   |                      |          |
|              |           |        | Sm.       | -23 19                   | N.E. by E. $\frac{1}{2}$ E.  |              | -2 35                                   | -25 54                         |                                   |                      |          |
|              |           |        | O.        | -21 57                   | E.N.E.                       | -63 40       | -2 47                                   | -24 44                         | -1 20                             | -26 14               |          |
|              |           |        | S.        | -21 46                   | E.N.E.                       |              | -2 47                                   | -24 33                         |                                   |                      |          |
|              |           |        | T.        | -21 53                   | E.N.E.                       |              | -2 47                                   | -24 40                         |                                   |                      |          |
|              | -58 29    | 282 01 | S.        | -22 24                   | N.E. by E.                   | -63 00       | -2 23                                   | -24 47                         | -1 20                             | -26 18               |          |
|              |           |        | W.        | -20 46                   | E. by N. $\frac{1}{2}$ N.    |              | -2 58                                   | -23 44                         |                                   |                      |          |
|              |           |        | T.        | -22 21                   | E.N.E.                       |              | -2 47                                   | -25 08                         |                                   |                      |          |
|              |           |        | S.        | -22 09                   | N.E. by E.                   | -63 00       | -2 18                                   | -24 27                         | -1 20                             | -26 18               |          |
|              |           | 282 22 | T.        | -23 34                   | N.E. $\frac{1}{2}$ E.        |              | -2 04                                   | -25 38                         |                                   |                      |          |
|              |           |        | S.        | -21 39                   | N.E. $\frac{1}{2}$ E.        |              | -2 04                                   | -23 43                         |                                   |                      |          |
|              | -58 28    | 282 24 | T.        | -23 30                   | N.E. $\frac{1}{2}$ E.        | -63 00       | -2 04                                   | -25 34                         | -1 20                             | -26 18               |          |
| 31 A.M.      | -58 40    | 285 29 | W.        | -24 06                   | N.E. $\frac{1}{2}$ N.        |              | -1 36                                   | -25 42                         |                                   |                      |          |
|              |           |        | S.        | -22 42                   | N.E. by N.                   |              | -1 23                                   | -24 05                         |                                   |                      |          |
|              | -58 32    | 285 30 | T.        | -24 02                   | N.E. $\frac{1}{2}$ N.        | -53 54       | -1 36                                   | -25 38                         | -1 20                             | -16 29               |          |
| April 5 A.M. | -52 56    | 300 18 | T.        | -15 31                   | N.N.E.                       |              | -0 33                                   | -16 04                         |                                   |                      |          |
|              |           |        | R.        | -15 26                   | N.N.E.                       |              | -0 33                                   | -15 59                         |                                   |                      |          |
| 5 P.M.       | -52 14    | 300 50 | T.        | -14 33                   | N. by E.                     | -52 30       | -0 16                                   | -14 49                         | -1 20                             | -16 29               |          |
| 6 A.M.       | -51 50    | 301 43 | T.        | -12 06                   | E. by S.                     |              | -2 16                                   | -14 22                         |                                   |                      |          |
|              |           |        | T.        | -12 32                   | E. by S.                     |              | -2 16                                   | -14 48                         |                                   |                      |          |
|              |           |        | T.        | -15 34                   | N.N.W. $\frac{1}{2}$ W.      |              | +0 38                                   | -14 56                         |                                   |                      |          |

## DECLINATIONS observed on board Her Majesty's Ship Terror, between June 1841 and August 1842.

The Observers are distinguished in the column of Initials as follows :—C. Captain CROZIER; P. Lieut. PHILLIPS; Cr. Mr. COTTER, Master.

| 1841.   | Position. |          | Initials. | Declination observed. | Direction of ship's head. | Inclination. | Correc-<br>tion for<br>ship's at-<br>traction. | Corrected<br>Declination. | Correc-<br>tion for<br>index<br>error. | True Decl-<br>nat on. | Remarks.   |
|---------|-----------|----------|-----------|-----------------------|---------------------------|--------------|--|---------------------------|--|-----------------------|------------|
|         | Lat.      | Long.    |           |                       |                           |              |  |                           |  |                       |            |
| July 7. | —43° 30'  | 147° 20' | C.        | — 9° 37'              | S. 53° E.                 | —71 00       | — 4° 18'                                       | —13° 55'                  | +1 07                                  | —12° 35'              | Card<br>P. |
|         |           |          | C.        | — 9° 39'              | S. 48° E.                 |              | — 4° 01'                                       | —13° 40'                  |  |                       |            |
|         |           |          | C.        | — 9° 08'              | S. 48° E.                 |              | — 4° 01'                                       | —13° 09'                  |  |                       |            |
| 9.      | —42° 23'  | 149° 31' | C.        | —10° 05'              | S. 48° E.                 | —69 50       | — 4° 01'                                       | —14° 06'                  | +1 07                                  | —11° 49'              |            |
|         |           |          | C.        | —14° 45'              | N. 22° W.                 |              | + 1° 24'                                       | —13° 21'                  |  |                       |            |
|         |           |          | C.        | —15° 09'              | N. 32° W.                 |              | + 2° 03'                                       | —13° 06'                  |  |                       |            |
|         | —42° 08'  | 149° 30' | Cr.       | —14° 07'              | N.N.W.                    | —68 40       | + 1° 25'                                       | —12° 42'                  | +1 07                                  | —11° 11'              |            |
|         |           |          | Cr.       | —14° 45'              | N.N.W.                    |              | + 1° 25'                                       | —13° 20'                  |  |                       |            |
|         |           |          | Cr.       | —13° 37'              | N.N.W.                    |              | + 1° 25'                                       | —12° 12'                  |  |                       |            |
| 10.     | —40° 56'  | 149° 20' | C.        | —11° 57'              | N. 12° W.                 | —66 40       | + 0° 39'                                       | —11° 18'                  | +1 07                                  | —10° 38'              |            |
|         |           |          | C.        | —13° 03'              | N. 12° W.                 |              | + 0° 39'                                       | —12° 24'                  |  |                       |            |
|         |           |          | C.        | —14° 35'              | N. 15° W.                 |              | + 0° 58'                                       | —13° 37'                  |  |                       |            |
|         | —40° 33'  | 149° 26' | C.        | —12° 15'              | N. 12° W.                 | —66 00       | + 0° 39'                                       | —11° 36'                  | +1 07                                  | —11° 32'              |            |
|         |           |          | Cr.       | —12° 55'              | N. ½ W.                   |              | + 0° 19'                                       | —12° 36'                  |  |                       |            |
|         |           |          | C.        | —12° 58'              | N.                        |              | 0° 00'   | —12° 58'                  |  |                       |            |
| 11.     | —38° 15'  | 150° 15' | C.        | —11° 23'              | N. 15° W.                 | —65 00       | + 0° 50'                                       | —10° 33'                  | +1 07                                  | —10° 38'              |            |
|         |           |          | C.        | —12° 50'              | N. 8° W.                  |              | + 0° 27'                                       | —11° 23'                  |  |                       |            |
|         |           |          | C.        | —11° 28'              | N. 8° W.                  |              | + 0° 27'                                       | —11° 01'                  |  |                       |            |
|         | —37° 47'  | 150° 21' | C.        | —11° 46'              | N. 17° W.                 | —65 00       | + 0° 56'                                       | —10° 50'                  | +1 07                                  | —11° 18'              |            |
|         |           |          | C.        | —12° 35'              | N. 15° W.                 |              | + 0° 50'                                       | —11° 45'                  |  |                       |            |
|         |           |          | C.        | —12° 59'              | N. 12° W.                 |              | + 0° 37'                                       | —12° 22'                  |  |                       |            |
| 12.     | —37° 25'  | 151° 25' | Cr.       | —13° 10'              | N.                        | —62 40       | 0° 00'   | —13° 10'                  | +1 07                                  | —14° 26'              |            |
|         |           |          | C.        | —10° 38'              | N. 30° E.                 |              | — 1° 31'                                       | —12° 09'                  |  |                       |            |
|         |           |          | C.        | — 9° 55'              | N. 28° E.                 |              | — 1° 23'                                       | —11° 18'                  |  |                       |            |
|         | —37° 13'  | 151° 42' | C.        | —11° 38'              | N. 36° E.                 | —62 40       | — 1° 47'                                       | —13° 25'                  | +1 07                                  | —13° 40'              |            |
|         |           |          | C.        | —10° 27'              | N. 38° E.                 |              | — 1° 53'                                       | —12° 20'                  |  |                       |            |
|         |           |          | C.        | —12° 14'              | N. 32° E.                 |              | — 1° 37'                                       | —13° 51'                  |  |                       |            |
| 13.     | —36° 17'  | 151° 50' | Cr.       | —11° 21'              | N.E. by N.                | —61 30       | — 1° 39'                                       | —13° 00'                  | +1 07                                  | —14° 26'              |            |
|         |           |          | Cr.       | —11° 06'              | N.E.                      |              | — 2° 10'                                       | —13° 16'                  |  |                       |            |
|         |           |          | Cr.       | —12° 57'              | N.                        |              | 0° 00'   | —12° 57'                  |  |                       |            |
| Aug. 6. | —33° 56'  | 151° 0'  | C.        | —12° 47'              | N. 20° W.                 | —60 40       | + 1° 00'                                       | —11° 47'                  | +1 30                                  | —13° 40'              | Card<br>R. |
|         |           |          | C.        | —13° 23'              | N. 20° W.                 |              | + 1° 00'                                       | —12° 23'                  |  |                       |            |
|         |           |          | C.        | —10° 06'              | N. 82° E.                 |              | — 3° 01'                                       | —13° 07'                  |  |                       |            |
| 8.      | —33° 25'  | 160° 45' | C.        | — 9° 21'              | N. 85° E.                 | —60 10       | — 3° 05'                                       | —12° 26'                  | +1 30                                  | —14° 26'              |            |
|         |           |          | C.        | — 9° 03'              | N. 83° E.                 |              | — 3° 02'                                       | —12° 05'                  |  |                       |            |
|         |           |          | C.        | — 9° 42'              | N. 70° E.                 |              | — 2° 21'                                       | —12° 03'                  |  |                       |            |
| 9.      | —33° 39'  | 163° 40' | C.        | —13° 21'              | N. 75° E.                 | —60 10       | — 2° 45'                                       | —16° 06'                  | +1 30                                  | —14° 26'              |            |
|         |           |          | C.        | —12° 50'              | N. 70° E.                 |              | — 2° 35'                                       | —15° 25'                  |  |                       |            |
|         |           |          | C.        | —12° 41'              | N. 76° E.                 |              | — 2° 47'                                       | —15° 28'                  |  |                       |            |
| 10.     | —33° 44'  | 166° 30' | C.        | —12° 00'              | E.                        | —60 10       | — 2° 56'                                       | —14° 56'                  | +1 30                                  | —14° 26'              |            |
|         |           |          | C.        | —12° 41'              | E.                        |              | — 2° 56'                                       | —15° 37'                  |  |                       |            |
|         |           |          | C.        | —12° 31'              | E.                        |              | — 2° 56'                                       | —15° 27'                  |  |                       |            |
|         |           |          | C.        | —12° 35'              | N. 79° E.                 | —60 10       | — 2° 43'                                       | —15° 18'                  | +1 30                                  | —13° 40'              |            |
|         |           |          | C.        | —12° 39'              | E.                        |              | — 2° 56'                                       | —15° 35'                  |  |                       |            |
|         |           |          | C.        | —12° 35'              | N. 85° E.                 |              | — 2° 50'                                       | —15° 25'                  |  |                       |            |
|         |           |          | Cr.       | —13° 14'              | E.                        | —60 10       | — 2° 56'                                       | —16° 10'                  | +1 30                                  | —13° 40'              |            |
|         |           |          | C.        | —11° 05'              | E.S.E.                    |              | — 2° 59'                                       | —14° 04'                  |  |                       |            |
|         |           |          | C.        | —13° 11'              | S.E. by E.                |              | — 2° 50'                                       | —16° 01'                  |  |                       |            |
|         |           |          | C.        | —12° 22'              | N. 82° E.                 | —60 10       | — 2° 42'                                       | —15° 04'                  | +1 30                                  | —13° 40'              |            |
|         |           |          | C.        | —13° 07'              | E.                        |              | — 2° 52'                                       | —15° 59'                  |  |                       |            |
|         |           |          | C.        | —11° 59'              | E. by S. ½ S.             |              | — 2° 59'                                       | —14° 58'                  |  |                       |            |
|         |           |          | C.        | —12° 23'              | E.S.E.                    | —60 10       | — 2° 59'                                       | —15° 22'                  | +1 30                                  | —13° 40'              |            |
|         |           |          | C.        | —13° 25'              | S.E. ½ E.                 |              | — 2° 40'                                       | —16° 05'                  |  |                       |            |

### Observations of Declination. (Continued.)

| 1841.    | Position. |            | Initials. | Declination<br>observed. | Direction of<br>ship's head. | Inclination. | Correc-<br>tion for<br>ship's at-<br>traction. | Corrected<br>Declination. | Correc-<br>tion for<br>index<br>error. | True Declina-<br>tion. | Remarks. |             |       |        |       |        |  |  |             |       |        |
|----------|-----------|------------|-----------|--------------------------|------------------------------|--------------|--|---------------------------|--|------------------------|----------|-------------|-------|--------|-------|--------|--|--|-------------|-------|--------|
|          | Lat.      | Long.      |           |                          |                              |              |  |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
| Aug. 10. | -33 44    | 166 30     | C.        | -13 11                   | N. 70° E.                    | -60 10       | -2 04  | -15 15                    | +1 30                                  | -13 40                 |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | C.        | -14 20                   | N. 65° E.                    |              | -1 53  | -16 13                    |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | C.        | -13 12                   | N. 61° E.                    |              | -2 08  | -15 20                    |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | C.        | -11 15                   | S. 82° E.                    |              | -2 57  | -14 12                    |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | C.        | -13 13                   | N. 67° E.                    |              | -1 59  | -15 12                    |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          | -34 00    | 166 26     | Cr.       | -11 30                   | E. by N.                     | -2 39        | -14 09   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | Cr.       | -12 04                   | E.                           | -2 52        | -14 56   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | Cr.       | -11 33                   | E.S.E.                       | -2 59        | -14 32   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | Cr.       | -12 29                   | S.E. by E.                   | -2 50        | -15 19   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | C.        | -14 56                   | N. 77° E.                    | -2 36        | -17 32   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
| 11.      | -33 32    | 167 35     | C.        | -14 34                   | E.                           | -59 40       | -2 49  | -17 23                    | +1 30                                  | -15 02                 |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | C.        | -14 16                   | N. 73° E.                    |              | -2 27  | -16 43                    |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | C.        | -13 38                   | N. 78° E.                    |              | -2 36  | -16 14                    |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | C.        | -14 00                   | E.                           |              | -2 49  | -16 49                    |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | C.        | -12 41                   | S. 85° E.                    |              | -2 43  | -15 24                    |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | C.        | -13 28                   | N. 72° E.                    |              | -2 25  | -15 53                    |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | C.        | -13 33                   | N. 72° E.                    |              | -2 25  | -15 58                    |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | Cr.       | -13 31                   | E.                           |              | -2 49  | -16 20                    |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | C.        | -13 57                   | N. 56° E.                    |              | -1 56  | -15 53                    |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | C.        | -15 39                   | N. 53° E.                    |              | -1 50  | -17 29                    |  |                        |          |             |       |        |       |        |  |  |             |       |        |
| 12.      | -32 53    | 169 30     | Cr.       | -15 09                   | N.E.                         | -1 34        | -16 43   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | C.        | -13 22                   | E. 1/2 S.                    | -2 43        | -16 05   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | C.        | -11 27                   | E. by S.                     | -2 47        | -14 14   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
| 15.      | -33 56    | 171 50     | C.        | -13 22                   | E. 1/2 S.                    | -2 43        | -16 05   | +1 30                     | -13 45                                 |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | C.        | -11 27                   | E. by S.                     | -2 47        | -14 14   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | 16.       | -34 20                   | 172 45                       | C.           | -13 53   |                           |  |                        |          | E.          | -2 40 | -16 33 |       |        |  |  |             |       |        |
|          |           |            |           |                          |                              | C.           | -14 08   |                           |  |                        |          | E.          | -2 40 | -16 48 |       |        |  |  |             |       |        |
|          |           |            |           |                          |                              | C.           | -16 20   |                           |  |                        |          | N. 26° W.   | +0 46 | -15 34 |       |        |  |  |             |       |        |
|          |           |            |           |                          |                              | C.           | -14 30   |                           |  |                        |          | N. 38° W.   | +1 15 | -13 15 |       |        |  |  |             |       |        |
|          |           |            |           |                          |                              | C.           | -12 16   |                           |  |                        |          | E.S.E.      | -2 47 | -15 03 |       |        |  |  |             |       |        |
|          |           |            |           |                          |                              | Cr.          | -15 30   |                           |  |                        |          | N.W. by N.  | +1 04 | -14 26 |       |        |  |  |             |       |        |
|          |           |            |           |                          |                              | Cr.          | -12 34   |                           |  |                        |          | E. by S.    | -2 47 | -15 21 |       |        |  |  |             |       |        |
|          |           |            |           |                          |                              | C.           | -12 11   |                           |  |                        |          | S. 83° E.   | -2 45 | -14 56 |       |        |  |  |             |       |        |
| 17.      | -34 36    | 173 50     | C.        | -12 24                   | E. by S. 1/2 S.              | -2 47        | -15 11   | +1 30                     | -13 42                                 |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | C.        | -13 20                   | E. by S. 1/2 S.              | -2 47        | -16 07   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | C.        | -11 38                   | E. by S. 1/2 S.              | -2 47        | -14 25   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | Cr.       | -12 35                   | E. by S.                     | -2 47        | -15 22   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | Nov. 24.  | -36 17                   | 177 12                       | Cr.          | -13 51   |                           |  |                        |          | E.S.E.      | -2 45 | -16 36 | +1 30 | -14 55 |  |  |             |       |        |
|          |           |            |           |                          |                              | 25.          | -38 06   |                           |  |                        |          | 179 40      | C.    | -15 02 |       |        |  |  | S.E. 1/2 E. | -2 30 | -17 32 |
|          |           |            |           |                          |                              | C.           | -14 57   |                           |  |                        |          | S.E. 1/2 E. | -2 30 | -17 27 |       |        |  |  |             |       |        |
|          |           |            |           |                          |                              | C.           | -15 53   |                           |  |                        |          | S.E.        | -2 22 | -18 15 |       |        |  |  |             |       |        |
|          |           |            |           |                          |                              | Cr.          | -14 50   |                           |  |                        |          | S.E. by S.  | -1 56 | -16 46 |       |        |  |  |             |       |        |
|          |           |            |           |                          |                              | Cr.          | -14 26   |                           |  |                        |          | S.E. by E.  | -2 39 | -17 05 |       |        |  |  |             |       |        |
| Cr.      | -12 07    | S.E. by E. |           |                          |                              | -2 39        | -14 46   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
| C.       | -13 23    | S.E. by E. |           |                          |                              | -2 39        | -16 02   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
| 26.      | -39 03    | 182 33     | C.        | -11 33                   | S.E. by E.                   | -2 39        | -14 12   | +1 30                     | -16 55                                 |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | C.        | -12 50                   | S.E. by E. 1/2 E.            | -2 43        | -15 33   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | Cr.       | -13 59                   | E. by S.                     | -2 54        | -16 53   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | C.        | -13 18                   | S.E. by E. 1/2 E.            | -2 48        | -16 06   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | C.        | -15 57                   | S.E.                         | -2 26        | -18 23   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | C.        | -15 47                   | S.E. by E. 1/2 E.            | -2 48        | -18 35   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | Cr.       | -14 19                   | S.E. by E.                   | -2 44        | -17 03   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | Cr.       | -13 43                   | E.S.E.                       | -2 53        | -16 36   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | Cr.       | -12 32                   | E.S.E.                       | -2 53        | -15 25   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | Cr.       | -13 22                   | E.S.E.                       | -2 53        | -16 15   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
| 28.      | -40 38    | 183 05     | C.        | -18 06                   | S. by E.                     | -0 45        | -18 51   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | C.        | -15 51                   | S.E.                         | -2 31        | -18 22   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            | Cr.       | -16 32                   | S.E.                         | -2 31        | -19 03   |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |
|          |           |            |           |                          |                              |              |  |                           |  |                        |          |             |       |        |       |        |  |  |             |       |        |



## Observations of Declination. (Continued.)

| 1841.    | Position. |          | Initials. | Declination observed. | Direction of ship's head.   | Inclination. | Correc-<br>tion for<br>ship's at-<br>traction. | Corrected<br>Declination. | Correc-<br>tion for<br>index<br>error. | True Decli-<br>nation. | Remarks. |
|----------|-----------|----------|-----------|-----------------------|-----------------------------|--------------|--|---------------------------|--|------------------------|----------|
|          | Lat.      | Long.    |           |                       |                             |              |  |                           |  |                        |          |
| Nov. 29. | -41° 33'  | 183° 30' | C.        | -16° 31'              | s.s.e.                      | -63 20       | -1° 30'  | -18° 01'                  | +1 30                                  | -15 13                 |          |
|          |           |          | C.        | -17 03                | s.e. by s.                  |              | -2 08  | -19 11                    |  |                        |          |
|          |           |          | C.        | -16 45                | s. by e.                    |              | -0 47  | -17 32                    |  |                        |          |
|          |           |          | C.        | -17 09                | s. by e.                    |              | -0 47  | -17 56                    |  |                        |          |
|          |           |          | CR.       | -16 08                | s.                          |              | 0 0  | -16 08                    |  |                        |          |
|          |           |          | CR.       | -17 09                | s. by w.                    |              | +0 47  | -16 22                    |  |                        |          |
|          |           |          | CR.       | -14 51                | s. by e.                    |              | -0 47  | -15 38                    |  |                        |          |
|          |           |          | CR.       | -15 02                | s.s.e.                      |              | -1 30  | -16 32                    |  |                        |          |
|          |           |          | CR.       | -14 53                | s. by e.                    |              | -0 47  | -15 40                    |  |                        |          |
|          |           |          | CR.       | -17 40                | s.s.w.                      |              | +1 30  | -16 10                    |  |                        |          |
|          |           |          | CR.       | -18 41                | s.w. by w.                  |              | +2 58  | -15 43                    |  |                        |          |
|          |           |          | CR.       | -18 32                | s.w.                        |              | +2 38  | -15 54                    |  |                        |          |
|          |           |          | CR.       | -18 51                | w.s.w.                      |              | +3 09  | -15 42                    |  |                        |          |
|          |           |          | CR.       | -18 51                | s.w. by s.                  |              | +2 08  | -16 43                    |  |                        |          |
| 30.      | 43 37     | 183 05   | CR.       | -14 42                | s.e. by s.                  | -65 00       | -2 08  | -16 50                    | +1 30                                  | -15 17                 |          |
|          |           |          | C.        | -16 41                | s. $\frac{1}{2}$ E.         |              | -0 25  | -17 06                    |  |                        |          |
|          |           |          | C.        | -17 56                | s. $\frac{1}{2}$ W.         |              | +0 25  | -17 31                    |  |                        |          |
|          |           |          | CR.       | -15 53                | s.                          |              | 0 0  | -15 53                    |  |                        |          |
|          |           |          | CR.       | -17 17                | s.                          | -66 30       | 0 0  | -17 17                    |  |                        |          |
| Dec. 1.  | -45 29    | 183 10   | CR.       | -14 58                | s.e. by e.                  |              | -3 22  | -18 20                    |  |                        |          |
|          |           |          | CR.       | -16 21                | s.e. by e.                  |              | -3 22  | -19 43                    |  |                        |          |
| 2.       | -47 09    | 184 30   | C.        | -15 40                | E.S.E.                      | -67 55       | -3 36  | -19 16                    |  |                        |          |
|          |           |          | C.        | -14 54                | s.e. by E. $\frac{1}{2}$ E. |              | -3 29  | -18 23                    |  |                        |          |
|          | -47 37    | 185 00   | C.        | -12 59                | s.e. $\frac{1}{2}$ E.       |              | -3 11  | -16 10                    |  |                        |          |
|          |           |          | C.        | -12 50                | s.e. $\frac{3}{4}$ E.       |              | -3 16  | -16 06                    |  |                        |          |
|          |           |          | C.        | -9 24                 | s.e. by E. $\frac{5}{8}$ E. | -69 05       | -3 33  | -12 57                    | +1 30                                  | -16 52                 |          |
|          |           |          | C.        | -12 04                | s.e. by e.                  |              | -3 22  | -15 26                    |  |                        |          |
|          | -47 11    | 184 24   | CR.       | -13 24                | E.S.E.                      |              | -3 36  | -17 00                    |  |                        |          |
|          | -47 33    | 184 54   | CR.       | -13 09                | s.e. by e.                  |              | -3 22  | -16 31                    |  |                        |          |
|          |           |          | CR.       | -11 28                | s.e. by e.                  | -69 40       | -3 22  | -14 50                    |  |                        |          |
| 3.       | -48 57    | 186 40   | C.        | -13 51                | E. by s. $\frac{1}{2}$ S.   |              | -4 07  | -17 58                    |  |                        |          |
|          |           |          | C.        | -14 20                | s.e. $\frac{3}{4}$ E.       |              | -3 40  | -18 00                    |  |                        |          |
| 5.       | -49 33    | 189 22   | C.        | -13 32                | E. $\frac{5}{8}$ S.         | -69 37       | -4 16  | -17 48                    |  |                        |          |
|          |           |          | C.        | -15 03                | E. $\frac{3}{4}$ S.         |              | -4 16  | -19 19                    |  |                        |          |
|          |           |          | C.        | -13 40                | E.S.E.                      |              | -4 13  | -17 53                    |  |                        |          |
|          |           |          | C.        | -13 36                | E. $\frac{1}{2}$ S.         |              | -4 13  | -17 49                    |  |                        |          |
|          | -49 33    | 188 54   | CR.       | -15 27                | E. by s.                    | -69 50       | -4 19  | -19 46                    | +1 30                                  | -16 36                 |          |
| 6.       | -49 57    | 191 10   | C.        | -15 09                | E. $\frac{1}{2}$ S.         |              | -4 15  | -19 24                    |  |                        |          |
|          |           |          | C.        | -14 07                | E. $\frac{1}{2}$ S.         |              | -4 15  | -18 22                    |  |                        |          |
|          |           |          | C.        | -12 35                | E. $\frac{3}{4}$ S.         |              | -4 19  | -16 54                    |  |                        |          |
|          |           |          | C.        | -12 44                | E. $\frac{5}{8}$ S.         | -70 11       | -4 19  | -17 03                    |  |                        |          |
|          |           |          | C.        | -13 55                | E. $\frac{1}{2}$ S.         |              | -4 15  | -18 10                    |  |                        |          |
|          |           |          | C.        | -13 49                | E. $\frac{3}{4}$ S.         |              | -4 19  | -18 08                    |  |                        |          |
|          |           |          | CR.       | -14 21                | E. by s.                    |              | -4 18  | -18 39                    |  |                        |          |
| 7.       | -50 53    | 192 30   | CR.       | -15 02                | s.e. by e.                  | -69 50       | -3 56  | -18 58                    |  |                        |          |
|          |           |          | C.        | -13 31                | s.e. by E. $\frac{1}{2}$ E. |              | -4 06  | -17 37                    |  |                        |          |
|          |           |          | C.        | -14 35                | s.e. by e.                  |              | -3 56  | -18 31                    |  |                        |          |
|          |           |          | C.        | -15 00                | s.e. $\frac{1}{2}$ E.       |              | -3 41  | -18 41                    |  |                        |          |
|          |           |          | C.        | -14 59                | s.e. by e.                  | -69 50       | -3 56  | -18 55                    | +1 30                                  | -15 14                 |          |
|          |           |          | C.        | -12 11                | s.e. by E. $\frac{1}{2}$ E. |              | -4 06  | -16 17                    |  |                        |          |
|          |           |          | CR.       | -15 47                | s.e. $\frac{1}{2}$ E.       |              | -3 41  | -19 28                    |  |                        |          |
|          |           |          | CR.       | -12 14                | E.S.E.                      |              | -4 15  | -16 29                    |  |                        |          |
| 8.       | -51 37    | 194 00   | C.        | -13 24                | E. by s.                    | -70 11       | -4 25  | -17 49                    |  |                        |          |
|          | -51 53    | 195 17   | C.        | -12 57                | E. by s.                    |              | -4 25  | -17 22                    |  |                        |          |
|          |           |          | C.        | -12 00                | E. by s.                    |              | -4 25  | -16 25                    |  |                        |          |
|          |           |          | C.        | -11 26                | E.S.E.                      |              | -4 19  | -15 45                    |  |                        |          |
|          |           |          | C.        | -12 15                | E.S.E.                      | -70 11       | -4 19  | -16 34                    |  |                        |          |
|          |           |          | C.        | -11 50                | E.S.E.                      |              | -4 19  | -16 09                    |  |                        |          |
|          |           |          | C.        | -13 02                | E. by s.                    |              | -4 25  | -17 27                    |  |                        |          |
|          |           |          | C.        | -11 59                | E. by s.                    |              | -4 25  | -16 24                    |  |                        |          |

## Observations of Declination. (Continued.)

| 1841.   | Position.  |          | Initials. | Declination observed. | Direction of ship's head.   | Inclination. | Correction for ship's attraction. | Corrected Declination. | Correction for index error. | True Declination. | Remarks. |
|---------|------------|----------|-----------|-----------------------|-----------------------------|--------------|-----------------------------------|------------------------|-----------------------------|-------------------|----------|
|         | Lat.       | Long.    |           |                       |                             |              |                                   |                        |                             |                   |          |
| Dec. 9. | -52° 27'   | 198° 14' | CR.       | -15° 16'              | E.S.E.                      | -70 15       | -4° 20'                           | -19° 36'               | +1 30                       | -14 54            |          |
|         | 12. -53 03 | 204 50   | C.        | -12 10                | E.S.E.                      |              | -4 20                             | -16 30                 |                             |                   |          |
|         |            |          | C.        | -11 33                | S.E. by E. $\frac{3}{4}$ E. |              | -4 15                             | -15 58                 |                             |                   |          |
|         |            |          | C.        | -10 32                | E. by S. $\frac{3}{4}$ S.   |              | -4 23                             | -14 55                 |                             |                   |          |
|         |            |          | C.        | -10 52                | E. by S. $\frac{3}{4}$ S.   |              | -4 23                             | -15 15                 |                             |                   |          |
|         |            |          | C.        | -11 00                | E.S.E.                      |              | -4 20                             | -15 20                 |                             |                   |          |
|         | -53 18     | 205 46   | C.        | -11 32                | E.S.E.                      |              | -4 20                             | -15 52                 |                             |                   |          |
|         |            |          | C.        | -12 32                | E.S.E.                      |              | -4 20                             | -16 52                 |                             |                   |          |
|         | -53 06     | 205 24   | CR.       | -12 11                | E.S.E.                      |              | -4 20                             | -16 31                 |                             |                   |          |
|         |            |          | CR.       | -12 31                | S.E. by E.                  |              | -4 01                             | -16 32                 |                             |                   |          |
|         | -53 21     | 205 24   | CR.       | -12 42                | E.S.E.                      | -72 00       | -4 20                             | -17 02                 | +1 30                       | -15 14            |          |
| 14.     | -56 18     | 211 30   | C.        | -13 27                | S.E. $\frac{1}{4}$ E.       |              | -3 57                             | -17 24                 |                             |                   |          |
|         |            |          | C.        | -12 37                | S.E. $\frac{1}{4}$ E.       |              | -4 13                             | -16 50                 |                             |                   |          |
|         |            |          | C.        | -13 57                | S.E.                        |              | -3 49                             | -17 46                 |                             |                   |          |
|         |            |          | C.        | -13 54                | S.E. $\frac{1}{2}$ S.       |              | -3 26                             | -17 20                 |                             |                   |          |
|         | -56 24     | 211 45   | C.        | -12 24                | E.                          |              | -4 43                             | -17 07                 |                             |                   |          |
|         |            |          | C.        | -12 01                | E. $\frac{1}{4}$ N.         |              | -4 35                             | -16 36                 |                             |                   |          |
|         |            |          | C.        | -21 03                | S.W. $\frac{1}{4}$ W.       |              | + 3 57                            | -17 06                 |                             |                   |          |
|         |            |          | C.        | -13 05                | N.E. $\frac{1}{4}$ N.       |              | -2 44                             | -15 49                 |                             |                   |          |
|         | -56 10     | 211 37   | CR.       | -13 15                | S.E. by S.                  |              | -3 03                             | -16 18                 |                             |                   |          |
|         |            |          | CR.       | -12 34                | S.E. by S.                  | -72 30       | -3 03                             | -15 37                 | +1 30                       | -15 14            |          |
|         |            |          | CR.       | -11 19                | S.E. by S.                  |              | -3 03                             | -14 22                 |                             |                   |          |
|         | -56 29     | 211 50   | CR.       | -14 50                | S.E. by S.                  |              | -3 03                             | -17 53                 |                             |                   |          |
|         |            |          | CR.       | -14 52                | S.S.E.                      |              | -2 09                             | -17 01                 |                             |                   |          |
|         |            |          | CR.       | -13 15                | S.E.                        |              | -3 49                             | -17 04                 |                             |                   |          |
| 15.     | -56 55     | 212 00   | C.        | -14 51                | S.S.E. $\frac{1}{2}$ E.     |              | -2 40                             | -17 31                 |                             |                   |          |
|         |            |          | C.        | -13 35                | S.E. $\frac{1}{2}$ S.       |              | -3 31                             | -17 06                 |                             |                   |          |
|         |            |          | C.        | -13 48                | S.E. $\frac{3}{4}$ S.       |              | -3 20                             | -17 08                 |                             |                   |          |
|         |            |          | C.        | -13 42                | S.E. $\frac{3}{4}$ S.       |              | -3 20                             | -17 02                 |                             |                   |          |
|         | -57 09     | 212 26   | C.        | -15 01                | S.S.E.                      |              | -2 12                             | -17 13                 |                             |                   |          |
|         |            |          | C.        | -13 59                | S.S.E.                      |              | -2 12                             | -16 11                 |                             |                   |          |
|         |            |          | C.        | -13 30                | S.S.E. $\frac{1}{4}$ E.     |              | -2 25                             | -15 55                 |                             |                   |          |
|         |            |          | CR.       | -13 39                | S.S.E.                      |              | -2 12                             | -15 51                 |                             |                   |          |
|         |            |          | CR.       | -14 43                | S.S.E.                      |              | -2 12                             | -16 55                 |                             |                   |          |
|         |            |          | CR.       | -14 15                | S.S.E.                      |              | -2 12                             | -16 27                 |                             |                   |          |
| 16.     | -58 21     | 213 00   | C.        | -16 32                | S. by E. $\frac{3}{4}$ E.   | -73 55       | -2 06                             | -18 38                 | +1 30                       | -17 34            |          |
|         |            |          | C.        | -17 39                | S. by E. $\frac{1}{4}$ E.   |              | -1 31                             | -19 10                 |                             |                   |          |
|         |            |          | C.        | -15 52                | S.S.E.                      |              | -2 23                             | -18 15                 |                             |                   |          |
|         |            |          | C.        | -16 11                | S. by E. $\frac{3}{4}$ E.   |              | -2 06                             | -18 17                 |                             |                   |          |
|         |            |          | C.        | -16 05                | S.S.E.                      |              | -2 23                             | -18 28                 |                             |                   |          |
|         |            |          | C.        | -15 42                | S.S.E.                      |              | -2 23                             | -18 05                 |                             |                   |          |
|         |            |          | CR.       | -15 47                | S.S.E.                      |              | -2 23                             | -18 10                 |                             |                   |          |
|         |            |          | CR.       | -18 43                | S.S.E.                      |              | -2 23                             | -21 06                 |                             |                   |          |
|         |            |          | CR.       | -19 07                | S.S.E.                      |              | -2 23                             | -21 30                 |                             |                   |          |
|         |            |          | CR.       | -15 27                | S.S.E.                      |              | -2 38                             | -18 05                 |                             |                   |          |
| 17.     | -60 28     | 213 40   | CR.       | -15 27                | S.S.E.                      | -75 40       | -2 38                             | -18 05                 | +1 30                       | -20 03            |          |
| 18.     | -62 53     | 212 48   | C.        | -22 22                | S. by W.                    |              | + 1 29                            | -20 53                 |                             |                   |          |
|         |            |          | C.        | -24 19                | S. $\frac{1}{2}$ W.         |              | + 0 44                            | -23 35                 |                             |                   |          |
|         |            |          | C.        | -20 41                | S. by E. $\frac{1}{4}$ E.   |              | -1 52                             | -22 33                 |                             |                   |          |
|         |            |          | C.        | -21 10                | S. $\frac{1}{2}$ E.         |              | -0 44                             | -21 54                 |                             |                   |          |
|         | -62 56     | 212 00   | C.        | -28 15                | S.W. by W.                  |              | + 5 54                            | -22 21                 |                             |                   |          |
|         |            |          | C.        | -27 18                | S.W. by W.                  |              | + 5 54                            | -21 24                 |                             |                   |          |
|         |            |          | C.        | -27 54                | S.W. $\frac{3}{4}$ W.       |              | + 5 44                            | -22 10                 |                             |                   |          |
|         |            |          | C.        | -28 15                | S.W. by W.                  |              | + 5 54                            | -22 21                 |                             |                   |          |
|         |            |          | C.        | -27 49                | S.W. by W. $\frac{1}{2}$ W. |              | + 6 11                            | -21 38                 |                             |                   |          |
|         |            |          | C.        | -27 16                | S.W.                        | -76 50       | + 5 08                            | -22 08                 | +1 30                       | -20 03            |          |
|         | -63 01     | 211 30   | C.        | -23 57                | S.S.W. $\frac{1}{2}$ W.     |              | + 3 32                            | -20 25                 |                             |                   |          |
|         |            |          | C.        | -24 06                | S.S.W.                      |              | + 2 58                            | -21 08                 |                             |                   |          |
|         |            |          | C.        | -24 02                | S.S.W.                      |              | + 2 58                            | -21 04                 |                             |                   |          |
|         | -62 56     | 212 00   | CR.       | -26 48                | S.W.                        |              | + 5 08                            | -21 40                 |                             |                   |          |

## Observations of Declination. (Continued.)

| 1841.    | Position. |        | Initials. | Declination<br>observed. | Direction of<br>ship's head. | Inclination. | Correc-<br>tion for<br>ship's at-<br>traction. | Corrected<br>Declination. | Correc-<br>tion for<br>index<br>error. | True Decli-<br>nation. | Remarks. |
|----------|-----------|--------|-----------|--------------------------|------------------------------|--------------|--|---------------------------|--|------------------------|----------|
|          | Lat.      | Long.  |           |                          |                              |              |  |                           |  |                        |          |
| Dec. 19. | -63 16    | 210 00 | C.        | -28 20                   | S.S.W. $\frac{3}{4}$ W.      | -77 36       | + 4 02   | -24 18                    | +1 30                                  | -20 56                 |          |
|          |           |        | C.        | -26 10                   | S.S.W. $\frac{1}{4}$ W.      |              | + 3 27   | -22 43                    |  |                        |          |
|          |           |        | C.        | -31 10                   | W. by S. $\frac{1}{2}$ S.    |              | + 6 54   | -24 16                    |  |                        |          |
|          |           |        | C.        | -25 18                   | S. by W. $\frac{1}{2}$ W.    |              | + 2 21   | -22 57                    |  |                        |          |
|          |           |        | C.        | -23 47                   | S. $\frac{1}{4}$ W.          |              | + 0 23   | -23 24                    |  |                        |          |
|          |           |        | C.        | -21 21                   | S.                           |              | 0 0  | -21 21                    |  |                        |          |
|          | -63 23    | 209 40 | C.        | -28 21                   | W.S.W.                       |              | + 6 47   | -21 34                    |  |                        |          |
|          |           |        | C.        | -29 18                   | S.W.                         |              | + 5 25   | -23 53                    |  |                        |          |
|          |           |        | C.        | -26 15                   | S.S.W. $\frac{1}{2}$ W.      |              | + 3 46   | -22 29                    |  |                        |          |
|          |           |        | C.        | -25 04                   | S.S.W.                       |              | + 3 08   | -21 56                    |  |                        |          |
|          |           |        | C.        | -27 23                   | S.W. $\frac{1}{4}$ W.        |              | + 5 38   | -21 45                    |  |                        |          |
|          |           |        | CR.       | -24 51                   | S.W. by S.                   |              | + 4 20   | -20 31                    |  |                        |          |
|          | -63 17    | 210 14 | CR.       | -25 00                   | S. 18° W.                    |              | + 2 35   | -22 25                    |  |                        |          |
|          |           |        | CR.       | -27 16                   | S. 40° W.                    |              | + 4 52   | -22 24                    |  |                        |          |
|          |           |        | CR.       | -27 06                   | S.S.W.                       |              | + 3 08   | -23 58                    |  |                        |          |
|          |           |        | CR.       | -28 50                   | S. 78° W.                    |              | + 7 02   | -21 48                    |  |                        |          |
|          |           |        | CR.       | -26 45                   | S. 78° W.                    |              | + 7 02   | -19 43                    |  |                        |          |
|          |           |        | C.        | -22 59                   | S. by E. $\frac{1}{4}$ E.    |              | - 2 04   | -25 03                    |  |                        |          |
| 21.      | -64 48    | 206 10 | C.        | -22 36                   | S.S.E.                       |              | - 3 17   | -25 53                    |  |                        |          |
|          |           |        | C.        | -25 09                   | S. $\frac{1}{4}$ W.          |              | + 0 25   | -24 44                    |  |                        |          |
|          |           |        | C.        | -24 11                   | S. $\frac{3}{4}$ E.          |              | - 1 15   | -25 26                    |  |                        |          |
|          |           |        | C.        | -28 03                   | S.S.W.                       |              | + 3 17   | -24 46                    |  |                        |          |
|          |           |        | C.        | -23 49                   | S.                           |              | 0 0  | -23 49                    |  |                        |          |
|          |           |        | C.        | -26 53                   | S. by W. $\frac{1}{2}$ W.    |              | + 2 28   | -24 25                    |  |                        |          |
|          | -65 21    | 205 20 | C.        | -23 09                   | S. $\frac{1}{2}$ E.          |              | - 0 50   | -23 59                    |  |                        |          |
|          |           |        | C.        | -20 51                   | S. $\frac{1}{2}$ E.          |              | - 0 50   | -21 41                    |  |                        |          |
|          |           |        | C.        | -25 11                   | S.                           |              | 0 0  | -25 11                    |  |                        |          |
|          |           |        | C.        | -25 56                   | S.                           |              | 0 0  | -25 56                    |  |                        |          |
|          |           |        | C.        | -27 31                   | S. $\frac{3}{4}$ W.          |              | + 1 20   | -26 11                    |  |                        |          |
|          |           |        | CR.       | -27 12                   | S. by W.                     |              | + 1 48   | -25 24                    |  |                        |          |
|          | -65 58    | 204 00 | CR.       | -27 32                   | S.                           |              | 0 0  | -27 32                    |  |                        |          |
|          |           |        | C.        | -26 57                   | S. by W. $\frac{1}{2}$ W.    |              | + 2 42   | -24 15                    |  |                        |          |
|          |           |        | CR.       | -31 30                   | S.S.W. $\frac{1}{2}$ W.      |              | + 4 19   | -27 11                    |  |                        |          |
| 1842.    | Jan. 6.   | -66 10 | C.        | -23 15                   | N.E. $\frac{1}{4}$ N.        |              | - 5 26   | -28 41                    |  |                        |          |
|          |           |        | C.        | -29 29                   | S.                           |              | 0 0  | -29 29                    |  |                        |          |
|          |           |        | C.        | -27 27                   | S. $\frac{1}{2}$ E.          |              | - 0 57   | -28 24                    |  |                        |          |
|          |           |        | C.        | -27 10                   | S. $\frac{3}{4}$ E.          |              | - 1 25   | -28 35                    |  |                        |          |
|          |           |        | C.        | -28 02                   | S. $\frac{1}{4}$ E.          |              | - 0 28   | -28 30                    |  |                        |          |
|          |           |        | C.        | -29 38                   | S. by W.                     |              | + 1 54   | -27 44                    |  |                        |          |
|          | 9.        | -66 02 | CR.       | -31 14                   | N.N.W.                       |              | + 3 00   | -28 14                    |  |                        |          |
|          |           |        | C.        | -34 06                   | S.W. $\frac{1}{4}$ S.        |              | + 6 14   | -27 52                    |  |                        |          |
|          |           |        | C.        | -20 52                   | E.S.E.                       |              | - 8 14   | -29 06                    |  |                        |          |
|          |           |        | C.        | -34 46                   | S.W. by W. $\frac{1}{2}$ W.  |              | + 7 58   | -26 48                    |  |                        |          |
|          |           |        | C.        | -20 09                   | E. $\frac{1}{2}$ S.          |              | - 8 32   | -28 41                    |  |                        |          |
|          |           |        | C.        | -34 42                   | S.W. $\frac{1}{2}$ S.        |              | + 5 54   | -28 48                    |  |                        |          |
|          | 9.        | -66 02 | C.        | -35 52                   | W. by S.                     |              | + 8 32   | -27 20                    |  |                        |          |
|          |           |        | C.        | -23 47                   | S.E. by S.                   |              | - 5 13   | -29 00                    |  |                        |          |
|          |           |        | C.        | -20 29                   | S.E. $\frac{3}{4}$ E.        |              | - 7 18   | -27 47                    |  |                        |          |
|          |           |        | C.        | -33 58                   | S.W. $\frac{3}{4}$ W.        |              | + 7 18   | -26 40                    |  |                        |          |
|          |           |        | C.        | -21 37                   | S.E. $\frac{3}{4}$ E.        |              | - 7 18   | -28 55                    |  |                        |          |
|          |           |        | C.        | -33 55                   | S.W. $\frac{3}{4}$ W.        |              | + 7 18   | -26 37                    |  |                        |          |
| 9.       | -66 02    | 204 00 | C.        | -34 19                   | S.W. $\frac{3}{4}$ W.        |              | + 7 18   | -27 01                    |  |                        |          |
|          |           |        | C.        | -20 34                   | S.E. $\frac{3}{4}$ E.        |              | - 7 18   | -27 52                    |  |                        |          |
|          |           |        | CR.       | -34 41                   | S.W.                         |              | + 6 34   | -28 07                    |  |                        |          |
|          |           |        | CR.       | -19 20                   | E.S.E.                       |              | - 8 14   | -27 34                    |  |                        |          |
|          |           |        | CR.       | -34 20                   | S.W. $\frac{1}{2}$ W.        |              | + 7 03   | -27 17                    |  |                        |          |
|          |           |        | CR.       | -19 35                   | E. $\frac{1}{2}$ S.          |              | - 8 32   | -28 07                    |  |                        |          |
|          |           |        | CR.       | -20 54                   | S.E. by E. $\frac{3}{4}$ E.  |              | - 8 04   | -28 58                    |  |                        |          |
|          |           |        | CR.       | -20 54                   | S.E. by E. $\frac{3}{4}$ E.  |              | - 8 04   | -28 58                    |  |                        |          |

## Observations of Declination. (Continued.)

| 1842.    | Position. |          | Initials. | Declination<br>observed. | Direction of<br>ship's head. | Inclination. | Correc-<br>tion for<br>ship's at-<br>traction. | Corrected<br>Declination. | Correc-<br>tion for<br>index<br>error. | True Decli-<br>nation. | Remarks. |
|----------|-----------|----------|-----------|--------------------------|------------------------------|--------------|--|---------------------------|--|------------------------|----------|
|          | Lat.      | Long.    |           |                          |                              |              |  |                           |  |                        |          |
| Jan. 10. | -65° 58'  | 203° 54' | C.        | -19° 32'                 | E. by N.                     | -79 48       | -8 13  | -27 45                    | +1 07                                  | -25 00                 |          |
|          |           |          | C.        | -34 59                   | w. by s.                     |              | +8 31  | -26 28                    |  |                        |          |
|          |           |          | C.        | -18 30                   | E. $\frac{1}{4}$ S.          |              | -8 31  | -27 01                    |  |                        |          |
|          |           |          | C.        | -33 40                   | s.w.byw. $\frac{1}{4}$ w.    |              | +7 44  | -25 56                    |  |                        |          |
|          |           |          | C.        | -34 14                   | s.w. $\frac{3}{4}$ w.        |              | +7 20  | -26 54                    |  |                        |          |
|          |           |          | C.        | -33 09                   | s.w. $\frac{1}{2}$ w.        |              | +7 35  | -25 34                    |  |                        |          |
|          |           |          | C.        | -32 30                   | s.w. $\frac{1}{2}$ S.        |              | +7 02  | -25 28                    |  |                        |          |
|          |           |          | C.        | -30 16                   | s.s.w. $\frac{1}{4}$ w.      |              | +4 01  | -26 15                    |  |                        |          |
|          |           |          | C.        | -33 04                   | s.w. by w.                   |              | +7 34  | -25 30                    |  |                        |          |
|          |           |          | C.        | -32 47                   | w. by s.                     |              | +8 32  | -24 15                    |  |                        |          |
|          |           |          | C.        | -31 04                   | s.s.w. $\frac{3}{4}$ w.      |              | +4 48  | -26 16                    |  |                        |          |
|          |           |          | C.        | -32 00                   | s.s.w. $\frac{3}{4}$ w.      |              | +4 48  | -27 12                    |  |                        |          |
|          |           |          | CR.       | -23 04                   | s.e. $\frac{1}{2}$ S.        |              | -7 02  | -30 06                    |  |                        |          |
|          |           |          | CR.       | -34 10                   | w.s.w.                       |              | +8 12  | -25 58                    |  |                        |          |
|          |           |          | CR.       | -19 17                   | s.e.                         |              | -6 32  | -25 49                    |  |                        |          |
|          |           |          | CR.       | -16 56                   | s.e. by E.                   |              | -7 34  | -24 30                    |  |                        |          |
|          |           |          | CR.       | -19 00                   | E.S.E.                       | -79 48       | -8 12  | -27 12                    | +1 07                                  |                        |          |
|          |           |          | CR.       | -19 31                   | E.S.E.                       |              | -8 12  | -27 43                    |  |                        |          |
|          |           |          | CR.       | -18 33                   | E. by s.                     |              | -8 31  | -27 04                    |  |                        |          |
|          |           |          | CR.       | -21 18                   | s.e.                         |              | -6 32  | -27 50                    |  |                        |          |
|          |           |          | CR.       | -19 20                   | E. by N.                     |              | -8 13  | -27 33                    |  |                        |          |
|          |           |          | CR.       | -18 52                   | E.S.E.                       |              | -8 12  | -27 04                    |  |                        |          |
| 11.      | -65 57    | 203 40   | C.        | -28 13                   | N. $\frac{3}{4}$ w.          |              | +1 09  | -27 04                    |  |                        |          |
|          |           |          | C.        | -34 41                   | w. by s. $\frac{1}{2}$ S.    |              | +8 21  | -26 20                    |  |                        |          |
|          |           |          | C.        | -29 53                   | s. $\frac{1}{4}$ w.          |              | +1 26  | -28 27                    |  |                        |          |
|          |           |          | C.        | -30 13                   | s. by w. $\frac{1}{2}$ w.    |              | +2 44  | -27 29                    |  |                        |          |
|          |           |          | CR.       | -26 44                   | s.                           |              | 0 0  | -26 44                    |  |                        |          |
|          |           |          | CR.       | -26 45                   | s.                           |              | 0 0  | -26 45                    |  |                        |          |
| 12.      | -65 46    | 203 22   | CR.       | -35 16                   | s.w.                         | -79 48       | +6 32  | -28 44                    | +1 07                                  | -26 24                 |          |
|          |           |          | CR.       | -38 22                   | s.w. by w.                   |              | +7 34  | -30 48                    |  |                        |          |
| 13.      | -66 10    | 202 40   | C.        | -26 00                   | s. $\frac{1}{4}$ E.          |              | -1 26  | -27 26                    |  |                        |          |
|          |           |          | C.        | -23 36                   | s. by E.                     |              | -1 52  | -25 28                    |  |                        |          |
|          |           |          | CR.       | -25 26                   | s.                           | 0 0          | -25 26   |                           |  |                        |          |
| 14.      | -66 00    | 202 30   | C.        | -26 13                   | s. by E. $\frac{1}{2}$ E.    |              | -2 44  | -28 57                    |  |                        |          |
|          |           |          | C.        | -28 28                   | s. $\frac{1}{2}$ w.          |              | -0 55  | -27 33                    |  |                        |          |
|          |           |          | C.        | -20 54                   | E.N.E.                       |              | -7 34  | -28 28                    |  |                        |          |
|          |           |          | C.        | -20 30                   | N.E. by E.                   |              | -6 42  | -27 12                    |  |                        |          |
| 28.      | -67 40    | 204 10   | CR.       | -30 54                   | s. $\frac{1}{2}$ w.          | -80 34       | +1 01  | -29 53                    | +1 07                                  | -28 19                 |          |
|          |           |          | CR.       | -29 04                   | s. $\frac{3}{4}$ E.          |              | -1 30  | -30 34                    |  |                        |          |
|          |           |          | C.        | -31 48                   | s. $\frac{3}{4}$ w.          |              | +1 30  | -30 18                    |  |                        |          |
|          |           |          | C.        | -26 53                   | N. $\frac{1}{2}$ E.          |              | -0 50  | -27 43                    |  |                        |          |
|          |           |          | C.        | -33 38                   | N.W. $\frac{1}{4}$ N.        |              | +5 52  | -27 46                    |  |                        |          |
|          |           |          | C.        | -36 47                   | s.w. $\frac{1}{4}$ S.        |              | +6 38  | -30 09                    |  |                        |          |
|          |           |          | C.        | -35 19                   | s.w. by s.                   |              | +5 36  | -29 43                    |  |                        |          |
|          |           |          | C.        | -34 15                   | s.s.w.                       |              | +3 53  | -30 22                    |  |                        |          |
|          |           |          | C.        | -19 11                   | E. $\frac{3}{4}$ S.          | -80 40       | -9 14  | -28 25                    |  |                        |          |
| 29.      | -67 36    | 204 00   | CR.       | -21 47                   | E. by s.                     |              | -9 20  | -31 07                    |  |                        |          |
|          |           |          | CR.       | -35 06                   | s.s.w. $\frac{1}{4}$ w.      |              | +4 20  | -30 46                    |  |                        |          |
|          |           |          | C.        | -32 27                   | s.s.w.                       |              | +3 57  | -28 30                    |  |                        |          |
| 31.      | -67 16    | 202 10   | C.        | -26 24                   | s. by E. $\frac{1}{2}$ E.    | -80 45       | -2 58  | -29 22                    | +1 07                                  | -28 37                 |          |
|          |           |          | C.        | -31 53                   | s. $\frac{1}{2}$ w.          |              | +1 02  | -30 51                    |  |                        |          |
|          |           |          | C.        | -31 04                   | s. $\frac{3}{4}$ w.          |              | +1 33  | -29 31                    |  |                        |          |
|          |           |          | C.        | -29 03                   | s. $\frac{1}{2}$ w.          |              | +1 02  | -28 01                    |  |                        |          |
|          |           |          | C.        | -31 39                   | s. by w.                     |              | +2 01  | -29 38                    |  |                        |          |
|          |           |          | C.        | -32 19                   | s. $\frac{3}{4}$ w.          |              | +1 33  | -30 46                    |  |                        |          |
|          |           |          | CR.       | -34 04                   | s.s.w. $\frac{1}{4}$ w.      |              | +4 20  | -29 44                    |  |                        |          |
|          | -67 13    | 202 35   | CR.       | -32 40                   | s.s.w.                       |              | +3 57  | -28 43                    |  |                        |          |

## Observations of Declination (Continued.)

| 1842.   | Position. |        | Initials. | Declination observed. | Direction of ship's head. | Inclination. | Correction for ship's attraction. | Corrected Declination. | Correction for index error. | True Declination. | Remarks. |
|---------|-----------|--------|-----------|-----------------------|---------------------------|--------------|-----------------------------------|------------------------|-----------------------------|-------------------|----------|
|         | Lat.      | Long.  |           |                       |                           |              |                                   |                        |                             |                   |          |
| Feb. 1. | -67 20    | 201 40 | C.        | -27 52                | S.S.E.                    | -80 45       | -3 57                             | -31 49                 | +1 07                       | -28 33            |          |
|         |           |        | C.        | -34 23                | N. 72° W.                 |              | + 8 45                            | -25 38                 |                             |                   |          |
|         |           |        | C.        | -26 02                | S. 27° E.                 |              | - 4 51                            | -30 53                 |                             |                   |          |
|         |           |        | C.        | -31 38                | N. 25° W.                 |              | + 3 46                            | -27 52                 |                             |                   |          |
|         |           |        | C.        | -35 59                | N. 50° W.                 |              | + 6 50                            | -29 09                 |                             |                   |          |
|         |           |        | C.        | -30 21                | S. 5° E.                  |              | - 1 00                            | -31 21                 |                             |                   |          |
|         |           |        | C.        | -30 44                | S. 5° E.                  |              | - 1 00                            | -31 44                 |                             |                   |          |
|         |           |        | C.        | -26 52                | N. 15° E.                 |              | - 2 20                            | -29 12                 |                             |                   |          |
|         |           |        | C.        | -30 20                | N. 14° W.                 |              | + 2 11                            | -28 09                 |                             |                   |          |
|         |           |        | CR.       | -37 20                | W.                        |              | + 9 25                            | -27 55                 |                             |                   |          |
|         |           |        | CR.       | -28 37                | S.S.E.                    | -81 00       | - 3 57                            | -32 34                 | +1 30                       | -32 43            | Card R.  |
| 2.      | -67 46    | 200 12 | CR.       | -37 55                | S.S.W.                    |              | + 4 04                            | -33 51                 |                             |                   |          |
| 3.      | -68 06    | 199 40 | C.        | -28 02                | S.S.E. 1/2 E.             |              | - 4 57                            | -32 59                 |                             |                   |          |
|         | -68 40    | 200 00 | C.        | -29 23                | S.E.                      |              | - 7 22                            | -36 45                 |                             |                   |          |
|         |           |        | C.        | -31 03                | S.E. 3/4 E.               |              | - 7 39                            | -38 42                 |                             |                   |          |
|         |           |        | C.        | -28 10                | S.E. 1/4 S.               |              | - 6 36                            | -34 46                 |                             |                   |          |
|         |           |        | C.        | -44 56                | W. by S.                  |              | + 9 42                            | -35 14                 |                             |                   |          |
|         |           |        | C.        | -44 26                | W.S.W.                    |              | + 9 19                            | -35 07                 |                             |                   |          |
|         |           |        | C.        | -43 50                | W.S.W.                    |              | + 9 19                            | -34 31                 |                             |                   |          |
|         |           |        | C.        | -42 51                | W. by S. 1/2 S.           |              | + 9 30                            | -33 21                 |                             |                   |          |
|         |           |        | C.        | -42 07                | W. by S.                  | -83 30       | + 9 42                            | -32 25                 | +1 30                       | -38 55            |          |
|         |           |        | C.        | -41 14                | W. by S.                  |              | + 9 42                            | -31 32                 |                             |                   |          |
|         | -67 58    | 199 50 | CR.       | -26 59                | S.S.E.                    |              | - 4 04                            | -31 03                 |                             |                   |          |
|         |           |        | CR.       | -30 29                | S.S.E.                    |              | - 4 04                            | -34 33                 |                             |                   |          |
| 4.      | -68 52    | 199 40 | C.        | -40 55                | N.W. 1/4 W.               |              | + 7 20                            | -33 35                 |                             |                   |          |
|         |           |        | C.        | -38 40                | N.W. 3/4 N.               |              | + 5 52                            | -32 48                 |                             |                   |          |
|         |           |        | C.        | -38 46                | N.W. 1/4 N.               |              | + 6 38                            | -32 08                 |                             |                   |          |
|         |           |        | C.        | -34 27                | N.W. 3/4 N.               |              | + 5 52                            | -28 35                 |                             |                   |          |
|         |           |        | C.        | -36 02                | N.N.W. 3/4 W.             |              | + 5 03                            | -30 59                 |                             |                   |          |
|         |           |        | C.        | -40 17                | S.W. by S.                |              | + 6 19                            | -33 58                 |                             |                   |          |
|         |           |        | C.        | -38 50                | S.S.W. 1/4 W.             | -84 00       | + 4 51                            | -33 59                 | +1 30                       | -38 17            |          |
| 8.      | -70 06    | 186 20 | C.        | -37 51                | S. 3/4 E.                 |              | - 2 08                            | -39 59                 |                             |                   |          |
|         |           |        | C.        | -37 00                | S. by E. 3/4 E.           |              | - 4 53                            | -41 53                 |                             |                   |          |
|         |           |        | C.        | -37 30                | S. 1/2 E.                 |              | - 1 25                            | -38 55                 |                             |                   |          |
|         |           |        | CR.       | -37 06                | S. 3/4 E.                 |              | - 2 08                            | -39 14                 |                             |                   |          |
| 9.      | -70 40    | 185 40 | C.        | -53 35                | W.                        |              | +14 43                            | -38 52                 |                             |                   |          |
|         | -70 36    | 185 10 | C.        | -57 49                | W. 3/4 S.                 |              | +14 38                            | -43 11                 |                             |                   |          |
|         |           |        | C.        | -55 20                | W. 1/2 S.                 |              | +14 40                            | -40 40                 |                             |                   |          |
|         |           |        | C.        | -54 51                | W.                        |              | +14 43                            | -40 08                 |                             |                   |          |
|         |           |        | C.        | -55 48                | S. 85° W.                 |              | +14 41                            | -41 07                 |                             |                   |          |
|         |           |        | C.        | -54 57                | S. 85° W.                 | -84 00       | +14 40                            | -40 17                 | +1 30                       | -38 55            |          |
|         |           |        | C.        | -55 05                | W. 3/4 S.                 |              | +14 38                            | -40 27                 |                             |                   |          |
|         |           |        | C.        | -54 54                | W. 1/2 S.                 |              | +14 38                            | -40 16                 |                             |                   |          |
|         |           |        | C.        | -56 07                | W.                        |              | +14 43                            | -41 24                 |                             |                   |          |
|         |           |        | C.        | -53 58                | N. 70° W.                 |              | +13 31                            | -40 27                 |                             |                   |          |
|         |           |        | C.        | -55 06                | S. 78° W.                 |              | +14 15                            | -40 51                 |                             |                   |          |
|         | -70 22    | 185 00 | C.        | -53 56                | W.                        |              | +14 43                            | -39 13                 |                             |                   |          |
|         |           |        | C.        | -53 02                | W. by N.                  |              | +14 15                            | -38 47                 |                             |                   |          |
|         | -70 40    | 185 40 | CR.       | -51 03                | W.N.W.                    |              | +13 16                            | -37 47                 |                             |                   |          |
|         |           |        | CR.       | -52 21                | W. by N.                  |              | +14 15                            | -38 06                 |                             |                   |          |
|         | -70 36    | 185 10 | CR.       | -49 34                | W.                        |              | +14 43                            | -34 51                 |                             |                   |          |
|         |           |        | CR.       | -56 21                | W.                        |              | +14 43                            | -41 38                 |                             |                   |          |
|         |           |        | CR.       | -56 14                | W. 1/2 N.                 |              | +14 30                            | -41 44                 |                             |                   |          |
|         |           |        | CR.       | -53 30                | W.N.W.                    |              | +13 16                            | -40 14                 |                             |                   |          |

## Observations of Declination. (Continued.)

| 1842.    | Position. |        | Initials. | Declination<br>observed. | Direction of<br>ship's head. | Inclination. | Correc-<br>tion for<br>ship's at-<br>traction. | Corrected<br>Declination. | Correc-<br>tion for<br>index<br>error. | True Decli-<br>nation. | Remarks. |        |       |        |  |
|----------|-----------|--------|-----------|--------------------------|------------------------------|--------------|--|---------------------------|--|------------------------|----------|--------|-------|--------|--|
|          | Lat.      | Long.  |           |                          |                              |              |  |                           |  |                        |          |        |       |        |  |
| Feb. 10. | -70 14    | 184 00 | C.        | - 53 45                  | w.                           | -83 45       | +14 07   | -39 38                    | +1 30                                  | -37 19                 |          |        |       |        |  |
|          |           |        | C.        | - 51 09                  | s.w.byw. $\frac{3}{4}$ w.    |              | +13 03   | -38 06                    |  |                        |          |        |       |        |  |
|          |           |        | C.        | - 28 40                  | s.e. $\frac{1}{4}$ E.        |              | -10 54   | -39 34                    |  |                        |          |        |       |        |  |
|          |           |        | C.        | - 28 57                  | s.e. by E.                   |              | -12 05   | -41 02                    |  |                        |          |        |       |        |  |
|          |           |        | C.        | - 29 12                  | s.e. by E.                   |              | -12 05   | -41 17                    |  |                        |          |        |       |        |  |
|          |           |        | C.        | - 54 07                  | w. by s. $\frac{1}{2}$ s.    |              | +13 42   | -40 25                    |  |                        |          |        |       |        |  |
|          |           |        | C.        | - 52 41                  | w. $\frac{3}{4}$ s.          |              | +14 04   | -38 37                    |  |                        |          |        |       |        |  |
|          |           |        | C.        | - 52 44                  | w. by s.                     |              | +14 02   | -38 42                    |  |                        |          |        |       |        |  |
|          |           |        | C.        | - 51 25                  | w. $\frac{1}{4}$ s.          |              | +14 05   | -37 20                    |  |                        |          |        |       |        |  |
|          |           |        | C.        | - 50 32                  | w. by s.                     |              | +14 02   | -36 30                    |  |                        |          |        |       |        |  |
|          |           |        | C.        | - 50 33                  | w.N.W.                       |              | +12 43   | -37 50                    |  |                        |          |        |       |        |  |
|          |           |        | C.        | - 37 01                  | N. $\frac{1}{2}$ E.          |              | - 1 17   | -38 18                    |  |                        |          |        |       |        |  |
|          |           |        | C.        | - 38 12                  | N. by w.                     |              | + 2 34   | -35 38                    |  |                        |          |        |       |        |  |
|          |           |        | CR.       | - 29 28                  | s.e. by s.                   |              | - 8 17   | -37 45                    |  |                        |          |        |       |        |  |
|          |           |        | CR.       | - 28 15                  | s.e. $\frac{1}{2}$ E.        |              | -11 17   | -39 32                    |  |                        |          |        |       |        |  |
|          |           |        | CR.       | - 53 43                  | w. $\frac{1}{2}$ s.          |              | +14 05   | -39 38                    |  |                        |          |        |       |        |  |
|          |           |        | CR.       | - 54 05                  | w. by s.                     |              | +14 02   | -40 03                    |  |                        |          |        |       |        |  |
| 12.      | -71 04    | 180 46 | C.        | - 30 39                  | s.e. $\frac{1}{4}$ s.        | -84 30       | -11 16   | -41 55                    | +1 30                                  | -40 45                 |          |        |       |        |  |
|          |           |        | C.        | - 29 45                  | s.e.                         |              | -11 53   | -41 38                    |  |                        |          |        |       |        |  |
|          |           |        | C.        | - 31 59                  | s.e. by s.                   |              | - 9 24   | -41 23                    |  |                        |          |        |       |        |  |
|          |           |        | C.        | - 32 18                  | s.e. $\frac{3}{4}$ s.        |              | -10 00   | -42 18                    |  |                        |          |        |       |        |  |
|          |           |        | CR.       | - 32 09                  | s.e.                         |              | -11 53   | -44 02                    |  |                        |          |        |       |        |  |
| 14.      | -73 14    | 181 08 | C.        | - 37 39                  | s. 42° E.                    | -86 00       | -15 24   | -53 03                    | +1 30                                  | -51 48                 |          |        |       |        |  |
|          |           |        | CR.       | - 39 01                  | s.e. $\frac{1}{2}$ s.        |              | -14 32   | -53 33                    |  |                        |          |        |       |        |  |
| 16.      | -75 04    | 173 20 | C.        | - 59 26                  | s.e. by s.                   | -87 00       | -18 03   | -77 29                    | +1 30                                  | -76 03                 |          |        |       |        |  |
|          |           |        | C.        | - 40 57                  | s.e. by E.                   |              | -27 15   | -68 12                    |  |                        |          |        |       |        |  |
| 17.      | -76 04    | 176 00 | C.        | - 56 12                  | E. $\frac{3}{4}$ N.          | -87 00       | -30 03   | -86 15                    | +1 30                                  | -82 28                 |          |        |       |        |  |
|          |           |        | C.        | - 56 34                  | N.E. by E.                   |              | -24 47   | -81 21                    |  |                        |          |        |       |        |  |
|          |           |        | C.        | - 58 13                  | N.E. $\frac{3}{4}$ E.        |              | -23 47   | -82 00                    |  |                        |          |        |       |        |  |
| 18.      | -76 54    | 182 17 | C.        | - 80 43                  | N. $\frac{1}{4}$ E.          | -86 50       | - 1 19   | -82 02                    | +1 30                                  | -70 22                 |          |        |       |        |  |
|          |           |        | C.        | - 75 23                  | N. $\frac{1}{4}$ W.          |              | + 1 19   | -74 04*                   |  |                        |          |        |       |        |  |
|          |           |        | C.        | - 74 51                  | s. 25° E.                    |              | -13 23   | -88 14                    |  |                        |          |        |       |        |  |
|          |           |        | C.        | - 75 01                  | N. by E. $\frac{1}{4}$ E.    |              | - 6 36   | -81 37                    |  |                        |          |        |       |        |  |
| 20.      | -76 12    | 191 40 | C.        | - 58 32                  | N.E.                         | -85 55       | -15 00   | -73 32                    | +1 30                                  | -81 23                 |          |        |       |        |  |
|          |           |        | C.        | - 51 19                  | N.E. by E. $\frac{1}{2}$ E.  |              | -18 53   | -70 12                    |  |                        |          |        |       |        |  |
| 22.      | -76 32    | 194 40 | C.        | - 72 15                  | s.s.e. $\frac{1}{4}$ E.      | -85 30       | - 8 47   | -81 02                    | +1 30                                  | -88 01                 |          |        |       |        |  |
|          |           |        | C.        | - 74 30                  | s.s.e.                       |              | - 7 54   | -82 24                    |  |                        |          |        |       |        |  |
|          |           |        | C.        | - 72 24                  | s.e. by s.                   |              | -11 26   | -83 50                    |  |                        |          |        |       |        |  |
|          | -77 00    |        | C.        | - 60 26                  | E.S.E.                       |              | -18 42   | -79 08                    |  |                        |          |        |       |        |  |
|          |           |        | C.        | - 72 10                  | E.S.E.                       |              | -18 42   | -90 52                    |  |                        |          |        |       |        |  |
|          |           |        | C.        | - 65 19                  | E.S.E.                       |              | -18 42   | -84 01                    |  |                        |          |        |       |        |  |
|          | -76 32    |        | C.        | - 72 44                  | s.s.e. $\frac{1}{4}$ E.      |              | - 8 47   | -81 31                    |  |                        |          |        |       |        |  |
|          | -77 00    |        | C.        | - 60 43                  | E. by s.                     |              | -19 36   | -80 19                    |  |                        |          |        |       |        |  |
| 23.      | -78 00    | 198 32 | C.        | -110 25                  | w. by N. $\frac{3}{4}$ N.    |              | -85 30   | +18 19                    |  |                        |          | -92 06 | +1 30 | -64 33 |  |
|          | -77 55    | 197 48 | C.        | - 70 48                  | E. $\frac{1}{2}$ s.          |              |  | -19 42                    |  |                        |          | -90 30 |       |        |  |
|          |           |        | C.        | - 69 12                  | E. $\frac{1}{2}$ s.          | -19 42       |  | -88 54                    |  |                        |          |        |       |        |  |
|          |           |        | C.        | - 70 07                  | E. $\frac{1}{2}$ s.          | -19 42       |  | -89 49                    |  |                        |          |        |       |        |  |
|          |           |        | C.        | - 70 25                  | E. $\frac{1}{2}$ s.          | -19 42       |  | -90 07                    |  |                        |          |        |       |        |  |
|          |           |        | C.        | -108 56                  | w. $\frac{1}{2}$ N.          | +19 33       |  | -89 23                    |  |                        |          |        |       |        |  |
|          |           |        | C.        | -103 22                  | w.N.W.                       | +17 59       |  | -85 23                    |  |                        |          |        |       |        |  |
|          | -78 04    |        | CR.       | - 70 09                  | E. by s.                     | -19 46       |  | -89 55                    |  |                        |          |        |       |        |  |
| 24.      | -77 32    | 200 00 | CR.       | - 95 35                  | N.W.                         | -85 00       | +12 05   | -83 30                    | +1 30                                  | -38 26                 |          |        |       |        |  |
| 25.      | -75 22    | 194 00 | C.        | - 84 54                  | w. $\frac{1}{2}$ N.          |              | +17 30   | -67 24                    |  |                        |          |        |       |        |  |
|          | -74 31    | 193 50 | C.        | - 79 11                  | N. 75° W.                    |              | +16 57   | -62 14                    |  |                        |          |        |       |        |  |
|          |           |        | CR.       | - 71 00                  | N.W.                         |              | +12 05   | -58 55                    |  |                        |          |        |       |        |  |
|          |           |        | CR.       | - 56 32                  | N. $\frac{1}{2}$ E.          | -84 00       | - 1 38   | -58 10                    | +1 30                                  | -37 40                 |          |        |       |        |  |
| 28.      | -71 00    | 184 10 | C.        | - 56 04                  | w.                           |              | +14 43   | -41 21                    |  |                        |          |        |       |        |  |
|          |           |        | C.        | - 55 15                  | w. $\frac{1}{4}$ N.          |              | +14 29   | -40 46                    |  |                        |          |        |       |        |  |
|          | -70 54    | 183 50 | CR.       | - 52 17                  | w. by s.                     |              | +14 37   | -37 40                    |  |                        |          |        |       |        |  |

\* Doubtful; omitted in the mean.

## Observations of Declination. (Continued.)

| 1842.   | Position. |        | Initials. | Declination observed. | Direction of ship's head.   | Inclination. | Correc-<br>tion for<br>ship's at-<br>traction. | Corrected<br>Declination. | Correc-<br>tion for<br>index<br>error. | True Decli-<br>nation. | Remarks. |
|---------|-----------|--------|-----------|-----------------------|-----------------------------|--------------|--|---------------------------|--|------------------------|----------|
|         | Lat.      | Long.  |           |                       |                             |              |  |                           |  |                        |          |
| Mar. 1. | -70 10    | 180 20 | C.        | -46 03                | W. by N. $\frac{1}{2}$ N.   | -83 45       | +14 23   | -31 40                    | +1 30                                  | -31 26                 |          |
|         |           |        | C.        | -48 05                | W.N.W.                      |              | +13 52   | -34 13                    |  |                        |          |
|         |           |        | CR.       | -47 46                | W. by N.                    |              | +14 52   | -32 54                    |  |                        |          |
| 2.      | -67 54    | 183 40 | C.        | -26 18                | N.N.E.                      | -82 20       | -4 27  | -30 45                    | +1 30                                  | -28 50                 |          |
|         |           |        | C.        | -24 31                | N.E. by N.                  |              | -6 31  | -31 02                    |  |                        |          |
|         |           |        | C.        | -25 00                | N. by E. $\frac{1}{2}$ E.   |              | -3 21  | -28 21                    |  |                        |          |
|         | -68 24    | 183 20 | CR.       | -26 47                | N.N.E.                      | -82 00       | -4 27  | -31 14                    | +1 30                                  | -29 46                 |          |
| 3.      | -67 30    | 185 00 | C.        | -22 20                | N.E. $\frac{3}{4}$ E.       |              | -9 04  | -31 26                    |  |                        |          |
|         |           |        | C.        | -19 15                | N.E. $\frac{1}{4}$ N.       |              | -7 30  | -26 45                    |  |                        |          |
|         |           |        | C.        | -24 24                | N.E. $\frac{1}{2}$ N.       | -82 00       | -7 04  | -31 28                    | +1 30                                  | -29 46                 |          |
|         |           |        | C.        | -23 27                | E.N.E.                      |              | -10 37   | -34 04                    |  |                        |          |
|         |           |        | C.        | -24 07                | N.E.                        |              | -7 56  | -32 03                    |  |                        |          |
|         |           |        | CR.       | -25 40                | N.N.E. $\frac{1}{2}$ E.     | -81 10       | -5 12  | -30 52                    | +1 30                                  | -25 02                 |          |
|         |           |        | CR.       | -22 50                | N.E. by E.                  |              | -9 26  | -32 16                    |  |                        |          |
| 5.      | -67 19    | 187 25 | C.        | -25 52                | N. $\frac{1}{2}$ W.         |              | +0 57  | -24 55                    |  |                        |          |
|         |           |        | CR.       | -26 54                | N. by W.                    | -79 30       | +1 54  | -25 00                    | +1 30                                  | -25 02                 |          |
| 6.      | -65 10    | 191 46 | C.        | -24 59                | N. by E.                    |              | -1 35  | -26 34                    |  |                        |          |
|         |           |        | C.        | -24 14                | N. by E. $\frac{1}{2}$ E.   |              | -2 21  | -26 35                    |  |                        |          |
|         |           |        | CR.       | -25 43                | N.N.E.                      | -77 30       | -3 08  | -28 51                    | +1 30                                  | -19 41                 |          |
|         | -64 56    | 192 24 | CR.       | -27 15                | N.                          |              | 0 0  | -27 15                    |  |                        |          |
| 8.      | -62 26    | 195 40 | C.        | -20 31                | N. $\frac{3}{4}$ E.         |              | -0 58  | -21 29                    |  |                        |          |
|         |           |        | C.        | -22 33                | N.                          | -76 10       | 0 0  | -22 33                    | +1 30                                  | -19 49                 |          |
|         |           |        | CR.       | -18 16                | N. by E.                    |              | -1 18  | -19 34                    |  |                        |          |
|         |           |        | CR.       | -22 28                | N. by W.                    |              | +1 18  | -21 10                    |  |                        |          |
| 9.      | -61 00    | 199 00 | C.        | -17 27                | N.E.                        | -75 15       | -4 20  | -21 47                    | +1 30                                  | -18 20                 |          |
|         |           |        | C.        | -14 35                | E.N.E.                      |              | -5 55  | -20 30                    |  |                        |          |
|         |           |        | CR.       | -17 46                | N.E.                        |              | -4 20  | -22 06                    |  |                        |          |
|         |           |        | CR.       | -15 00                | E.N.E.                      | -74 15       | -5 55  | -20 55                    | +1 30                                  | -17 19                 |          |
| 10.     | -60 20    | 205 36 | C.        | -15 04                | E. by N. $\frac{1}{2}$ N.   |              | -5 45  | -20 49                    |  |                        |          |
|         |           |        | C.        | -14 25                | E.N.E.                      |              | -5 30  | -19 55                    |  |                        |          |
|         |           |        | C.        | -13 58                | E.N.E.                      | -73 55       | -5 30  | -19 28                    | +1 30                                  | -16 03                 |          |
|         |           | 204 00 | CR.       | -13 39                | E.N.E.                      |              | -5 30  | -19 09                    |  |                        |          |
| 12.     | -60 18    | 212 00 | C.        | -12 51                | E. by N.                    |              | -5 34  | -18 25                    | +1 30                                  | -20 48                 |          |
|         |           |        | C.        | -12 57                | E. by N.                    | -72 15       | -5 34  | -18 31                    |  |                        |          |
|         |           |        | C.        | -12 59                | E. by N.                    |              | -5 34  | -18 33                    |  |                        |          |
|         |           |        | C.        | -11 39                | E.N.E.                      | -73 05       | -5 06  | -16 45                    | +1 30                                  | -22 46                 |          |
| 13.     | -60 06    | 215 52 | CR.       | -16 30                | N.E.                        |              | -3 43  | -20 13                    |  |                        |          |
| 14.     | -59 12    | 219 18 | CR.       | -16 01                | N.E. by E.                  |              | -4 29  | -20 30                    | +1 30                                  | -24 46                 |          |
| 15.     | -58 50    | 222 00 | C.        | -12 10                | E. by N.                    | -70 51       | -5 26  | -17 36                    |  |                        |          |
|         |           |        | C.        | -13 06                | E.N.E.                      |              | -4 59  | -18 05                    |  |                        |          |
|         |           |        | C.        | -10 27                | E. by N.                    |              | -5 26  | -15 53                    | +1 30                                  | -20 57                 |          |
|         |           |        | C.        | -13 12                | E. by N.                    | -73 00       | -5 26  | -18 38                    |  |                        |          |
| 16.     | -58 58    | 227 00 | CR.       | -13 00                | E. by S.                    |              | -5 31  | -18 31                    |  |                        |          |
| 18.     | -60 18    | 236 30 | C.        | -18 40                | E.                          | -72 15       | -5 24  | -24 04                    | +1 30                                  | -24 46                 |          |
|         |           |        | C.        | -15 26                | E.                          |              | -5 24  | -20 50                    |  |                        |          |
|         |           |        | CR.       | -17 03                | E.                          |              | -5 24  | -22 27                    |  |                        |          |
| 19.     | -60 02    | 240 31 | CR.       | -17 53                | E.N.E.                      | -70 11       | -4 25  | -22 18                    | +1 30                                  | -24 46                 |          |
| 22.     | -58 28    | 251 40 | C.        | -18 33                | E. by N.                    |              | -4 29  | -23 02                    |  |                        |          |
|         |           |        | CR.       | -20 01                | E.                          |              | -4 45  | -24 46                    | +1 30                                  | -24 46                 |          |
|         |           |        | CR.       | -19 58                | E. by N.                    | -70 11       | -4 29  | -24 27                    |  |                        |          |
|         |           |        | CR.       | -20 22                | E. by N.                    |              | -4 29  | -24 51                    |  |                        |          |
| 23.     | -58 36    | 255 20 | CR.       | -20 41                | E. by N.                    |              | -4 18  | -24 59                    | +1 30                                  | -24 46                 |          |
|         |           |        | C.        | -24 18                | S.S.E.                      |              | -2 07  | -26 25                    |  |                        |          |
|         |           |        | C.        | -23 57                | S.E. $\frac{1}{2}$ E.       |              | -4 00  | -27 57                    |  |                        |          |
|         |           |        | C.        | -24 13                | E. by N.                    | -70 11       | -4 18  | -28 31                    | +1 30                                  | -24 46                 |          |
|         |           |        | C.        | -21 04                | N.E. by E. $\frac{1}{2}$ E. |              | -3 41  | -24 45                    |  |                        |          |
|         |           |        | C.        | -22 07                | E. by N. $\frac{1}{4}$ N.   |              | -4 09  | -26 16                    |  |                        |          |
|         |           |        | C.        | -20 43                | E. by N.                    |              | -4 18  | -25 01                    |  |                        |          |

## Observations of Declination (Continued.)

| 1842.    | Position. |        | Initials. | Declination<br>observed. | Direction of<br>ship's head. | Inclination.                | Correc-<br>tion for<br>ship's at-<br>traction. | Corrected<br>Declination. | Correc-<br>tion for<br>index<br>error. | True Decli-<br>nation. | Remarks. |        |
|----------|-----------|--------|-----------|--------------------------|------------------------------|-----------------------------|--|---------------------------|--|------------------------|----------|--------|
|          | Lat.      | Long.  |           |                          |                              |                             |  |                           |  |                        |          |        |
| Mar. 24. | -58 46    | 257 50 | C.        | -21 52                   | E. $\frac{3}{4}$ N.          | -69 45                      | -4 15  | -26 07                    | +1 30                                  | -26 13                 |          |        |
|          |           |        | C.        | -24 59                   | E. by N.                     |                             | -4 11  | -29 10                    |  |                        |          |        |
|          |           |        | CR.       | -23 41                   | E. by N.                     |                             | -4 11  | -27 52                    |  |                        |          |        |
|          | 25.       | -58 54 | 262 48    | CR.                      | -27 53                       | E.N.E.                      | -68 50   | -3 38                     | -31 31                                 |                        |          |        |
|          |           |        |           | C.                       | -23 47                       | E.N.E.                      |  | -3 24                     | -27 11                                 |                        |          |        |
|          |           |        |           | C.                       | -24 43                       | E. by N. $\frac{3}{4}$ N.   |  | -3 29                     | -28 12                                 |                        |          |        |
|          | 26.       | -59 02 | 268 40    | C.                       | -23 30                       | E. by N. $\frac{1}{2}$ N.   | -67 40   | -3 34                     | -27 04                                 | +1 30                  |          | -26 25 |
|          |           |        |           | C.                       | -25 31                       | N.E. by E. $\frac{3}{4}$ E. |  | -3 17                     | -28 48                                 |                        |          |        |
|          |           |        |           | CR.                      | -22 22                       | E.N.E.                      |  | -3 24                     | -25 46                                 |                        |          |        |
|          | 27.       | -59 04 | 272 20    | CR.                      | -25 51                       | N.E.                        | -67 00   | -2 24                     | -28 15                                 | +1 30                  |          | -27 08 |
|          |           |        |           | CR.                      | -22 29                       | E.                          |  | -4 01                     | -26 30                                 |                        |          |        |
|          |           |        |           | C.                       | -25 45                       | E.N.E.                      |  | -3 16                     | -29 01                                 |                        |          |        |
| C.       |           |        |           | -26 39                   | E.N.E.                       | -3 16                       |  | -29 55                    |  |                        |          |        |
| CR.      |           |        |           | -25 53                   | E.N.E.                       | -3 16                       |  | -29 09                    |  |                        |          |        |
| CR.      |           |        |           | -23 12                   | E.N.E.                       | -3 16                       |  | -26 28                    |  |                        |          |        |
| 28.      | -58 56    | 275 50 | C.        | -26 15                   | N.E. by E.                   | -65 30                      | -2 35  | -28 50                    | +1 30                                  | -28 25                 |          |        |
|          |           |        | C.        | -27 37                   | N.E. by E.                   |                             | -2 35  | -30 12                    |  |                        |          |        |
|          |           |        | C.        | -30 22                   | N. by E.                     |                             | -0 33  | -30 55                    |  |                        |          |        |
|          | -58 54    | 276 40 | C.        | -29 25                   | N. by E.                     |                             | -0 33  | -29 58                    |  |                        | +1 30    | -28 25 |
|          |           |        | C.        | -27 06                   | N.E. by E.                   |                             | -2 35  | -29 41                    |  |                        |          |        |
|          |           |        | C.        | -27 54                   | N.E. by E.                   |                             | -2 35  | -30 29                    |  |                        |          |        |
| 29.      | -58 22    | 279 30 | CR.       | -26 44                   | N.E. by E.                   | -64 50                      | -2 35  | -29 19                    | +1 30                                  | -27 13                 |          |        |
|          |           |        | C.        | -24 53                   | N.E. by E.                   |                             | -2 30  | -27 23                    |  |                        |          |        |
|          |           |        | C.        | -25 19                   | N.E. by E.                   |                             | -2 30  | -27 49                    |  |                        |          |        |
|          | -58 20    | 280 00 | C.        | -31 06                   | N. by W.                     |                             | +0 31  | -30 35                    |  |                        | +1 30    | -27 13 |
|          |           |        | C.        | -29 30                   | N. by E.                     |                             | -0 31  | -30 01                    |  |                        |          |        |
|          |           |        | C.        | -24 59                   | E.                           |                             | -3 30  | -28 29                    |  |                        |          |        |
| 30.      | -58 22    | 279 30 | C.        | -27 46                   | N.E. $\frac{1}{2}$ E.        | -63 40                      | -2 15  | -30 01                    | +1 30                                  | -26 49                 |          |        |
|          |           |        | C.        | -25 09                   | E.N.E.                       |                             | -2 55  | -28 04                    |  |                        |          |        |
|          |           |        | C.        | -25 27                   | E.N.E.                       |                             | -2 55  | -28 22                    |  |                        |          |        |
|          | -58 30    | 282 00 | CR.       | -27 45                   | N.                           |                             | 0 0  | -27 45                    |  |                        | +1 30    | -26 49 |
|          |           |        | CR.       | -25 08                   | E.                           |                             | -3 30  | -28 38                    |  |                        |          |        |
|          |           |        | C.        | -24 51                   | N.E. by E. $\frac{1}{2}$ E.  |                             | -2 35  | -27 26                    |  |                        |          |        |
| 31.      | -58 30    | 282 30 | C.        | -24 19                   | E.N.E.                       | -63 00                      | -2 47  | -27 06                    | -1 30                                  | -26 13                 |          |        |
|          |           |        | C.        | -25 46                   | N.E. $\frac{1}{2}$ E.        |                             | -2 08  | -27 54                    |  |                        |          |        |
|          |           |        | C.        | -25 46                   | N.E. by E.                   |                             | -2 23  | -28 09                    |  |                        |          |        |
|          | -58 26    | 285 08 | C.        | -25 16                   | N.E. by E.                   |                             | -2 23  | -27 39                    |  |                        | +1 30    | -26 49 |
|          |           |        | C.        | -25 49                   | N.E. by E.                   |                             | -2 23  | -28 12                    |  |                        |          |        |
|          |           |        | C.        | -27 18                   | N.E. by E.                   |                             | -2 23  | -29 41                    |  |                        |          |        |
|          | -58 30    | 285 35 | C.        | -25 46                   | N.E. by E.                   | -2 23                       | -28 09   | +1 30                     | -18 25                                 |                        |          |        |
|          |           |        | C.        | -26 05                   | N.E. by E. $\frac{1}{2}$ E.  | -2 35                       | -28 40   |                           |  |                        |          |        |
|          |           |        | C.        | -27 48                   | N.E. by E.                   | -2 23                       | -30 11   |                           |  |                        |          |        |
|          | April 1.  | -51 50 | 301 35    | C.                       | -25 46                       | E. by N.                    | -52 30   | -3 02                     | -28 48                                 | +1 30                  | -25 16   |        |
|          |           |        |           | C.                       | -25 43                       | E. by N.                    |  | -3 02                     | -28 45                                 |                        |          |        |
|          |           |        |           | CR.                      | -25 04                       | E.N.E.                      |  | -2 41                     | -27 45                                 |                        |          |        |
| -57 35   |           | 288 54 | CR.       | -25 25                   | E. by N.                     | -3 02                       |  | -28 27                    | +1 30                                  |                        |          | -20 26 |
|          |           |        | CR.       | -23 46                   | E.N.E.                       | -2 41                       |  | -26 27                    |  |                        |          |        |
|          |           |        | C.        | -26 49                   | N.E. by N.                   | -1 23                       |  | -28 12                    |  |                        |          |        |
| 3.       | -56 46    | 294 30 | C.        | -25 59                   | N.E. by N.                   | -59 00                      | -1 23  | -27 22                    | +1 30                                  | -20 26                 |          |        |
|          |           |        | CR.       | -24 06                   | N.E.                         |                             | -1 50  | -25 26                    |  |                        |          |        |
|          |           |        | CR.       | -25 30                   | N.E. by N.                   |                             | -1 16  | -26 46                    |  |                        |          |        |
|          | -52 22    | 301 00 | C.        | -21 46                   | N.E.                         |                             | -1 30  | -23 16                    |  |                        | +1 30    | -18 25 |
|          |           |        | CR.       | -19 07                   | N.E.                         |                             | -1 30  | -20 37                    |  |                        |          |        |
|          |           |        | C.        | -21 21                   | N. by E.                     |                             | -0 17  | -21 38                    |  |                        |          |        |
| 5.       | -52 22    | 301 00 | C.        | -18 20                   | N. by E.                     | -53 54                      | -0 17  | -18 38                    | +1 30                                  | -18 25                 |          |        |
|          |           |        | C.        | -20 32                   | N. by E.                     |                             | -0 17  | -20 49                    |  |                        |          |        |
|          |           |        | C.        | -19 07                   | N.N.W.                       |                             | +0 30  | -18 37                    |  |                        |          |        |



Observations of the INCLINATION made on board Her Majesty's Ship Erebus, with  
Needle R. F. 5, between April 1841 and August 1842.

Observers Captain Sir JAMES CLARK ROSS and Lieutenant ALEXANDER SMITH, R.N.

| 1841.     | Lat.   | Long. | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination.   | Remarks.                    |
|-----------|--|-------|------------------|----------------------------------|---------------------------|--------------------|--------|---|-----------------------------|
|           |  |       |                  |                                  |                           | Ship's attraction. | Index. |   |                             |
| April 19. | Hobarton, Magnetic Observatory.<br>—42 52 147 24 |       | Direct.          | —70 18.4                         | Observed on shore.        | ....               | —6     | —70 32 —70 32   | R. F. 4, used as deflector. |
|           |  |       | S.               | —70 38.2                         |                           |                    |        |   |                             |
|           |  |       | N.               | —70 30.9                         |                           |                    |        |   |                             |
|           |  |       | N.S.             | —70 22.1                         |                           |                    |        |   |                             |
| 20.       |  |       | Direct.*         | —70 26.3                         |                           |                    |        |   |                             |
|           |  |       | N.S. at 24° 44'. | —70 30.6                         |                           |                    |        |   |                             |
|           |  |       | S. at 56° 20'.   | —70 02.7                         |                           |                    |        |   |                             |
|           |  |       | N. at 53° 02'.   | —70 12.5                         |                           |                    |        |   |                             |
| 24.       |  |       | Direct.          | —70 24.3                         |                           |                    |        |   | R. F. 3, used as deflector. |
|           |  |       | S.               | —70 34.4                         |                           |                    |        |   |                             |
|           |  |       | N.               | —70 41.6                         |                           |                    |        |   |                             |
|           |  |       | S. at 38° 11'.   | —70 32.7                         |                           |                    |        |   |                             |
|           |  |       | N. at 43° 54'.   | —70 29.9                         |                           |                    |        |   |                             |
| June 29.  | At anchor.                                       |       | Direct.          | —71 38.9                         | N.                        | +81                | —7     | —70 31 }<br>—70 35 }<br>—70 52 }<br>—70 42 }<br>—70 45 }<br>—70 42 }<br>—70 43 }<br>—70 44 }<br>—70 34 } —70 39 }<br>—70 46 }<br>—70 35 }<br>—70 39 }<br>—70 32 }<br>—70 34 }<br>—70 35 }<br>—70 39 }<br>—70 32 }<br>—70 34 }<br>—70 35 }<br>—70 39 }<br>—70 39 } | R. F. 4, used as deflector. |
|           |  |       | S.               | —71 50.7                         | N.                        | +81                | —7     |   |                             |
|           |  |       | Direct.          | —71 40.5                         | N.N.E.                    | +78                | —7     |   |                             |
|           |  |       | S.               | —71 52.5                         | N.N.E.                    | +78                | —7     |   |                             |
|           |  |       | Direct.          | —71 38.0                         | N.E.                      | +67                | —7     |   |                             |
|           |  |       | S.               | —71 57.3                         | N.E.                      | +67                | —7     |   |                             |
|           |  |       | Direct.          | —71 13.4                         | E.N.E.                    | +47                | —6     |   |                             |
|           |  |       | S.               | —71 31.8                         | E.N.E.                    | +47                | —7     |   |                             |
|           |  |       | Direct.          | —70 55.5                         | E.                        | +20                | —6     |   |                             |
|           |  |       | S.               | —71 02.4                         | E.                        | +20                | —6     |   |                             |
|           |  |       | Direct.          | —70 21.5                         | E.S.E.                    | —12                | —6     |   |                             |
|           |  |       | S.               | —70 25.8                         | E.S.E.                    | —12                | —6     |   |                             |
|           |  |       | Direct.          | —69 53.6                         | S.E.                      | —43                | —6     |   |                             |
|           |  |       | S.               | —69 55.1                         | S.E.                      | —43                | —6     |   |                             |
|           |  |       | Direct.          | —69 17.0                         | S.S.E.                    | —67                | —5     |   |                             |
|           |  |       | S.               | —69 46.4                         | S.S.E.                    | —67                | —6     |   |                             |
|           |  |       | Direct.          | —69 03.3                         | S.                        | —80                | —5     |   |                             |
|           |  |       | S.               | —69 14.9                         | S.                        | —80                | —5     |   |                             |
|           |  |       | Direct.          | —69 26.5                         | S.S.W.                    | —67                | —6     |   |                             |
|           |  |       | S.               | —69 40.3                         | S.S.W.                    | —67                | —6     |   |                             |
|           |  |       | Direct.          | —69 41.0                         | S.W.                      | —43                | —6     |   |                             |
|           |  |       | S.               | —69 51.4                         | S.W.                      | —43                | —6     |   |                             |
|           |  |       | Direct.          | —70 14.8                         | W.S.W.                    | —12                | —6     |   |                             |
|           |  |       | S.               | —70 26.6                         | W.S.W.                    | —12                | —6     |   |                             |
|           |  |       | Direct.          | —70 42.2                         | W.                        | +20                | —6     |   |                             |
|           |  |       | S.               | —70 49.1                         | W.                        | +20                | —6     |   |                             |
|           |  |       | Direct.          | —71 10.4                         | W.N.W.                    | +47                | —6     |   |                             |
|           |  |       | S.               | —71 19.3                         | W.N.W.                    | +47                | —7     |   |                             |
|           |  |       | Direct.          | —71 32.2                         | N.W.                      | +67                | —7     |   |                             |
|           |  |       | S.               | —71 37.8                         | N.W.                      | +67                | —7     |   |                             |
|           |  |       | Direct.          | —71 42.4                         | N.N.W.                    | +78                | —7     |   |                             |
|           |  |       | S.               | —71 58.3                         | N.N.W.                    | +78                | —7     |   |                             |
|           |  |       | Direct.          | —71 42.5                         | N.                        | +81                | —7     |   |                             |
|           |  |       | S.†              | —72 03.3                         | N.                        | +81                | —7     |   |                             |

\* Observed on shore;  
face west. { Direct. —71 40.6  
S. —71 09.6  
N. —71 20.1  
N.S. —71 10.8

† Face west. { Direct. —73 07.8 } Head north.  
S. —72 34.9

### Observations of Inclination. (Continued.)

| 1841.   | Lat.       | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks. |
|---------|------------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|----------|
|         |            |        |                  |                                  |                           | Ship's attraction. | Index. |                   |          |
| July 7. | ° ' ° '    |        | Direct.          | -70 16.1                         | S.E. $\frac{1}{2}$ E.     | -37                | -6     |                   |          |
|         |            |        | S.               | -70 03.4                         | S.E. $\frac{1}{2}$ E.     | -37                | -6     |                   |          |
|         |            |        | N.               | -70 05.4                         | S.E. $\frac{1}{2}$ E.     | -37                | -6     |                   |          |
|         |            |        | N.S.             | -70 12.0                         | S.E. $\frac{1}{2}$ E.     | -37                | -6     |                   |          |
|         |            |        | Direct.          | -70 18.9                         | S.E. $\frac{1}{2}$ E.     | -37                | -6     |                   |          |
| 8.      | -43 00     | 148 28 | Direct.          | -71 27.3                         | N.N.E.                    | +78                | -7     |                   |          |
|         |            |        | S.               | -71 43.2                         | N.N.E.                    | +78                | -7     |                   |          |
|         |            |        | N.               | -71 36.7                         | N.N.E.                    | +78                | -7     |                   |          |
|         |            |        | N.S.             | -71 39.1                         | N.N.E.                    | +78                | -7     |                   |          |
|         |            |        | Direct.          | -71 32.2                         | N.N.E.                    | +78                | -7     |                   |          |
| 9.      | -42 13     | 149 25 | Direct.          | -70 46.5                         | N.N.W.                    | +77                | -6     |                   |          |
|         |            |        | S.               | -70 56.3                         | N.N.W.                    | +77                | -6     |                   |          |
|         |            |        | N.               | -71 12.6                         | N.N.W.                    | +77                | -7     |                   |          |
|         |            |        | N.S.             | -70 30.2                         | N.N.W.                    | +77                | -6     |                   |          |
|         |            |        | Direct.          | -70 36.5                         | N.N.W.                    | +77                | -6     |                   |          |
| 10.     | -40 55     | 149 12 | Direct.          | -69 52.4                         | N. by w.                  | +76                | -6     |                   |          |
|         |            |        | S.               | -69 53.7                         | N. by w.                  | +76                | -6     |                   |          |
|         |            |        | N.               | -69 47.1                         | N. by w.                  | +76                | -6     |                   |          |
|         |            |        | N.S.             | -69 49.2                         | N. by w.                  | +76                | -6     |                   |          |
| 11.     | -37 50     | 150 22 | Direct.          | -67 47.8                         | N. by w.                  | +72                | -5     |                   |          |
|         |            |        | N.               | -67 53.9                         | N. by w.                  | +72                | -5     |                   |          |
|         |            |        | N.S.             | -67 28.9                         | N. by w.                  | +72                | -5     |                   |          |
|         |            |        | Direct.          | -67 40.4                         | N. by w.                  | +72                | -5     |                   |          |
| 12.     | -37 21     | 151 33 | Direct.          | -67 01.6                         | N.E.                      | +62                | -4     |                   |          |
|         |            |        | S.               | -66 58.0                         | N.E.                      | +62                | -4     |                   |          |
|         |            |        | N.               | -67 03.3                         | N.E.                      | +62                | -4     |                   |          |
|         |            |        | N.S.             | -66 49.4                         | N.E.                      | +62                | -4     |                   |          |
|         |            |        | Direct.          | -67 04.8                         | N.E.                      | +62                | -4     |                   |          |
| 13.     | -36 01     | 151 48 | Direct.          | -66 19.0                         | N.W. by N.                | +64                | -4     |                   |          |
|         |            |        | N.               | -65 57.0                         | N.W. by N.                | +64                | -4     |                   |          |
|         |            |        | N.S.             | -65 52.9                         | N.W. by N.                | +64                | -4     |                   |          |
|         |            |        | Direct.          | -66 08.5                         | N.W. by N.                | +64                | -4     |                   |          |
| 14.     | -33 52     | 151 21 | Direct.          | -64 05.9                         | N.                        | +67                | -3     |                   |          |
|         |            |        | S.               | -64 20.3                         | N.                        | +67                | -3     |                   |          |
|         |            |        | N.               | -64 05.4                         | N.                        | +67                | -3     |                   |          |
|         |            |        | N.S.             | -64 00.8                         | N.                        | +67                | -3     |                   |          |
|         |            |        | Direct.          | -65 03.8                         | N.                        | +67                | -3     |                   |          |
| 14.     | -33 51     | 151 20 | Direct.          | -63 49.0                         | N. by w.                  | +66                | -3     |                   |          |
|         |            |        | Direct.          | -63 37.9                         | N.W.                      | +58                | -3     |                   |          |
|         |            |        | Direct.          | -62 05.5                         | S.W. by w.                | -17                | -2     |                   |          |
|         |            |        | Direct.          | -62 03.1                         | S.E.                      | -35                | -2     |                   |          |
|         |            |        | Direct.          | -61 52.5                         | S.S.W. $\frac{1}{2}$ W.   | -51                | -2     |                   |          |
| 31.     |            |        | Direct.          | -63 11.9                         | W.                        | +25                | -2     |                   |          |
|         | At anchor. |        | S.               | -63 24.0                         | W.                        | +25                | -3     |                   |          |
|         | -33 51     | 151 17 | Direct.          | -62 19.1                         | W.S.W.                    | -2                 | -2     |                   |          |
|         |            |        | Direct.          | -61 12.6                         | S.                        | -63                | -2     |                   |          |
|         |            |        | S.               | -61 26.1                         | S.                        | -63                | -2     |                   |          |
|         |            |        | Direct.          | -61 31.5                         | S.S.W.                    | -53                | -2     |                   |          |
|         |            |        | S.               | -61 47.5                         | S.S.W.                    | -53                | -2     |                   |          |
| Aug. 3. |            |        | Direct.          | -63 30.1                         | N.E.                      | +58                | -3     |                   |          |
|         |            |        | S.               | -63 40.9                         | N.E.                      | +58                | -3     |                   |          |

## Observations of Inclination. (Continued.)

| 1841.    | Lat.                      | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head.  | Corrections.       |        | True Inclination. | Remarks.                |
|----------|---------------------------|--------|------------------|----------------------------------|--|--------------------|--------|-------------------|-------------------------|
|          |                           |        |                  |                                  |  | Ship's attraction. | Index. |                   |                         |
| July 15. | Garden Island,<br>Sydney. |        | Direct.          | -62° 40' 8*                      | Observed on shore.   |                    | -2     |                   |                         |
|          |                           |        | S.               | -62 50.1                         |  |                    | -2     |                   |                         |
|          |                           |        | N.               | -62 49.9                         |  |                    | -2     |                   |                         |
|          |                           |        | N.S.             | -62 42.9                         |  |                    | -2     |                   |                         |
| Aug. 4.  |                           |        | Direct.          | -62 45.9†                        |  |                    | -2     | -62 48            | -62 48                  |
|          |                           |        | S.               | -62 50.1                         |  |                    | -2     |                   |                         |
|          |                           |        | N.               | -62 50.2                         | N.N.E.<br>E. by N.<br>E. by N.<br>E. by N.<br>E. by N.<br>E. by N.<br>E. by N.<br>E. by N.<br>E. by N.<br>E. by N.<br>E. by N.<br>E. by N. |                    | -2     |                   |                         |
|          |                           |        | N.S.             | -62 40.3                         |  |                    | -2     |                   |                         |
| 5.       |                           |        | Direct.          | -63 40.6                         |  | +64                | -3     | -62 40            |                         |
|          |                           |        | Direct.          | -63 03.4                         |  | +35                | -2     |                   |                         |
|          |                           |        | Direct.          | -63 06.5                         |  | +35                | -2     |                   |                         |
|          |                           |        | S.               | -63 22.6                         |  | +35                | -3     | -62 43            | -62 42                  |
|          |                           |        | N.               | -63 26.1                         |  | +35                | -3     |                   | Running out of harbour. |
|          |                           |        | N.S.             | -63 23.0                         |  | +35                | -3     |                   |                         |
|          |                           |        | Direct.          | -63 09.8                         |  | +35                | -2     |                   |                         |
| 6.       | -33 52                    | 154 07 | Direct.          | -63 09.3                         |  | +35                | -2     |                   |                         |
|          |                           |        | S.               | -63 38.9                         |  | +35                | -3     | -62 47            | -62 47                  |
|          |                           |        | N.               | -63 11.4                         |  | +35                | -2     |                   | Much motion.            |
|          |                           |        | N.S.             | -63 30.2                         |  | +35                | -3     |                   |                         |
|          |                           |        | Direct.          | -63 03.3                         |  | +35                | -2     |                   |                         |
| 7.       | -33 51                    | 157 18 | Direct.          | -62 47.0                         |  | +35                | -2     |                   |                         |
|          |                           |        | S.               | -62 43.3                         |  | +35                | -2     |                   |                         |
|          |                           |        | N.               | -62 35.7                         |  | +35                | -2     | -62 07            | -62 07                  |
|          |                           |        | N.S.             | -62 31.5                         |  | +35                | -2     |                   | Much motion.            |
|          |                           |        | Direct.          | -62 42.7                         |  | +35                | -2     |                   |                         |
| 8.       | -33 27                    | 160 43 | Direct.          | -62 04.4                         |  | +35                | -2     |                   |                         |
|          |                           |        | S.               | -61 59.5                         |  | +35                | -2     |                   |                         |
|          |                           |        | N.               | -61 55.1                         |  | +35                | -2     | -61 30            | -61 30                  |
|          |                           |        | N.S.             | -62 13.7                         |  | +35                | -2     |                   |                         |
|          |                           |        | Direct.          | -62 02.0                         |  | +35                | -2     |                   |                         |
| 9.       | -33 38                    | 163 42 | Direct.          | -61 02.5                         |  | +26                | -1     |                   |                         |
|          |                           |        | S.               | -61 31.5                         |  | +26                | -2     |                   |                         |
|          |                           |        | N.               | -61 14.6                         |  | +26                | -2     | -60 48            | -60 48                  |
|          |                           |        | N.S.             | -61 18.4                         |  | +26                | -2     |                   |                         |
|          |                           |        | Direct.          | -61 04.0                         |  | +35                | -1     |                   |                         |
| 10.      | -33 38                    | 166 28 | Direct.          | -61 11.7                         |  | +56                | -1     |                   |                         |
|          |                           |        | S.               | -61 06.7                         |  | +56                | -1     | -60 06            | -60 07                  |
|          |                           |        | N.               | -60 45.7                         |  | +56                | -1     |                   |                         |
|          |                           |        | N.S.             | -61 03.9                         |  | +56                | -1     |                   |                         |
|          |                           |        | Direct.          | -60 33.2                         |  | +26                | -1     | -60 08            |                         |
| 11.      | -33 22                    | 167 40 | Direct.          | -60 12.3                         |  | +35                | -1     |                   |                         |
|          |                           |        | S.               | -60 22.3                         |  | +35                | -1     |                   |                         |
|          |                           |        | N.               | -60 06.9                         |  | +35                | -1     | -59 39            | -59 39                  |
|          |                           |        | N.S.             | -60 15.0                         |  | +35                | -1     |                   |                         |
|          |                           |        | Direct.          | -60 11.0                         |  | +35                | -1     |                   |                         |
| 12.      | -32 58                    | 169 20 | Direct.          | -59 44.4                         |  | +43                | -1     |                   |                         |
|          |                           |        | S.               | -59 43.5                         |  | +43                | -1     |                   |                         |
|          |                           |        | N.               | -59 38.7                         |  | +43                | -1     | -59 04            | -59 04                  |
|          |                           |        | N.S.             | -59 54.7                         |  | +43                | -1     |                   |                         |
|          |                           |        | Direct.          | -59 49.1                         |  | +43                | -1     |                   |                         |

\* Observed on shore;  
face west. { Direct. -63 53.3  
S. -63 44.8  
N. -63 33.1  
N.S. -63 38.5

† Observed on shore;  
face west. { Direct. -63 51.7

## Observations of Inclination. (Continued.)

| 1841.    | Lat.            | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks.                         |  |  |
|----------|-----------------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|----------------------------------|--|--|
|          |                 |        |                  |                                  |                           | Ship's attraction. | Index. |                   |                                  |  |  |
| Aug. 13. | -32 12          | 170 27 | Direct.          | -58 47.3                         | S.E. by E.                | -12                | 0      | -58 33 -58 33     | Much motion.                     |  |  |
|          |                 |        | S.               | -58 30.2                         | S.E. by E.                | -12                | 0      |                   |                                  |  |  |
|          |                 |        | N.               | -58 09.7                         | S.E. by E.                | -12                | 0      |                   |                                  |  |  |
|          |                 |        | N.S.             | -57 55.2                         | S.E. by E.                | -12                | 0      |                   |                                  |  |  |
| 14.      | -33 27          | 171 21 | Direct.          | -57 30.0                         | S.E. by E.                | -12                | +1     | -58 24 -58 24     | A head swell.                    |  |  |
| 15.      | -33 55          | 171 54 | Direct.          | -58 49.5                         | E. 1/2 S.                 | +20                | 0      |                   |                                  |  |  |
|          |                 |        | S.               | -59 03.7                         | E. 1/2 S.                 | +20                | 0      |                   |                                  |  |  |
|          |                 |        | N.               | -59 02.9                         | E. 1/2 S.                 | +20                | 0      |                   |                                  |  |  |
|          |                 |        | N.S.             | -58 59.8                         | E. 1/2 S.                 | +20                | 0      | -58 26 -58 26     | Much motion.                     |  |  |
|          |                 |        | Direct.          | -58 42.5                         | E. 1/2 S.                 | +20                | 0      |                   |                                  |  |  |
| 16.      | -34 00          | 172 01 | Direct.          | -57 46.5                         | S.E. by E. 1/2 E.         | -4                 | +1     |                   |                                  |  |  |
| 16.      | -34 21          | 178 48 | Direct.          | -58 49.3                         | E.S.E.                    | +4                 | 0      |                   |                                  |  |  |
| 17.      | -34 29          | 173 36 | Direct.          | -58 26.0                         | E.S.E.                    | +4                 | 0      | -59 29 -59 29     |                                  |  |  |
|          |                 |        | S.               | -58 42.5                         | E.S.E.                    | +4                 | 0      |                   |                                  |  |  |
|          |                 |        | N.               | -58 02.7                         | E.S.E.                    | +4                 | 0      |                   |                                  |  |  |
|          |                 |        | N.S.             | -58 42.0                         | E.S.E.                    | +4                 | 0      |                   |                                  |  |  |
|          |                 |        | Direct.          | -58 17.0                         | E.S.E.                    | +4                 | 0      | -59 29 -59 29     |                                  |  |  |
|          |                 |        | Direct.          | -58 50.8                         | E.S.E.                    | +4                 | 0      |                   |                                  |  |  |
| 23.      | Bay of Islands. |        | Direct.          | -59 26.4                         | Observed on shore.        | .....              | -1     |                   |                                  |  |  |
|          | -35 16          | 174 00 | S.               | -59 34.5                         |                           |                    |        |                   |                                  |  |  |
|          |                 |        | N.               | -59 29.1                         |                           |                    |        |                   |                                  |  |  |
|          |                 |        | N.S.             | -59 22.6                         |                           |                    |        |                   |                                  |  |  |
| Oct. 27. |                 |        | Direct.          | -59 28.2*                        | Observed on shore.        | .....              | -1     | -59 29 -59 29     |                                  |  |  |
|          |                 |        | Direct.          | -59 28.0†                        |                           |                    |        |                   |                                  |  |  |
|          |                 |        | S.               | -59 43.2                         |                           |                    |        |                   |                                  |  |  |
|          |                 |        | N.               | -59 31.9                         |                           |                    |        |                   |                                  |  |  |
|          |                 |        | N.S.             | -59 26.2                         | Observed on shore.        | .....              | -1     | -59 25            |                                  |  |  |
|          |                 |        | Direct.          | -59 28.3†                        |                           |                    |        |                   |                                  |  |  |
| 20.      | At anchor.      |        | Direct.          | -60 17.1                         | N.W. 1/2 N.               | +54                | -1     |                   |                                  |  |  |
|          |                 |        | S.               | -61 03.1                         | N.W. 1/2 N.               | +54                | -1     |                   |                                  |  |  |
|          |                 |        | Direct.          | -58 31.7                         | S.                        | -57                | 0      | -59 49            |                                  |  |  |
|          |                 |        | S.               | -59 05.6                         | S.                        | -57                | 0      |                   |                                  |  |  |
| Nov. 23. | -35 15          | 174 39 | Direct.          | -59 25.0                         | E.S.E.                    | +1                 | -1     |                   |                                  |  |  |
|          |                 |        | Direct.          | -59 37.7                         | E. by S.                  | +15                | -1     | -59 25            | Nov. 23, running along the land. |  |  |
|          |                 |        | Direct.          | -59 30.7                         | E. by S.                  | +15                | -1     |                   |                                  |  |  |
|          |                 |        | S.               | -59 23.8                         | E. by S.                  | +15                | -1     |                   |                                  |  |  |
|          |                 |        | N.               | -59 11.7                         | E. by S.                  | +15                | -1     |                   |                                  |  |  |
|          |                 |        | N.S.             | -59 22.3                         | E. by S.                  | +15                | -1     | -59 11            |                                  |  |  |
| 24.      | -36 27          | 177 34 | Direct.          | -59 50.0                         | E.S.E.                    | 0                  | -1     |                   |                                  |  |  |
|          |                 |        | Direct.          | -59 56.2                         | E.S.E.                    | 0                  | -1     |                   |                                  |  |  |
|          |                 |        | S.               | -59 48.2                         | E.S.E.                    | 0                  | -1     |                   |                                  |  |  |
|          |                 |        | N.               | -59 48.2                         | E.S.E.                    | 0                  | -1     | -59 54 -59 54     |                                  |  |  |
|          |                 |        | N.S.             | -60 03.2                         | E.S.E.                    | 0                  | -1     |                   |                                  |  |  |
| 25.      | -38 17          | 179 51 | Direct.          | -59 55.3                         | S.E. by S.                | -34                | -1     |                   |                                  |  |  |
|          |                 |        | S.               | -59 34.4                         | S.E. by S.                | -34                | -1     |                   |                                  |  |  |
|          |                 |        | N.               | -60 02.2                         | S.E. by S.                | -34                | -1     | -60 32            | -60 34                           |  |  |
|          |                 |        | N.S.             | -60 14.7                         | S.E. by S.                | -34                | -1     |                   |                                  |  |  |
|          |                 |        | Direct.          | -59 57.2                         | S.E. by S.                | -34                | -1     |                   |                                  |  |  |
|          |                 |        | Direct.          | -60 19.5                         | S.E.                      | -23                | -1     |                   |                                  |  |  |

\* Observed on shore; face west. { Direct. -60 33.0  
S. -60 30.1  
N. -60 28.4  
N.S. -60 19.6  
Direct. -60 31.9

† Observed on shore; face west. { Direct. -60 30.1  
S. -60 33.1  
N. -60 40.4  
N.S. -60 14.9  
Direct. -60 32.0

‡ Observed on shore; face west. { Direct. -60 29.0  
S. -60 28.8  
N. -60 19.1  
N.S. -60 18.9  
Direct. -60 28.8

Nov. 13.

## Observations of Inclination. (Continued.)

| 1841.    | Lat.   | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks.                          |
|----------|--------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|-----------------------------------|
|          |        |        |                  |                                  |                           | Ship's attraction. | Index. |                   |                                   |
| Nov. 25. | —38 54 | 181 12 | Direct.          | —61 13.0                         | E.S.E.                    | 0                  | —2     | —61 15            | A heavy sea and very much motion. |
| 26.      | —39 01 | 182 12 | Direct.          | —61 27.8                         | E. by s.                  | +14                | —2     | —61 15            |                                   |
|          |        |        | S.               | —61 04.7                         | E. by s.                  | +14                | —1     |                   |                                   |
|          |        |        | N.               | —61 43.4                         | E. by s.                  | +14                | —2     |                   |                                   |
|          |        |        | N.S.             | —61 29.7                         | E. by s.                  | +14                | —2     |                   |                                   |
|          |        |        | Direct.          | —61 30.4                         | E. by s.                  | +14                | —2     |                   |                                   |
| 27.      | —39 18 | 182 58 | Direct.          | —61 02.9                         | s.                        | —50                | —1     | —61 57            |                                   |
|          |        |        | S.               | —61 01.5                         | s.                        | —50                | —1     |                   |                                   |
|          |        |        | N.               | —61 16.4                         | s.                        | —50                | —2     |                   |                                   |
|          |        |        | N.S.             | —61 11.1                         | s.                        | —50                | —1     |                   |                                   |
|          |        |        | Direct.          | —60 59.6                         | s.                        | —50                | —1     |                   |                                   |
| 28.      | —40 47 | 183 03 | Direct.          | —62 03.3                         | S.E. by E.                | —10                | —2     | —62 21            |                                   |
|          |        |        | S.               | —62 35.5                         | S.E. by E.                | —10                | —2     |                   |                                   |
|          |        |        | N.               | —61 59.9                         | S.E. by E.                | —10                | —2     |                   |                                   |
|          |        |        | N.S.             | —61 59.8                         | S.E. by E.                | —10                | —2     |                   |                                   |
|          |        |        | Direct.          | —61 29.8                         | s. by E.                  | —49                | —2     |                   |                                   |
| 29.      | —41 49 | 183 41 | Direct.          | —62 29.9                         | s. by E.                  | —49                | —2     | —62 21            | A head sea.                       |
|          |        |        | S.               | —62 34.4                         | s. by E.                  | —49                | —2     | —63 28            |                                   |
|          |        |        | N.               | —62 43.2                         | s. by E.                  | —49                | —2     |                   |                                   |
|          |        |        | N.S.             | —62 47.0                         | s. by E.                  | —49                | —2     |                   |                                   |
|          |        |        | Direct.          | —62 32.0                         | s. by E.                  | —49                | —2     |                   |                                   |
| 30.      | —43 32 | 183 03 | Direct.          | —63 38.3                         | S. ½ W.                   | —52                | —3     |                   |                                   |
|          |        |        | S.               | —64 16.6                         | S. ½ W.                   | —52                | —3     |                   |                                   |
|          |        |        | N.               | —63 48.1                         | S. ½ W.                   | —52                | —3     |                   |                                   |
|          |        |        | N.S.             | —63 43.9                         | S. ½ W.                   | —52                | —3     |                   |                                   |
|          |        |        | Direct.          | —63 38.9                         | S. ½ W.                   | —52                | —3     |                   |                                   |
| Dec. 1.  | —45 40 | 183 20 | Direct.          | —66 08.5                         | S.E. by E.                | —15                | —4     | —66 35            |                                   |
|          |        |        | S.               | —66 34.2                         | S.E. by E.                | —15                | —4     |                   |                                   |
|          |        |        | N.               | —66 03.2                         | S.E. by E.                | —15                | —4     |                   |                                   |
|          |        |        | N.S.             | —66 29.2                         | S.E. by E.                | —15                | —4     |                   |                                   |
|          |        |        | Direct.          | —66 05.3                         | S.E. by E.                | —15                | —4     |                   |                                   |
| 2.       | —47 19 | 184 40 | Direct.          | —67 41.2                         | S.E. by E. ½ E.           | —11                | —5     | —67 56            | A head swell.                     |
|          |        |        | S.               | —67 34.0                         | S.E. by E. ½ E.           | —11                | —5     |                   |                                   |
|          |        |        | N.               | —67 34.0                         | S.E. by E. ½ E.           | —11                | —5     |                   |                                   |
|          |        |        | N.S.             | —67 32.5                         | S.E. by E. ½ E.           | —11                | —5     |                   |                                   |
|          |        |        | Direct.          | —67 56.0                         | S.E. by E. ½ E.           | —11                | —5     |                   |                                   |
| 3.       | —48 43 | 186 30 | Direct.          | —68 51.5                         | E.S.E.                    | —5                 | —5     | —69 01            | A head swell.                     |
|          |        |        | Direct.          | —68 46.1                         | S.E. by E.                | —20                | —5     | —69 08            |                                   |
|          |        |        | S.               | —68 38.6                         | S.E. by E.                | —20                | —5     |                   |                                   |
|          |        |        | N.               | —68 43.6                         | S.E. by E.                | —20                | —5     |                   |                                   |
|          |        |        | N.S.             | —68 41.6                         | E.S.E.                    | —5                 | —5     |                   |                                   |
|          |        |        | Direct.          | —68 49.7                         | S.E. by E.                | —20                | —5     |                   |                                   |
| 4.       | —49 20 | 187 41 | Direct.          | —69 32.4                         | E. by s.                  | +6                 | —6     | —69 41            |                                   |
|          |        |        | S.               | —70 10.2                         | E. by s.                  | +6                 | —6     |                   |                                   |
|          |        |        | N.               | —69 48.6                         | E. by s.                  | +6                 | —6     |                   |                                   |
|          |        |        | N.S.             | —69 50.0                         | E. by s.                  | +6                 | —6     |                   |                                   |
|          |        |        | Direct.          | —69 24.4                         | E. by s.                  | +6                 | —6     |                   |                                   |
| 5.       | —49 27 | 189 13 | Direct.          | —69 36.0                         | E. by s.                  | +6                 | —6     | —69 34            |                                   |
|          |        |        | S.               | —69 47.2                         | E. by s.                  | +6                 | —6     |                   |                                   |
|          |        |        | N.               | —69 32.9                         | E. by s.                  | +6                 | —6     |                   |                                   |
|          |        |        | N.S.             | —69 28.2                         | E. by s.                  | +6                 | —6     |                   |                                   |
|          |        |        | Direct.          | —69 17.5                         | E. by s.                  | +6                 | —6     |                   |                                   |
| 6.       | —50 00 | 191 00 | S.               | —69 51.7                         | E. by s.                  | +6                 | —6     | —69 43            |                                   |
|          |        |        | N.               | —69 37.0                         | E. by s.                  | +6                 | —6     |                   |                                   |
|          |        |        | N.S.             | —69 38.2                         | E. by s.                  | +6                 | —6     |                   |                                   |
|          |        |        | Direct.          | —69 28.5                         | E. by s.                  | +6                 | —6     |                   |                                   |
|          | —50 48 | 192 20 | Direct.          | —69 28.5                         | E. by s.                  | +6                 | —6     |                   |                                   |

## Observations of Inclination. (Continued.)

| 1841.   | Lat.   | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head.   | Corrections.       |        | True Inclination. | Remarks.                     |
|---------|--------|--------|------------------|----------------------------------|-----------------------------|--------------------|--------|-------------------|------------------------------|
|         |        |        |                  |                                  |                             | Ship's attraction. | Index. |                   |                              |
| Dec. 7. | -50 48 | 192 20 | Direct.          | -69 18.8                         | S.E. by E.                  | -21                | -6     | -69 58            |                              |
|         |        |        | S.               | -70 01.5                         | S.E. by E.                  | -21                | -6     |                   |                              |
|         |        |        | N.               | -69 17.2                         | S.E. by E.                  | -21                | -6     |                   |                              |
|         |        |        | N.S.             | -69 04.5                         | S.E. $\frac{1}{2}$ E.       | -26                | -5     |                   |                              |
| 8.      | -51 34 | 194 29 | Direct.          | -69 17.0                         | S.E. $\frac{1}{2}$ E.       | -26                | -6     | -69 42            |                              |
|         |        |        | Direct.          | -70 04.1                         | E. by S.                    | +6                 | -6     |                   |                              |
|         |        |        | S.               | -70 33.6                         | E. by S.                    | +6                 | -6     |                   |                              |
|         |        |        | N.               | -70 12.3                         | E. by S.                    | +6                 | -6     |                   |                              |
| 9.      | -52 02 | 197 53 | N.S.             | -69 53.8                         | E. by S.                    | +6                 | -6     | -70 10            |                              |
|         |        |        | Direct.          | -70 06.0                         | E. by S.                    | +6                 | -6     |                   |                              |
|         |        |        | Direct.          | -70 19.0                         | E. by S.                    | +6                 | -6     |                   |                              |
|         |        |        | S.               | -70 49.0                         | E. by S.                    | +6                 | -6     |                   |                              |
| 10.     | -53 01 | 202 11 | N.               | -70 29.1                         | E. by S.                    | +6                 | -6     | -70 32            |                              |
|         |        |        | N.S.             | -70 11.2                         | E. by S.                    | +6                 | -6     |                   |                              |
|         |        |        | Direct.          | -70 17.0                         | E. by S.                    | +6                 | -6     |                   |                              |
|         |        |        | Direct.          | -70 18.0                         | E. by S.                    | +6                 | -6     |                   |                              |
| 11.     | -52 48 | 203 50 | Direct.          | -71 08.0                         | E. $\frac{1}{2}$ N.         | +25                | -6     | -70 53            |                              |
|         |        |        | S.               | -71 26.2                         | E. $\frac{1}{2}$ N.         | +25                | -7     |                   |                              |
|         |        |        | N.               | -71 13.0                         | E. $\frac{1}{2}$ N.         | +25                | -7     |                   |                              |
|         |        |        | N.S.             | -71 09.7                         | E. $\frac{1}{2}$ N.         | +25                | -6     |                   |                              |
| 12.     | -53 01 | 205 08 | Direct.          | -71 05.0                         | E. $\frac{1}{2}$ N.         | +25                | -6     | -70 44            | Ship unsteady ; much motion. |
|         |        |        | Direct.          | -70 35.9                         | E.                          | +19                | -6     |                   |                              |
|         |        |        | S.               | -70 53.5                         | E.                          | +19                | -6     |                   |                              |
|         |        |        | N.               | -70 54.6                         | E.                          | +19                | -6     |                   |                              |
| 13.     | -54 55 | 209 30 | N.S.             | -71 11.2                         | E.                          | +19                | -6     | -70 35            |                              |
|         |        |        | Direct.          | -70 30.4                         | E.                          | +19                | -6     |                   |                              |
|         |        |        | Direct.          | -69 56.8                         | E.S.E.                      | -6                 | -6     |                   |                              |
|         |        |        | S.               | -70 11.6                         | E.S.E.                      | -6                 | -6     |                   |                              |
| 14.     | -55 08 | 210 04 | N.               | -70 00.7                         | E.S.E.                      | -6                 | -6     | -70 10 -70 10     |                              |
|         |        |        | N.S.             | -69 42.3                         | E.S.E.                      | -6                 | -6     |                   |                              |
|         |        |        | Direct.          | -69 56.5                         | E.S.E.                      | -6                 | -6     |                   |                              |
|         |        |        | Direct.          | -70 01.5                         | E.S.E.                      | -6                 | -6     |                   |                              |
| 15.     | -55 20 | 210 28 | Direct.          | -70 21.0                         | S.E. by E. $\frac{1}{2}$ E. | -14                | -6     | -70 54            |                              |
|         |        |        | S.               | -70 55.7                         | S.E. by E. $\frac{1}{2}$ E. | -14                | -6     |                   |                              |
|         |        |        | N.               | -70 30.0                         | S.E. by E. $\frac{1}{2}$ E. | -14                | -6     |                   |                              |
|         |        |        | N.S.             | -70 44.5                         | S.E. by E. $\frac{1}{2}$ E. | -14                | -6     |                   |                              |
| 16.     | -55 20 | 210 28 | Direct.          | -70 23.5                         | S.E. by E. $\frac{1}{2}$ E. | -14                | -6     | -70 58            |                              |
|         |        |        | Direct.          | -70 26.5                         | S.E. by E. $\frac{1}{2}$ E. | -14                | -6     |                   |                              |
|         |        |        | S.               | -71 04.2                         | S.E. by E. $\frac{1}{2}$ E. | -14                | -6     |                   |                              |
|         |        |        | N.               | -70 34.7                         | S.E. by E. $\frac{1}{2}$ E. | -14                | -6     |                   |                              |
| 17.     | -56 20 | 211 52 | N.S.             | -71 03.0                         | S.E. by E. $\frac{1}{2}$ E. | -14                | -6     | -71 13            |                              |
|         |        |        | Direct.          | -70 27.5                         | S.E. by E. $\frac{1}{2}$ E. | -14                | -6     |                   |                              |
|         |        |        | Direct.          | -70 35.5                         | S.E. by E. $\frac{1}{2}$ E. | -15                | -6     |                   |                              |
|         |        |        | S.               | -71 13.5                         | S.E. by E. $\frac{1}{2}$ E. | -15                | -7     |                   |                              |
| 18.     | -56 20 | 211 52 | N.               | -70 48.7                         | S.E. by E. $\frac{1}{2}$ E. | -15                | -6     | -71 11            |                              |
|         |        |        | N.S.             | -70 53.0                         | S.E. by E. $\frac{1}{2}$ E. | -15                | -6     |                   |                              |
|         |        |        | Direct.          | -70 39.0                         | S.E. by E. $\frac{1}{2}$ E. | -15                | -6     |                   |                              |
|         |        |        | Direct.          | -70 38.0                         | S.E. by S.                  | -47                | -6     |                   |                              |
| 19.     | -56 20 | 211 52 | S.               | -71 23.9                         | S.E. by S.                  | -47                | -7     | -71 28            |                              |
|         |        |        | N.               | -71 01.3                         | S.E. by S.                  | -47                | -6     |                   |                              |
|         |        |        | N.S.             | -70 36.2                         | S.E. by S.                  | -47                | -6     |                   |                              |
|         |        |        | Direct.          | -70 43.0                         | S.E. by S.                  | -47                | -6     |                   |                              |

## Observations of Inclination. (Continued.)

| 1841.    | Lat.   | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks. |
|----------|--------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|----------|
|          |        |        |                  |                                  |                           | Ship's attraction. | Index. |                   |          |
| Dec. 14. | —55 55 | 211 38 | Direct.          | —70 51.5                         | S.E. by S.                | —48                | —6     | —72 03            | —72 18   |
|          |        |        | S.               | —71 59.2                         | S.E. by S.                | —48                | —7     |                   |          |
|          |        |        | N.               | —71 00.7                         | S.E. by S.                | —48                | —6     |                   |          |
|          |        |        | N.S.             | —71 04.0                         | S.E. by S.                | —48                | —6     |                   |          |
|          |        |        | Direct.          | —70 50.3                         | S.E. by S.                | —48                | —6     |                   |          |
| 15.      | —56 55 | 212 34 | Direct.          | —71 09.5                         | S.S.E.                    | —58                | —6     | —72 33            |          |
|          |        |        | S.               | —72 36.0                         | S.S.E.                    | —58                | —7     |                   |          |
|          |        |        | N.               | —71 18.2                         | S.S.E.                    | —58                | —7     |                   |          |
|          |        |        | N.S.             | —71 14.5                         | S.S.E.                    | —58                | —7     |                   |          |
|          |        |        | Direct.          | —71 07.5                         | S.S.E.                    | —58                | —6     | —72 32            |          |
|          | —56 06 | 212 20 | Direct.          | —71 37.1                         | S.E. by S.                | —48                | —7     |                   |          |
|          |        |        | Direct.          | —71 48.0                         | E.S.E.                    | —9                 | —7     |                   |          |
|          |        |        | S.               | —72 14.8                         | E.S.E.                    | —9                 | —7     |                   |          |
|          |        |        | N.               | —71 30.0                         | E.S.E.                    | —9                 | —7     | —72 03            |          |
|          |        |        | N.S.             | —71 31.0                         | E.S.E.                    | —9                 | —7     |                   |          |
|          |        |        | Direct.          | —71 50.0                         | E.S.E.                    | —9                 | —7     |                   |          |
|          |        |        | Direct.          | —72 41.5                         | S.S.E.                    | —60                | —7     |                   |          |
| 16.      | —58 29 | 213 11 | S.               | —72 49.3                         | S.S.E.                    | —60                | —7     | —73 40            |          |
|          |        |        | N.               | —72 25.6                         | S.S.E.                    | —60                | —7     |                   |          |
|          |        |        | N.S.             | —72 33.8                         | S.S.E.                    | —60                | —7     |                   |          |
|          |        |        | Direct.          | —72 09.1                         | S.S.E.                    | —60                | —7     |                   |          |
|          | —58 36 | 213 17 | Direct.          | —72 38.0                         | S.S.E.                    | —60                | —7     | —73 45            |          |
|          | —58 52 | 213 22 | Direct.          | —72 41.7                         | S.S.E.                    | —61                | —7     |                   |          |
|          |        |        | S.               | —72 47.0                         | S.S.E.                    | —61                | —7     |                   |          |
|          |        |        | N.               | —72 40.0                         | S.S.E.                    | —61                | —7     |                   |          |
|          |        |        | N.S.             | —72 44.6                         | S.S.E.                    | —61                | —7     | —73 52            |          |
|          |        |        | Direct.          | —72 47.7                         | S.S.E.                    | —61                | —7     |                   |          |
|          |        |        | Direct.          | —74 02.5                         | S.S.E.                    | —62                | —8     |                   |          |
| 17.      | —61 03 | 213 57 | S.               | —74 27.7                         | S.S.E.                    | —62                | —8     |                   |          |
|          |        |        | N.               | —73 50.0                         | S.S.E.                    | —62                | —8     | —75 15            |          |
|          |        |        | N.S.             | —73 58.7                         | S.S.E.                    | —62                | —8     |                   |          |
|          |        |        | Direct.          | —74 04.6                         | S.S.E.                    | —62                | —8     |                   |          |
|          |        |        | Direct.          | —74 08.0                         | S.S.E.                    | —62                | —8     |                   |          |
|          | —61 37 | 213 57 | Direct.          | —74 32.0                         | S. by E.                  | —69                | —8     | —75 32            |          |
|          |        |        | S.               | —74 53.0                         | S. by E.                  | —69                | —8     |                   |          |
|          |        |        | N.               | —74 07.0                         | S. by E.                  | —69                | —8     |                   |          |
|          |        |        | N.S.             | —74 25.0                         | S. by E.                  | —69                | —8     |                   |          |
|          |        |        | Direct.          | —74 33.0                         | S. by E.                  | —69                | —8     | —75 47            |          |
| 18.      | —62 40 | 212 53 | Direct.          | —75 01.5                         | S.                        | —72                | —8     |                   |          |
|          |        |        | S.               | —75 20.3                         | S.                        | —72                | —9     |                   |          |
|          |        |        | N.               | —75 10.5                         | S.                        | —72                | —8     |                   |          |
|          |        |        | N.S.             | —75 47.0                         | S.                        | —72                | —9     | —76 38            |          |
|          |        |        | Direct.          | —75 07.8                         | S.                        | —72                | —8     |                   |          |
|          |        |        | Direct.          | —75 10.0                         | S. by W.                  | —70                | —8     |                   |          |
|          |        |        | Direct.          | —75 18.0                         | S. by W.                  | —70                | —9     |                   |          |
|          |        |        | Direct.          | —76 17.0                         | S.S.W.                    | —63                | —9     | —76 32            |          |
| 19.      | —63 23 | 210 02 | S.               | —76 23.3                         | S.S.W.                    | —63                | —9     |                   |          |
|          |        |        | N.               | —75 54.0                         | S.S.W.                    | —63                | —9     |                   |          |
|          |        |        | N.S.             | —76 24.0                         | S.S.W.                    | —63                | —9     |                   |          |
|          |        |        | Direct.          | —76 12.6                         | S.S.W.                    | —63                | —9     | —77 26 —77 26     |          |
|          | —63 23 | 210 02 | Direct.          | —77 03.3                         | Observed on Ice.          | —9                 | —9     |                   |          |
|          |        |        | S.               | —77 45.7                         |                           | —10                | —9     |                   |          |
|          |        |        | N.               | —77 08.3                         |                           | —9                 | —9     |                   |          |
|          |        |        | N.S.             | —77 04.6*                        |                           | —9                 | —9     |                   |          |

\* Observed on ice; } Direct. —78° 20' 3.  
face west.

## Observations of Inclination. (Continued.)

| 1841.    | Lat.   | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks. |
|----------|--------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|----------|
|          |        |        |                  |                                  |                           | Ship's attraction. | Index. |                   |          |
| Dec. 19. | —63 23 | 210 02 | Direct.          | —76 48.8                         | s.w. by w.                | —28                | —9     | —77 26            | —77 30   |
|          |        |        | Direct.          | —77 02.5                         | w.s.w.                    | —13                | —9     | —77 25            |          |
|          |        |        | Direct.          | —76 31.2                         | s.w. by s.                | —55                | —9     | —77 35            |          |
| 20.      | —63 47 | 208 26 | Direct.          | —76 26 6                         | s. by w.                  | —71                | —9     | —77 58            | —77 57   |
|          |        |        | S.               | —77 23.7                         | s. by w.                  | —71                | —10    |                   |          |
|          |        |        | N.               | —76 03.0                         | s. by w.                  | —71                | —9     |                   |          |
|          |        |        | N.S.             | —76 36.6                         | s. by w.                  | —71                | —9     | —77 46            | —78 20   |
| 21.      | —64 38 | 206 53 | Direct.          | —76 33.7                         | s.s.w.                    | —63                | —9     |                   |          |
|          |        |        | Direct.          | —76 42.5                         | s.                        | —74                | —9     |                   |          |
|          |        |        | S.               | —77 34.8                         | s.                        | —74                | —10    | —78 32            | —78 20   |
|          |        |        | N.               | —76 39.4                         | s. by w.                  | —72                | —9     | —78 09            |          |
|          |        |        | N.S.             | —76 49.5                         | s. by w.                  | —72                | —9     |                   |          |
|          | —64 50 | 206 37 | Direct.          | —76 54.0                         | s. by w.                  | —72                | —9     |                   | —78 23   |
|          |        |        | Direct.          | —77 02.0                         | s. by E.                  | —72                | —9     | —78 21            | —78 27   |
|          |        |        | Direct.          | —76 58.0                         | s.                        | —74                | —9     |                   |          |
|          | —64 53 | 206 30 | Direct.          | —77 13.3                         | s.s.w.                    | —64                | —10    |                   |          |
|          |        |        | Direct.          | —77 15.8                         | s. by w.                  | —72                | —10    | —78 55            | —78 57   |
|          |        |        | S.               | —78 13.2                         | s. by w.                  | —72                | —10    |                   |          |
|          |        |        | N.               | —77 18.0                         | s. by w.                  | —72                | —10    |                   |          |
|          |        |        | N.S.             | —77 22.6                         | s. by w.                  | —72                | —10    | —78 37            | —79 06   |
| 22.      | —65 30 | 205 41 | Direct.          | —77 13.1                         | s.                        | —74                | —10    |                   |          |
|          |        |        | Direct.          | —77 37.4                         | s.                        | —75                | —10    |                   |          |
|          |        |        | Direct.          | —77 37.4                         | s.                        | —75                | —10    | —79 53            | —79 59   |
|          |        |        | S.               | —78 00.3                         | s.                        | —75                | —10    |                   |          |
|          |        |        | N.               | —77 47.2                         | s.                        | —75                | —10    |                   |          |
|          |        |        | N.S.             | —77 27.6                         | s.                        | —75                | —10    | —79 34            | —79 31   |
| 23.      | —65 59 | 204 16 | Direct.          | —77 38.0                         | s.                        | —75                | —10    |                   |          |
|          |        |        | Direct.          | —79 50.3                         | E.N.E.                    | +40                | —11    |                   |          |
|          |        |        | S.               | —80 53.5                         | E.N.E.                    | +40                | —11    | —79 16            | —79 13   |
|          |        |        | Direct.          | —78 04.0                         | s. by w.                  | —73                | —10    |                   |          |
|          |        |        | S.               | —79 32.3                         | s. by w.                  | —73                | —11    |                   |          |
|          |        |        | N.               | —78 11.2                         | s. by w.                  | —73                | —10    | —79 22            | —79 00   |
|          |        |        | Direct.          | —77 53.0                         | s.                        | —75                | —10    |                   |          |
|          |        |        | S.               | —78 44.7                         | s.                        | —75                | —10    |                   |          |
|          |        |        | N.               | —78 06.5                         | s.                        | —75                | —10    | —79 04            | —79 29   |
|          |        |        | N.S.             | —77 51.8                         | s.                        | —75                | —10    |                   |          |
| 24.      | 65 57  | 203 53 | Direct.          | —78 30.4                         | s.w. by w.                | —30                | —10    | —79 10            |          |
|          |        |        | Direct.          | —80 25.6                         | N. by w.                  | +74                | —11    | —79 23            | —79 31   |
|          |        |        | Direct.          | —80 11.7                         | N.E. by N.                | +67                | —11    |                   |          |
|          |        |        | Direct.          | —79 49.2                         | N.W. $\frac{1}{2}$ W.     | +57                | —11    |                   |          |
|          |        |        | Direct.          | —80 27.2                         | N.                        | +76                | —11    | —79 03            | —79 13   |
|          |        |        | Direct.          | —80 01.6                         | N.W.                      | +60                | —11    |                   |          |
|          |        |        | Direct.          | —79 16.6                         | w. by N.                  | +28                | —11    |                   |          |
|          |        |        | Direct.          | —79 33.4                         | w.N.W.                    | +40                | —11    | —79 00            | —79 04   |
|          | —65 58 | 203 51 | Direct.          | —78 14.3                         | s.s.w.                    | —65                | —10    |                   |          |
|          |        |        | S.               | —79 34.4                         | s.w. by s.                | —57                | —11    |                   |          |
|          |        |        | N.               | —78 17.8                         | s.w. by s.                | —57                | —10    | —79 47            | —79 15   |
|          |        |        | N.S.             | —78 05.6                         | s.w. by s.                | —57                | —10    |                   |          |
| 25.      | —66 00 | 203 46 | Direct.          | —78 20.1                         | s.w.                      | —45                | —10    |                   |          |
|          |        |        | Direct.          | —79 38.5                         | E.                        | +14                | —11    | —80 08            | —79 53   |
|          |        |        | S.               | —80 52.7                         | E.                        | +14                | —11    |                   |          |
|          |        |        | N.               | —79 46.8                         | E.                        | +14                | —11    |                   |          |
|          |        |        | Direct.          | —79 39.7                         | E.                        | +14                | —11    | —79 54            | —79 41   |
|          |        |        | Direct.          | —80 29.6                         | N.W.                      | +60                | —11    |                   |          |
|          |        |        | Direct.          | —79 45.6                         | E. by N.                  | +28                | —11    |                   |          |

Fast to a piece of ice.

On the 24th lying becalmed along-side pieces of ice.



## Observations of Inclination. (Continued.)

| 1841.            | Lat.   | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks. |
|------------------|--------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|----------|
|                  |        |        |                  |                                  |                           | Ship's attraction. | Index. |                   |          |
| Dec. 26.         | —66 11 | 203 36 | Direct.          | —78 57.0                         | S.E. by E.                | —30                | —10    | —80 07            | —79 53   |
|                  |        |        | S.               | —79 45.1                         | S.E. by E.                | —30                | —11    |                   |          |
|                  |        |        | N.               | —79 16.2                         | S.E. by E.                | —30                | —11    |                   |          |
|                  |        |        | Direct.          | —79 02.1                         | S.E. by E.                | —30                | —10    |                   |          |
|                  |        |        | Direct.          | —79 59.2                         | N.W.                      | +60                | —11    | —80 11            |          |
|                  |        |        | S.               | —81 36.5                         | N.W.                      | +60                | —12    |                   |          |
| 27.              | —66 16 | 203 31 | Direct.          | —79 51.5                         | E.                        | +14                | —11    | —79 48            |          |
|                  |        |        | Direct.          | —79 48.5                         | E. ½ N.                   | +21                | —11    | —79 39            |          |
| 28.              | —66 20 | 203 22 | Direct.          | —81 15.2                         | N.                        | +76                | —12    | —80 05            |          |
|                  |        |        | Direct.          | —81 05.8                         | N.                        | +76                | —11    |                   |          |
| 29.              | —66 24 | 203 51 | Direct.          | —80 43.5                         | N.E.                      | +60                | —11    | —80 14            |          |
|                  |        |        | S.               | —81 22.4                         | N.E.                      | +60                | —12    |                   |          |
|                  |        |        | Direct.          | —79 55.6                         | E.                        | +14                | —11    | —79 53            | —79 57   |
| 30.              | —66 31 | 203 07 | Direct.          | —80 39.2                         | N.N.E.                    | +72                | —11    | —79 38            |          |
|                  |        |        | Direct.          | —80 57.8                         | N.                        | +76                | —11    | —79 53            |          |
|                  |        |        | Direct.          | —79 05.4                         | S.W.                      | —45                | —10    | —80 00            |          |
|                  |        |        | Direct.          | —80 39.1                         | N.W. by W.                | +55                | —11    | —79 55            |          |
| 31.              | —66 32 | 203 33 | Direct.          | —78 51.6                         | S.W. by S.                | —57                | —10    | —79 59            |          |
|                  |        |        | Direct.          | —78 30.1                         | S. by W. ½ W.             | —69                | —10    | —79 49            |          |
| 1842.<br>Jan. 1. | —66 32 | 203 32 | Direct.          | —78 23.9                         | S.S.E.                    | —65                | —10    | —79 48            |          |
|                  |        |        | S.               | —78 47.5                         | S.S.E.                    | —65                | —10    |                   |          |
|                  |        |        | N.               | —78 39.1                         | S.S.E.                    | —65                | —10    |                   |          |
|                  |        |        | N.S.             | —78 29.0                         | S.S.E.                    | —65                | —10    |                   |          |
|                  |        |        | Direct.          | —78 24.8                         | S.S.E.                    | —65                | —10    | —80 07            |          |
| 3.               | —66 35 | 203 29 | Direct.          | —80 56.0                         | N. by W. ½ W.             | +73                | —11    |                   |          |
|                  |        |        | S.               | —81 30.1                         | N. by W. ½ W.             | +73                | —12    |                   |          |
|                  |        |        | N.               | —81 08.1                         | N. by W. ½ W.             | +73                | —11    |                   |          |
|                  |        |        | N.S.             | —81 03.3                         | N. by W. ½ W.             | +73                | —11    | —79 42            |          |
|                  |        |        | Direct.          | —81 05.3                         | N. by W. ½ W.             | +73                | —11    |                   |          |
| 4.               | —66 34 | 203 51 | Direct.          | —79 01.8                         | S.E. by E.                | —30                | —10    | —79 42            |          |
|                  |        |        | Direct.          | —78 25.4                         | S. by E.                  | —73                | —10    | —79 48            |          |
| 6.               | —66 06 | 204 24 | Direct.          | —78 07.2                         | S.                        | —75                | —10    | —79 39            |          |
|                  |        |        | S.               | —78 45.8                         | S.                        | —75                | —10    |                   |          |
|                  |        |        | N.               | —78 16.1                         | S.                        | —75                | —10    |                   |          |
|                  |        |        | N.S.             | —77 58.2                         | S.                        | —75                | —10    |                   |          |
|                  |        |        | Direct.          | —78 06.1                         | S.                        | —75                | —10    | —79 44            |          |
| 7.               | —66 13 | 204 19 | Direct.          | —78 11.3                         | S.                        | —75                | —10    |                   |          |
|                  |        |        | Direct.          | —80 04.6                         | N.W.                      | +60                | —10    |                   | —80 15   |
|                  |        | 204 25 | Direct.          | —78 13.7                         | S. by W.                  | —73                | —10    |                   | —79 37   |
|                  |        |        | S.               | —78 48.3                         | S.                        | —75                | —10    | —79 51            |          |
|                  |        |        | N.               | —78 26.9                         | S.                        | —75                | —10    |                   |          |
|                  |        |        | N.S.             | —78 02.6                         | S.                        | —75                | —10    |                   |          |
|                  |        |        | Direct.          | —80 11.0                         | N.W.                      | +60                | —10    |                   | —79 21   |
|                  |        |        | Direct.          | —80 35.1                         | N.                        | +76                | —11    | —79 30            |          |
| 8.               | —66 14 | 204 33 | Direct.          | —80 09.6                         | N.E.                      | +60                | —11    | —79 21            |          |
|                  |        |        | Direct.          | —79 31.2                         | E.                        | +14                | —11    | —79 28            |          |
|                  |        |        | Direct.          | —78 47.1                         | S.E.                      | —45                | —10    | —79 42            |          |
|                  |        |        | Direct.          | —78 13.7                         | S.                        | —75                | —10    | —79 39            |          |
|                  |        |        | Direct.          | —78 09.7                         | S.S.E.                    | —65                | —10    | —79 25            |          |
|                  | —66 12 | 204 33 | Direct.          | —80 19.2                         | N.W.                      | +60                | —11    | —79 34            |          |
|                  |        |        | S.               | —80 44.6                         | N.W.                      | +60                | —11    |                   |          |
|                  |        |        | N.               | —80 35.3                         | N.W.                      | +60                | —11    |                   |          |
|                  |        |        | N.S.             | —80 20.0                         | N.W.                      | +60                | —11    |                   |          |
|                  |        |        | Direct.          | —78 09.7                         | S.S.E.                    | —65                | —10    | —79 34            |          |
|                  |        |        | S.               | —78 21.6                         | S.S.E.                    | —65                | —10    |                   |          |
|                  |        |        | Direct.          | —79 35.7                         | W.                        | +14                | —11    |                   |          |
|                  |        |        | Direct.          | —78 53.6                         | S.W. by W.                | —30                | —10    |                   | —79 34   |

Fast to the same piece of ice as Terror, distant 25 fathoms from her.

Sailing amongst loose ice.

## Observations of Inclination. (Continued.)

| 1842.   | Lat.     | Long.    | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks. |        |
|---------|----------|----------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|----------|--------|
|         |          |          |                  |                                  |                           | Ship's attraction. | Index. |                   |          |        |
| Jan. 9. | —66° 04' | 204° 19' | Direct.          | —78° 48·7                        | s.w. $\frac{1}{2}$ w.     | —37                | —10    | —79° 36'          | }        |        |
|         |          |          | Direct.          | —79 24·0                         | E. by s.                  | —1                 | —11    | —79 36            |          |        |
|         |          |          | Direct.          | —78 39·5                         | s.w.                      | —45                | —10    | —79 35            |          |        |
| 10.     | —65 59   | 204 12   | Direct.          | —78 50·8                         | s.w. by w.                | —30                | —10    | }                 | }        |        |
|         |          |          | S.               | —79 41·0                         | s.w. by w.                | —30                | —11    |                   |          | —79 41 |
|         |          |          | N.               | —78 40·9                         | s.w. by w.                | —30                | —10    |                   |          |        |
|         |          |          | N.S.             | —78 47·0                         | s.w. by w.                | —30                | —10    | }                 | —79 38   |        |
|         |          |          | Direct.          | —79 32·0                         | E.                        | +14                | —11    |                   |          | —79 36 |
|         |          |          | S.               | —79 45·4                         | E.                        | +14                | —11    |                   |          |        |
| 11.     | —65 58   | 203 44   | Direct.          | —80 18·8                         | N.E. by E.                | +55                | —11    | —79 35            | }        |        |
|         |          |          | Direct.          | —78 19·8                         | s.                        | —75                | —10    | —79 45            |          |        |
| 12.     | —65 54   | 203 32   | Direct.          | —78 25·0                         | s.w.                      | —45                | —10    | }                 | }        |        |
|         |          |          | S.               | —79 00·8                         | s.w.                      | —45                | —10    |                   |          | —79 38 |
|         |          |          | Direct.          | —78 26·9                         | s.w. $\frac{1}{2}$ s.     | —51                | —10    | —79 28            | }        |        |
| 13.     | —66 11   | 203 03   | Direct.          | —79 08·0                         | s.w. $\frac{3}{4}$ w.     | —34                | —10    | —79 52            |          |        |
|         |          |          | Direct.          | —79 06·4                         | s.w. by w.                | —30                | —10    | —79 46            |          |        |
|         | —66 12   | 203 05   | Direct.          | —78 02·0                         | S.S.E.                    | —65                | —10    | }                 | }        |        |
|         |          |          | S.               | —78 26·2                         | S.S.E.                    | —65                | —10    |                   |          | —79 24 |
|         |          |          | N.               | —78 00·7                         | S.S.E.                    | —65                | —10    |                   |          |        |
|         |          |          | N.S.             | —78 07·4                         | S.S.E.                    | —65                | —10    | }                 | —79 35   |        |
|         |          |          | Direct.          | —80 37·5                         | N.N.E.                    | +72                | —10    |                   |          | —79 43 |
|         |          |          | S.               | —80 51·9                         | N.N.E.                    | +72                | —10    |                   |          |        |
|         |          |          | N.               | —80 36·8                         | N.N.E.                    | +72                | —11    | }                 | }        |        |
|         |          |          | N.S.             | —80 40·1                         | N.N.E.                    | +72                | —11    |                   |          | —79 37 |
| 14.     | —66 14   | 203 09   | Direct.          | —80 35·5                         | N.N.E.                    | +72                | —11    | }                 | }        |        |
|         |          |          | Direct.          | —80 34·2                         | N.E. by E.                | +55                | —11    |                   |          | —79 50 |
|         |          |          | Direct.          | —78 00·9                         | s. by w.                  | —73                | —10    |                   |          | —79 24 |
|         |          |          | Direct.          | —80 28·4                         | N.E.                      | +60                | —11    | —79 39            | }        |        |
|         |          |          | Direct.          | —78 08·3                         | s. by w.                  | —73                | —10    | —79 31            |          |        |
| 15.     | —66 02   | 202 30   | Direct.          | —78 28·0                         | s.w.                      | —45                | —10    | —79 23            | }        |        |
| 16.     | —65 49   | 202 02   | Direct.          | —79 21·4                         | E.                        | +14                | —11    | —79 18            |          |        |
|         |          |          | S.               | —79 28·9                         | } Observed on ice.        |                    | —11    | }                 | }        |        |
|         |          |          | N.               | —79 33·2                         |                           |                    | —11    |                   |          | —79 47 |
|         |          |          | N.S.             | —79 58·8                         |                           |                    | —11    |                   |          | —79 47 |
|         |          |          | Direct.          | —79 22·4*                        |                           |                    | —11    |                   |          |        |
| 19.     | —66 18   | 201 22   | Direct.          | —79 08·3                         | s.w. by w.                | —30                | —10    | —79 48            | }        |        |
|         |          |          | Direct.          | —81 06·4                         | N. by E.                  | +74                | —11    | —80 03            |          |        |
| 21.     | —66 49   | 202 40   | Direct.          | —78 33·0                         | s. by E.                  | —73                | —10    | }                 | —80 01   |        |
|         |          |          | S.               | —79 08·5                         | s. by E.                  | —73                | —10    |                   |          | —80 05 |
|         |          |          | N.               | —78 35·4                         | s. by E.                  | —73                | —10    |                   |          |        |
|         |          |          | N.S.             | —78 29·5                         | s. by E.                  | —73                | —10    | }                 | }        |        |
| 28.     | —67 38   | 204 01   | Direct.          | —81 23·9                         | N.                        | +76                | —12    |                   |          | —80 30 |
|         |          |          | N.               | —81 37·4                         | N.                        | +76                | —12    |                   |          |        |
|         |          |          | S.               | —81 39·4                         | N.                        | +76                | —12    | }                 | }        |        |
|         |          |          | Direct.          | —78 53·5                         | s.                        | —75                | —10    |                   |          | —80 19 |
|         |          |          | Direct.          | —79 00·5                         | s. by w. $\frac{1}{2}$ w. | —69                | —10    | —80 20            | }        |        |
| 29.     | —67 32   | 203 59   | Direct.          | —79 00·4                         | S.S.W.                    | —65                | —10    | }                 |          | —80 22 |
|         |          |          | S.               | —79 04·6                         | S.S.W.                    | —65                | —10    |                   |          |        |
|         |          |          | N.               | —79 01·8                         | S.S.W.                    | —65                | —10    |                   |          |        |
|         |          |          | N.S.             | —79 01·9                         | S.S.W.                    | —65                | —10    |                   |          |        |

\* Observed on ice, } Direct. —80° 39'·2.  
face west

## Observations of Inclination. (Continued.)

| 1842.    | Lat.   | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks. |
|----------|--------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|----------|
|          |        |        |                  |                                  |                           | Ship's attraction. | Index. |                   |          |
| Jan. 30. | —67 18 | 203 39 | Direct.          | —79 30.8                         | s.w. $\frac{1}{2}$ s.     | —51                | —11    | —80 47            |          |
|          |        |        | S.               | —80 28.3                         | s.w. $\frac{1}{2}$ s.     | —51                | —11    |                   |          |
|          |        |        | N.               | —79 38.7                         | s.w. $\frac{1}{2}$ s.     | —51                | —11    |                   |          |
|          |        |        | N.S.             | —79 25.5                         | s.w. $\frac{1}{2}$ s.     | —51                | —11    |                   |          |
|          |        |        | Direct.          | —79 59.3                         | s. by w.                  | —73                | —10    | —81 22            | —80 26   |
| 31.      | —67 21 | 202 15 | Direct.          | —79 04.4                         | s.w.                      | —45                | —10    | —80 02            |          |
|          |        |        | S.               | —79 19.5                         | s.w.                      | —45                | —11    |                   |          |
|          |        |        | N.               | —79 04.2                         | s.w.                      | —45                | —10    |                   |          |
|          |        |        | N.S.             | —79 00.3                         | s.w.                      | —45                | —10    |                   |          |
|          |        |        | Direct.          | —79 39.1                         | w.s.w.                    | —15                | —11    | —80 09            |          |
| Feb. 1.  | —67 11 | 202 07 | Direct.          | —79 48.5                         | w.s.w.                    | —15                | —11    | —80 18            |          |
| 2.       | —67 57 | 200 00 | Direct.          | —79 22.4                         | S.E.                      | —45                | —11    |                   |          |
|          |        |        | Direct.          | —79 59.5                         | s. by w.                  | —73                | —11    |                   |          |
|          |        |        | Direct.          | —79 32.0                         | S.S.E. $\frac{1}{2}$ E.   | —61                | —11    |                   | —80 46   |
|          |        |        | S.               | —79 49.7                         | S.S.E. $\frac{1}{2}$ E.   | —61                | —11    | —80 44            |          |
|          |        |        | N.               | —79 30.2                         | S.S.E. $\frac{1}{2}$ E.   | —61                | —11    |                   |          |
|          |        |        | N.S.             | —79 23.0                         | S.S.E. $\frac{1}{2}$ E.   | —61                | —11    |                   |          |
|          |        |        | Direct.          | —79 27.3                         | S.S.E. $\frac{1}{2}$ E.   | —61                | —11    |                   | —81 04   |
| 3.       | —68 21 | 200 03 | Direct.          | —80 01.0                         | S.E. by s.                | —57                | —11    | —81 04            |          |
|          |        |        | S.               | —79 53.0                         | S.E. by s.                | —57                | —11    |                   |          |
|          |        |        | N.               | —79 50.4                         | S.E. by s.                | —57                | —11    |                   |          |
|          |        |        | N.S.             | —79 57.1                         | S.E. by s.                | —57                | —11    |                   |          |
|          |        |        | Direct.          | —79 56.8                         | S.E. by s.                | —57                | —11    | —81 14            |          |
| 4.       | —68 42 | 199 44 | Direct.          | —79 58.7                         | S. $\frac{1}{2}$ E.       | —74                | —11    |                   | —81 24   |
|          |        |        | S.               | —80 17.9                         | S. $\frac{1}{2}$ E.       | —74                | —11    |                   |          |
|          |        |        | N.               | —79 57.9                         | S. $\frac{1}{2}$ E.       | —74                | —11    |                   |          |
|          |        |        | N.S.             | —79 41.9                         | S. $\frac{1}{2}$ E.       | —74                | —11    |                   |          |
|          |        |        | Direct.          | —79 59.2                         | S. $\frac{1}{2}$ E.       | —74                | —11    | —81 09            |          |
|          | —68 49 | 199 41 | Direct.          | —82 12.8                         | N. by w.                  | +74                | —12    |                   |          |
| 5.       | —68 59 | 196 07 | Direct.          | —80 53.5                         | s.w.                      | —45                | —11    |                   | —81 00   |
|          |        | 195 51 | Direct.          | —80 49.0                         | s.w. by s.                | —57                | —11    |                   | —81 57   |
|          |        |        | S.               | —81 02.2                         | s.w. by s.                | —57                | —11    | —81 54            |          |
|          |        |        | N.               | —80 46.0                         | s.w. by s.                | —57                | —11    |                   |          |
|          |        |        | N.S.             | —80 39.6                         | s.w. by s.                | —57                | —11    |                   |          |
|          |        |        | Direct.          | —81 52.8                         | w. $\frac{1}{2}$ N.       | +22                | —12    |                   | —81 43   |
| 6.       | —69 48 | 192 25 | Direct.          | —81 08.5                         | s. by w.                  | —74                | —11    | —82 35            |          |
|          |        |        | S.               | —81 28.9                         | s. by w.                  | —74                | —12    |                   | —82 35   |
|          |        |        | N.               | —81 11.0                         | s. by w.                  | —74                | —11    |                   |          |
|          |        |        | N.S.             | —80 47.4                         | s. by w.                  | —74                | —11    |                   |          |
|          |        |        | Direct.          | —81 12.3                         | s. by w.                  | —74                | —12    | —82 43            |          |
| 7.       | —70 05 | 191 10 | Direct.          | —81 45.1                         | s.w.                      | —46                | —12    |                   | —82 51   |
|          |        |        | S.               | —81 50.1                         | S.S.W.                    | —66                | —12    |                   |          |
|          |        |        | N.               | —81 38.8                         | S.S.W.                    | —66                | —12    |                   |          |
|          |        |        | N.S.             | —81 13.2                         | S.S.W.                    | —66                | —12    |                   |          |
|          |        |        | Direct.          | —81 29.8                         | S.S.W.                    | —66                | —12    | —82 53            |          |
|          | —70 17 | 190 15 | Direct.          | —81 43.0                         | S.S.W.                    | —66                | —12    |                   |          |
|          | —70 26 | 189 00 | Direct.          | —82 07.0                         | S.S.W.                    | —66                | —12    |                   |          |
|          |        |        | S.               | —81 39.2                         | S.S.W.                    | —66                | —12    |                   |          |
|          |        |        | N.               | —81 44.5                         | S.S.W.                    | —66                | —12    | —83 07            |          |
|          |        |        | N.S.             | —81 27.0                         | S.S.W.                    | —66                | —12    |                   |          |
|          |        |        | Direct.          | —82 10.2                         | S.S.W.                    | —66                | —12    |                   |          |
| 8.       | —70 18 | 186 01 | Direct.          | —81 50.6                         | s.                        | —77                | —12    |                   | —83 18   |
|          |        |        | S.               | —81 59.7                         | s.                        | —77                | —12    |                   |          |
|          |        |        | N.               | —81 49.3                         | s.                        | —77                | —12    |                   |          |
|          |        |        | N.S.             | —81 37.1                         | s.                        | —77                | —12    |                   |          |
|          |        |        | Direct.          | —81 50.0                         | s.                        | —77                | —12    |                   |          |

## Observations of Inclination. (Continued.)

| 1842.   | Lat.       | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks.          |
|---------|------------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|-------------------|
|         |            |        |                  |                                  |                           | Ship's attraction. | Index. |                   |                   |
| Feb. 9. | —70 39     | 185 31 | Direct.          | —82 06.3                         | s. by E.                  | —75                | —12    | —83 33            |                   |
|         |            |        | Direct.          | —82 24.5                         | S.E. by s.                | —58                | —12    |                   |                   |
|         |            |        | S.               | —82 50.4                         | S.E. by s.                | —58                | —12    |                   |                   |
|         |            |        | N.               | —82 14.6                         | S.E. by s.                | —58                | —12    |                   |                   |
|         |            |        | N.S.             | —82 17.0                         | S.E. by s.                | —58                | —12    |                   |                   |
|         | 10. —70 11 | 183 50 | Direct.          | —82 23.2                         | S.E. by s.                | —58                | —12    | —83 36            |                   |
|         |            |        | Direct.          | —83 23.9                         | w. by s.                  | 0                  | —13    |                   |                   |
|         |            |        | S.               | —83 21.9                         | w. by s.                  | 0                  | —13    |                   |                   |
|         |            |        | N.               | —83 17.2                         | w. by s.                  | 0                  | —13    |                   |                   |
|         |            |        | N.S.             | —83 17.1                         | w. by s.                  | 0                  | —13    |                   |                   |
| 11.     | —70 04     | 183 36 | Direct.          | —83 21.9                         | w. by s.                  | 0                  | —13    | —83 33            | A head swell.     |
|         |            |        | Direct.          | —83 25.0*                        | s. by w.                  | —75                | —13    |                   |                   |
|         |            |        | Direct.          | —82 47.0                         | s.w. by s.                | —58                | —12    |                   |                   |
|         |            |        | Direct.          | —82 58.5                         | S.W.                      | —47                | —12    |                   |                   |
|         |            |        | N.               | —83 07.2                         | S.W.                      | —47                | —12    |                   |                   |
|         | —70 06     | 181 50 | N.S.             | —82 25.0                         | S.W.                      | —47                | —12    | —83 49            |                   |
|         |            |        | Direct.          | —83 01.3                         | S.E. by s.                | —58                | —12    |                   |                   |
|         |            |        | S.               | —83 03.7                         | S.E. by s.                | —58                | —12    |                   |                   |
|         |            |        | N.               | —83 18.7                         | S.E. by s.                | —58                | —13    |                   |                   |
|         |            |        | N.S.             | —83 12.7                         | S.E. by s.                | —58                | —13    |                   |                   |
| 12.     | —72 46     | 181 46 | Direct.          | —83 05.5                         | S.E. by s.                | —58                | —12    | —84 18            |                   |
|         |            |        | Direct.          | —83 32.6                         | S.E. by s.                | —59                | —13    |                   |                   |
|         |            |        | S.               | —84 23.9                         | S.E. by s.                | —59                | —13    |                   |                   |
|         |            |        | N.               | —83 46.0                         | S.E. by s.                | —59                | —13    |                   |                   |
|         |            |        | N.S.             | —83 45.2                         | S.E. by s.                | —59                | —13    |                   |                   |
|         | —73 23     | 183 04 | Direct.          | —83 36.7                         | S.E. by s.                | —59                | —13    | —85 01            |                   |
|         |            |        | Direct.          | —84 04.8                         | S.E.                      | —47                | —13    |                   |                   |
|         |            |        | Direct.          | —84 36.5                         | S.E. $\frac{1}{2}$ s.     | —53                | —13    |                   |                   |
|         |            |        | Direct.          | —85 07.0                         | S.S.E. $\frac{1}{2}$ E.   | —63                | —13    |                   |                   |
|         |            |        | Direct.          | —85 17.0                         | S.S.E.                    | —69                | —14    |                   |                   |
| 13.     | —74 24     | 177 09 | S.               | —85 51.8                         | S.S.E.                    | —69                | —14    | —85 05            |                   |
|         |            |        | N.               | —85 20.5                         | S.S.E.                    | —69                | —14    |                   |                   |
|         |            |        | N.S.             | —85 10.0                         | S.S.E.                    | —69                | —13    |                   |                   |
|         |            |        | Direct.          | —85 21.0                         | s. by E. $\frac{1}{2}$ E. | —74                | —14    |                   |                   |
|         |            |        | Direct.          | —86 03.6                         | S.E.                      | —48                | —14    |                   |                   |
|         | —74 56     | 173 36 | Direct.          | —86 46.9                         | E.                        | +16                | —14    | —86 48            |                   |
|         |            |        | S.               | —87 28.5                         | E.                        | +16                | —15    |                   |                   |
|         |            |        | N.               | —87 06.9                         | E.                        | +16                | —14    |                   |                   |
|         |            |        | N.S.             | —86 56.4                         | E.                        | +16                | —14    |                   |                   |
|         |            |        | Direct.          | —86 48.5                         | E.                        | +16                | —14    |                   |                   |
| 14.     | —75 53     | 175 05 | Direct.          | —87 01.5                         | E.N.E.                    | +42                | —14    | —86 59            |                   |
|         |            |        | Direct.          | —87 03.5                         | E.N.E.                    | +42                | —14    |                   |                   |
|         |            |        | S.               | —87 29.1                         | E.N.E.                    | +42                | —15    |                   |                   |
|         |            |        | N.               | —87 26.9                         | E.N.E.                    | +42                | —15    |                   |                   |
|         |            |        | N.S.             | —87 06.3                         | E.N.E.                    | +42                | —14    |                   |                   |
|         | —76 00     | 175 15 | Direct.          | —87 07.0                         | E.N.E.                    | +42                | —14    | —86 44            |                   |
|         |            |        | Direct.          | —86 58.5                         | E.N.E.                    | +42                | —14    |                   |                   |
|         |            |        | S.               | —87 17.7                         | E.N.E.                    | +42                | —15    |                   |                   |
|         |            |        | N.               | —87 37.8                         | E.N.E.                    | +42                | —15    |                   |                   |
|         |            |        | N.S.             | —87 18.8                         | E.N.E.                    | +42                | —15    |                   |                   |
| 15.     | —76 58     | 181 03 | Direct.          | —86 57.8                         | E.N.E.                    | +42                | —14    | —86 46            | Very much motion. |
|         |            |        | S.               | —87 17.7                         | E.N.E.                    | +42                | —15    |                   |                   |
|         |            |        | N.               | —87 37.8                         | E.N.E.                    | +42                | —15    |                   |                   |
|         |            |        | N.S.             | —87 18.8                         | E.N.E.                    | +42                | —15    |                   |                   |

\* This observation differs so widely from the others made on the same day, that, considering the unfavourable state of the weather, I have omitted it in the mean results: possibly the ship's head may have been W. by S. instead of S. by W., in which case the observation would agree well with the others.—E. S.

## Observations of Inclination. (Continued.)

| 1842.    | Lat.   | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks.                    |
|----------|--------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|-----------------------------|
|          |        |        |                  |                                  |                           | Ship's attraction. | Index. |                   |                             |
| Feb. 19. | -76 42 | 184 09 | Direct.          | -87 24.5                         | N. by E.                  | +78                | -15    | -86 07            | Ship pitching.              |
|          |        |        | S.               | -86 57.7                         | N. by E.                  | +78                | -14    |                   |                             |
|          |        |        | N.               | -87 15.6                         | N. by E.                  | +78                | -15    |                   |                             |
|          |        |        | N.S.             | -86 56.5                         | N. by E.                  | +78                | -14    |                   |                             |
|          | -76 46 | 186 15 | Direct.          | -87 21.2                         | N. by E.                  | +78                | -15    | -86 07            |                             |
|          |        |        | Direct.          | -87 08.0                         | N.N.E.                    | +75                | -14    |                   |                             |
|          |        |        | Direct.          | -85 58.3                         | N.E. ½ E.                 | +60                | -14    |                   |                             |
|          |        |        | Direct.          | -84 24.3                         | S.W.                      | -47                | -13    |                   |                             |
|          | -76 14 | 192 35 | Direct.          | -84 03.9                         | S.E. by S.                | -60                | -13    | -85 25            | A head sea and much motion. |
|          |        |        | S.               | -84 19.6                         | S.E. by S.                | -60                | -13    |                   |                             |
|          |        |        | N.               | -84 24.0                         | S.E. by S.                | -60                | -13    |                   |                             |
|          |        |        | N.S.             | -84 10.5                         | S.E. by S.                | -60                | -13    |                   |                             |
|          | -75 53 | 194 52 | Direct.          | -84 04.0                         | S.E. by S.                | -60                | -13    | -85 26            | A swell from the southward. |
|          |        |        | Direct.          | -84 56.5                         | E.S.E.                    | -17                | -13    |                   |                             |
|          |        |        | Direct.          | -84 53.0                         | E. by S.                  | 0                  | -13    |                   |                             |
|          |        |        | S.               | -85 36.6                         | E. by S.                  | 0                  | -14    |                   |                             |
|          | -76 42 | 194 10 | N.               | -85 16.0                         | E. by S.                  | 0                  | -14    | -85 24            |                             |
|          |        |        | N.S.             | -85 13.0                         | E. by S.                  | 0                  | -14    |                   |                             |
|          |        |        | Direct.          | -84 55.0                         | E. by S.                  | 0                  | -13    |                   |                             |
|          |        |        | Direct.          | -84 26.5                         | E. by S.                  | 0                  | -13    |                   |                             |
|          | -77 05 | 194 38 | Direct.          | -84 05.3                         | S.W. by W.                | -33                | -13    | -84 40            |                             |
|          |        |        | Direct.          | -84 40.3                         | E. ½ S.                   | +8                 | -13    |                   |                             |
|          |        |        | Direct.          | -84 51.9                         | W. by N.                  | +30                | -13    |                   |                             |
|          |        |        | Direct.          | -84 12.0                         | S.W.                      | -47                | -13    |                   |                             |
|          | -74 50 | 193 45 | Direct.          | -84 41.0                         | W.                        | +15                | -13    | -85 12            |                             |
|          |        |        | S.               | -84 57.7                         | W.                        | +15                | -13    |                   |                             |
|          |        |        | N.               | -85 13.0                         | W.                        | +15                | -14    |                   |                             |
|          |        |        | N.S.             | -84 50.0                         | W.                        | +15                | -13    |                   |                             |
|          | -72 46 | 189 59 | Direct.          | -84 50.3                         | W. by N.                  | +30                | -13    | -84 33            |                             |
|          |        |        | Direct.          | -83 27.2                         | S.S.W.                    | -68                | -13    |                   |                             |
|          |        |        | Direct.          | -85 15.7                         | N.W. by W.                | +57                | -14    |                   |                             |
|          |        |        | S.               | -85 38.0                         | N.W. by W.                | +57                | -14    |                   |                             |
|          | -78 07 | 197 24 | N.               | -85 14.5                         | N.W. by W.                | +57                | -14    | -84 38            |                             |
|          |        |        | N.S.             | -85 25.5                         | N.W. by W.                | +57                | -14    |                   |                             |
|          |        |        | Direct.          | -85 11.3                         | N.W. by W.                | +57                | -13    |                   |                             |
|          |        |        | Direct.          | -83 38.0                         | W.S.W.                    | -16                | -13    |                   |                             |
|          | -78 07 | 197 46 | S.               | -83 48.2                         | W.S.W.                    | -16                | -13    | -84 10            |                             |
|          |        |        | N.               | -83 44.1                         | W.S.W.                    | -16                | -13    |                   |                             |
|          |        |        | N.S.             | -83 44.2                         | W.S.W.                    | -16                | -13    |                   |                             |
|          |        |        | Direct.          | -83 40.8                         | W.S.W.                    | -16                | -13    |                   |                             |
|          | -76 55 | 198 40 | Direct.          | -84 05.5                         | W.                        | +15                | -13    | -84 04            |                             |
|          |        |        | S.               | -84 18.4                         | W.                        | +15                | -13    |                   |                             |
|          |        |        | N.               | -84 06.5                         | W.                        | +15                | -13    |                   |                             |
|          |        |        | N.S.             | -84 10.4                         | W.                        | +15                | -13    |                   |                             |
|          | -74 50 | 193 45 | Direct.          | -84 04.5                         | W.                        | +15                | -13    | -83 34            |                             |
|          |        |        | Direct.          | -83 48.6                         | W.                        | +15                | -13    |                   |                             |
|          |        |        | Direct.          | -84 35.5                         | W. by N.                  | +33                | -13    |                   |                             |
|          |        |        | S.               | -83 59.2                         | W. by N.                  | +33                | -13    |                   |                             |
|          | -72 01 | 187 35 | N.               | -83 45.0                         | W. by N.                  | +33                | -13    | -83 31            | A northerly swell.          |
|          |        |        | N.S.             | -83 39.7                         | W. by N.                  | +33                | -13    |                   |                             |
|          |        |        | Direct.          | -83 32.0                         | W. by N.                  | +33                | -13    |                   |                             |
|          |        |        | Direct.          | -84 59.1                         | N. by E.                  | +93                | -13    |                   |                             |
| Mar. 1.  | -69 52 | 180 04 | S.               | -84 36.6                         | N. by E.                  | +93                | -13    | -83 31            |                             |
|          |        |        | N.               | -84 54.2                         | N. by E.                  | +93                | -13    |                   |                             |
|          |        |        | N.S.             | -84 52.0                         | N. by E.                  | +93                | -13    |                   |                             |
|          |        |        | Direct.          | -84 54.0                         | N. by E.                  | +93                | -13    |                   |                             |
|          | -69 44 | 179 53 | Direct.          | -84 59.1                         | N. by E.                  | +93                | -13    | -83 31            |                             |
|          |        |        | Direct.          | -84 54.0                         | N. by E.                  | +93                | -13    |                   |                             |

## Observations of Inclination. (Continued.)

| 1842.   | Lat.  | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks. |                                       |
|---------|-------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|----------|---------------------------------------|
|         |       |        |                  |                                  |                           | Ship's attraction. | Index. |                   |          |                                       |
| Mar. 2. | 68 04 | 183 25 | Direct.          | 83 43.3                          | N.N.E.                    | +90                | 13     | 82 28             | 82 13    |                                       |
|         |       |        | S.               | 83 54.0                          | N.N.E.                    | +90                | 13     |                   |          |                                       |
|         |       |        | N.               | 83 50.2                          | N.N.E.                    | +90                | 13     |                   |          |                                       |
|         |       |        | N.S.             | 83 38.2                          | N.N.E.                    | +90                | 13     |                   |          |                                       |
|         |       |        | Direct.          | 83 37.5                          | N.N.E.                    | +90                | 13     |                   |          |                                       |
|         |       |        | Direct.          | 83 03.2                          | N.N.E.                    | +90                | 13     |                   |          |                                       |
|         |       |        | S.               | 83 14.4                          | N.E. by N.                | +82                | 12     |                   |          |                                       |
|         |       |        | N.               | 83 12.7                          | N.E. by N.                | +82                | 13     |                   |          |                                       |
|         |       |        | N.S.             | 83 04.7                          | N.E. by N.                | +82                | 12     |                   |          |                                       |
|         |       |        | Direct.          | 82 59.0                          | N.E. by N.                | +82                | 12     |                   |          |                                       |
|         |       |        | Direct.          | 82 31.0                          | E.N.E.                    | +51                | 12     |                   |          |                                       |
|         |       |        | S.               | 82 41.5                          | E.N.E.                    | +51                | 12     |                   |          |                                       |
| 3.      | 67 32 | 185 09 | N.               | 82 44.3                          | E.N.E.                    | +51                | 12     | 81 56             | 81 51    |                                       |
|         |       |        | N.S.             | 82 23.6                          | E.N.E.                    | +51                | 12     |                   |          |                                       |
|         |       |        | Direct.          | 82 48.7                          | N.E. by N.                | +81                | 12     |                   |          |                                       |
|         |       |        | Direct.          | 82 34.8                          | N.E.                      | +74                | 12     |                   |          |                                       |
|         |       |        | Direct.          | 80 39.5                          | W.S.W.                    | 20                 | 11     |                   |          |                                       |
|         |       |        | Direct.          | 82 05.6                          | N. by E.                  | +91                | 12     |                   |          |                                       |
|         |       |        | N.               | 82 37.2                          | N. by E.                  | +91                | 12     |                   |          |                                       |
|         |       |        | N.S.             | 82 29.0                          | N. by E.                  | +91                | 12     |                   |          |                                       |
|         |       |        | Direct.          | 81 59.0                          | N. by E.                  | +91                | 12     |                   |          |                                       |
|         |       |        | Direct.          | 80 28.3                          | N. by E.                  | +89                | 11     |                   |          |                                       |
|         |       |        | N.               | 80 41.9                          | N. by E.                  | +89                | 11     |                   |          |                                       |
|         |       |        | N.S.             | 80 54.6                          | N. by E.                  | +89                | 11     |                   |          |                                       |
| 4.      | 67 28 | 185 33 | Direct.          | 80 31.8                          | N. by E.                  | +89                | 11     | 79 19             | 79 19    | A very heavy sea and much motion.     |
|         |       |        | Direct.          | 80 24.0                          | N. by E.                  | +89                | 11     |                   |          |                                       |
|         |       |        | Direct.          | 79 37.0                          | N. by E.                  | +88                | 11     |                   |          |                                       |
|         |       |        | Direct.          | 79 31.3                          | N. by E.                  | +88                | 11     |                   |          |                                       |
|         |       |        | S.               | 79 44.5                          | N. by E.                  | +88                | 11     |                   |          |                                       |
|         |       |        | N.               | 79 08.1                          | N. by E.                  | +88                | 10     |                   |          |                                       |
|         |       |        | N.S.             | 79 20.2                          | N. by E.                  | +88                | 11     |                   |          |                                       |
|         |       |        | Direct.          | 79 27.4                          | N. by E.                  | +88                | 11     |                   |          |                                       |
|         |       |        | Direct.          | 78 35.1                          | N. by E.                  | +87                | 10     |                   |          |                                       |
|         |       |        | S.               | 78 40.4                          | N. by E.                  | +87                | 10     |                   |          |                                       |
|         |       |        | N.               | 78 30.5                          | N. by E.                  | +87                | 10     |                   |          |                                       |
|         |       |        | N.S.             | 78 34.0                          | N. by E.                  | +87                | 10     |                   |          |                                       |
| 5.      | 67 16 | 188 10 | Direct.          | 78 31.9                          | N. by E.                  | +87                | 10     | 77 17             | 77 17    | A very heavy swell from the westward. |
|         |       |        | Direct.          | 77 33.0                          | N.E. by N.                | +76                | 10     |                   |          |                                       |
|         |       |        | S.               | 78 15.5                          | N.E. by N.                | +76                | 10     |                   |          |                                       |
|         |       |        | N.               | 77 36.7                          | N.E. by N.                | +76                | 10     |                   |          |                                       |
|         |       |        | N.S.             | 77 24.7                          | N.E. by N.                | +76                | 10     |                   |          |                                       |
|         |       |        | Direct.          | 77 23.8                          | N.E. by N.                | +76                | 10     |                   |          |                                       |
|         |       |        | Direct.          | 76 36.5                          | N.E. by N.                | +75                | 9      |                   |          |                                       |
|         |       |        | S.               | 77 19.5                          | N.E. by N.                | +75                | 10     |                   |          |                                       |
|         |       |        | N.               | 76 31.7                          | N.E. by N.                | +75                | 9      |                   |          |                                       |
|         |       |        | N.S.             | 76 09.5                          | N.E. by N.                | +75                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 76 34.0                          | N.E. by N.                | +75                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 75 33.0                          | E.N.E.                    | +48                | 9      |                   |          |                                       |
| 6.      | 65 25 | 191 48 | Direct.          | 75 23.0                          | E. by N.                  | +33                | 9      | 74 54             | 75 08    | Much motion.                          |
|         |       |        | S.               | 76 07.5                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | N.               | 76 18.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | N.S.             | 75 48.2                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 75 24.4                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 75 33.0                          | E.N.E.                    | +48                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 75 23.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | S.               | 76 07.5                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | N.               | 76 18.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | N.S.             | 75 48.2                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 75 24.4                          | E. by N.                  | +33                | 9      |                   |          |                                       |
| 7.      | 65 06 | 192 21 | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      | 75 11             | 75 08    | A cross sea, ship pitching.           |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
| 8.      | 63 30 | 194 22 | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      | 75 11             | 75 08    | Very much motion.                     |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
| 9.      | 61 14 | 198 38 | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      | 75 11             | 75 08    | Very much motion.                     |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
| 10.     | 60 18 | 203 55 | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      | 75 11             | 75 08    | Very much motion.                     |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
| 11.     | 60 18 | 208 29 | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      | 75 11             | 75 08    | Very much motion.                     |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |
|         |       |        | Direct.          | 74 27.0                          | E. by N.                  | +33                | 9      |                   |          |                                       |

## Observations of Inclination. (Continued.)

| 1842.    | Lat.       | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks.                           |
|----------|------------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|------------------------------------|
|          |            |        |                  |                                  |                           | Ship's attraction. | Index. |                   |                                    |
| Mar. 12. | -60 13     | 211 34 | Direct.          | -74 06.5                         | E. by N.                  | +33                | -8     | -74 21 -74 21     | A heavy swell, ship very unsteady. |
|          |            |        | S.               | -74 23.3                         | E. by N.                  | +33                | -8     |                   |                                    |
|          |            |        | N.               | -74 57.0                         | E. by N.                  | +33                | -8     |                   |                                    |
|          |            |        | N.S.             | -74 57.5                         | E. by N.                  | +33                | -8     |                   |                                    |
|          | -60 12     | 212 32 | Direct.          | -74 18.0                         | E. by N.                  | +33                | -8     | -72 57            |                                    |
|          |            |        | Direct.          | -74 02.5                         | E. by N.                  | +33                | -8     |                   |                                    |
|          |            |        | Direct.          | -73 56.0                         | N.E.                      | +67                | -8     |                   |                                    |
|          |            |        | Direct.          | -73 26.6                         | N.E. by E.                | +59                | -8     |                   |                                    |
|          | 13. -60 00 | 216 12 | S.               | -74 20.7                         | N.E. by E.                | +59                | -8     | -73 13            | Very unsteady.                     |
|          |            |        | N.               | -73 57.5                         | N.E. by E.                | +59                | -8     |                   |                                    |
|          |            |        | N.S.             | -73 47.2                         | N.E. by E.                | +59                | -8     |                   |                                    |
|          |            |        | Direct.          | -73 35.3                         | N.E. by E.                | +59                | -8     |                   |                                    |
| 14.      | -59 24     | 218 58 | Direct.          | -75 17.5                         | N.E. by E.                | +59                | -9     | -73 30            |                                    |
|          |            |        | Direct.          | -75 10.5                         | N.E. by E.                | +59                | -8     |                   |                                    |
|          |            |        | S.               | -74 54.1                         | N.E. by E.                | +59                | -8     |                   |                                    |
|          |            |        | N.               | -74 42.7                         | N.E. by E.                | +59                | -8     |                   |                                    |
|          | -59 16     | 219 30 | N.S.             | -74 49.5                         | N.E. by E.                | +59                | -8     | -74 03            |                                    |
|          |            |        | Direct.          | -74 32.1                         | E.N.E.                    | +48                | -8     |                   |                                    |
|          |            |        | S.               | -74 07.2                         | E.N.E.                    | +48                | -8     |                   |                                    |
|          |            |        | N.               | -74 26.1                         | E.N.E.                    | +48                | -8     |                   |                                    |
| 15.      | -58 54     | 222 04 | N.S.             | -74 11.7                         | E.N.E.                    | +48                | -8     | -73 41            |                                    |
|          |            |        | Direct.          | -74 28.8                         | E.N.E.                    | +48                | -8     |                   |                                    |
|          |            |        | Direct.          | -73 57.5                         | E. by N.                  | +33                | -8     |                   |                                    |
|          |            |        | Direct.          | -73 55.0                         | E. by N.                  | +33                | -8     |                   |                                    |
|          | -58 50     | 223 24 | Direct.          | -73 11.8                         | E.                        | +19                | -7     | -73 31            |                                    |
|          |            |        | Direct.          | -73 11.0                         | E.                        | +19                | -7     |                   |                                    |
|          |            |        | S.               | -72 20.2                         | E.                        | +19                | -7     |                   |                                    |
|          |            |        | N.               | -73 06.0                         | E.                        | +19                | -7     |                   |                                    |
| 16.      | -59 00     | 227 32 | N.S.             | -73 54.2                         | E.                        | +19                | -8     | -72 57 -72 57     |                                    |
|          |            |        | Direct.          | -73 14.5                         | E.                        | +19                | -8     |                   |                                    |
|          |            |        | Direct.          | -73 07.3                         | E.                        | +19                | -7     |                   |                                    |
|          |            |        | Direct.          | -72 45.0                         | E. 1/2 S.                 | +12                | -7     |                   |                                    |
|          | -59 04     | 228 57 | S.               | -72 57.6                         | E. 1/2 S.                 | +12                | -7     | -72 54 -72 54     | A great deal of motion.            |
|          |            |        | N.               | -73 23.0                         | E. 1/2 S.                 | +12                | -7     |                   |                                    |
|          |            |        | N.S.             | -73 10.7                         | E. 1/2 S.                 | +12                | -7     |                   |                                    |
|          |            |        | Direct.          | -72 39.0                         | E. 1/2 S.                 | +12                | -7     |                   |                                    |
| 17.      | -59 45     | 233 53 | Direct.          | -72 24.5                         | E. 1/2 S.                 | +12                | -7     | -72 51 -72 51     | A great deal of motion.            |
|          |            |        | S.               | -73 00.5                         | E. 1/2 S.                 | +12                | -7     |                   |                                    |
|          |            |        | N.               | -73 16.7                         | E. 1/2 S.                 | +12                | -7     |                   |                                    |
|          |            |        | N.S.             | -73 03.0                         | E. 1/2 S.                 | +12                | -7     |                   |                                    |
|          | -60 16     | 236 11 | Direct.          | -72 35.5                         | E. by S.                  | +4                 | -7     | -73 00 -70 00     | Ship unsteady.                     |
|          |            |        | S.               | -73 02.2                         | E. by S.                  | +4                 | -7     |                   |                                    |
|          |            |        | N.               | -73 21.7                         | E. by S.                  | +4                 | -8     |                   |                                    |
|          |            |        | N.S.             | -72 57.0                         | E. by S.                  | +4                 | -7     |                   |                                    |
| 18.      | -60 21     | 237 02 | S.               | -73 04.2                         | E.                        | +19                | -7     | -72 45 -72 45     | Ship rolling deeply.               |
|          |            |        | Direct.          | -72 29.8                         | E.                        | +19                | -7     |                   |                                    |
|          |            |        | S.               | -73 16.5                         | E.                        | +19                | -8     |                   |                                    |
|          |            |        | N.               | -73 25.6                         | E.                        | +19                | -8     |                   |                                    |
|          | -60 20     | 237 50 | N.S.             | -73 01.3                         | E.                        | +19                | -7     | -72 56 -72 44     |                                    |
|          |            |        | Direct.          | -72 33.0                         | E.                        | +19                | -7     |                   |                                    |
|          |            |        | Direct.          | -72 57.5                         | E. by N.                  | +33                | -7     |                   |                                    |
|          |            |        | S.               | -73 24.1                         | E. by N.                  | +33                | -8     |                   |                                    |
|          |            |        | N.               | -73 44.0                         | E. by N.                  | +33                | -8     |                   |                                    |
|          |            |        | N.S.             | -73 19.0                         | E. by N.                  | +33                | -8     |                   |                                    |

## Observations of Inclination. (Continued.)

| 1842.    | Lat.   | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks.       |
|----------|--------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|----------------|
|          |        |        |                  |                                  |                           | Ship's attraction. | Index. |                   |                |
| Mar. 18. | -60 20 | 237 50 | Direct.          | -73 15.0                         | E. by N. $\frac{1}{2}$ N. | +40                | -8     | -72 34 -72 44     |                |
|          | -60 19 | 238 00 | Direct.          | -72 24.5                         | E. by N. $\frac{1}{2}$ N. | +40                | -7     |                   |                |
|          |        |        | S.               | -72 55.7                         | E. by N. $\frac{1}{2}$ N. | +40                | -7     |                   |                |
|          |        |        | N.               | -73 24.6                         | E. by N. $\frac{1}{2}$ N. | +40                | -8     |                   |                |
| 19.      | -60 02 | 241 03 | N.S.             | -73 30.6                         | E. by N. $\frac{1}{2}$ N. | +40                | -8     | -72 40 -72 40     | Much motion.   |
|          | -60 01 | 241 38 | Direct.          | -72 52.5                         | E.N.E.                    | +47                | -7     |                   |                |
|          |        |        | Direct.          | -72 45.5                         | E.N.E.                    | +47                | -7     |                   |                |
|          |        |        | S.               | -73 47.5                         | E.N.E.                    | +47                | -8     |                   |                |
| 20.      | -59 17 | 245 40 | N.               | -73 43.0                         | E.N.E.                    | +47                | -8     | -71 29 -71 29     |                |
|          |        |        | N.S.             | -73 28.0                         | E.N.E.                    | +47                | -8     |                   |                |
|          |        |        | Direct.          | -72 08.0                         | E.N.E.                    | +47                | -7     |                   |                |
|          |        |        | S.               | -72 12.0                         | E.N.E.                    | +47                | -7     |                   |                |
| 21.      | -59 15 | 248 12 | N.               | -72 01.0                         | E.N.E.                    | +47                | -7     | -71 26 -71 26     |                |
|          |        |        | N.S.             | -72 14.0                         | E.N.E.                    | +47                | -7     |                   |                |
|          |        |        | Direct.          | -72 09.5                         | E.N.E.                    | +47                | -7     |                   |                |
|          |        |        | Direct.          | -71 33.5                         | E. by N.                  | +33                | -7     |                   |                |
|          |        |        | S.               | -72 10.0                         | E. by N.                  | +33                | -7     | -70 59            |                |
|          |        |        | N.               | -71 55.9                         | E. by N.                  | +33                | -7     |                   |                |
|          |        |        | N.S.             | -72 11.2                         | E. by N.                  | +33                | -7     |                   |                |
|          |        |        | Direct.          | -71 35.2                         | E. by N.                  | +33                | -7     |                   |                |
|          | -59 04 | 248 50 | Direct.          | -71 53.5                         | N.E. $\frac{1}{2}$ E.     | +61                | -7     | -71 08 -71 04     |                |
|          | -58 58 | 249 24 | Direct.          | -71 46.0                         | N.E. by E.                | +58                | -7     |                   |                |
|          |        |        | S.               | -72 01.2                         | N.E. by E.                | +58                | -7     |                   |                |
|          |        |        | N.               | -71 53.0                         | N.E. by E.                | +58                | -7     |                   |                |
| 22.      | -58 28 | 252 01 | N.S.             | -72 14.7                         | N.E. by E.                | +58                | -7     | -70 51 -70 44     |                |
|          |        |        | Direct.          | -71 30.6                         | E.N.E.                    | +47                | -7     |                   |                |
|          |        |        | Direct.          | -71 11.0                         | E. by N.                  | +33                | -6     |                   |                |
|          | -58 29 | 252 22 | Direct.          | -71 02.4                         | E. $\frac{1}{2}$ N.       | +26                | -6     |                   |                |
| 23.      |        |        | S.               | -71 33.5                         | E. $\frac{1}{2}$ N.       | +26                | -7     | -70 52 -70 50     | A head sea.    |
|          |        |        | N.               | -71 05.8                         | E. $\frac{1}{2}$ N.       | +26                | -6     |                   |                |
|          |        |        | N.S.             | -71 07.4                         | E. $\frac{1}{2}$ N.       | +26                | -6     |                   |                |
|          | -58 35 | 255 10 | Direct.          | -70 26.0                         | E. $\frac{1}{2}$ N.       | +26                | -6     |                   |                |
|          |        |        | S.               | -70 36.9                         | E. $\frac{1}{2}$ N.       | +26                | -6     | -70 11 -70 11     |                |
|          |        |        | N.               | -70 45.2                         | E. $\frac{1}{2}$ N.       | +26                | -6     |                   |                |
|          |        |        | N.S.             | -70 16.0                         | E. $\frac{1}{2}$ N.       | +26                | -6     |                   |                |
|          |        |        | Direct.          | -70 30.0                         | E. $\frac{1}{2}$ N.       | +26                | -6     |                   |                |
| 24.      | -58 44 | 257 49 | Direct.          | -70 04.5                         | E. $\frac{1}{2}$ N.       | +26                | -6     | -69 47 -69 47     |                |
|          |        |        | S.               | -70 29.6                         | E. $\frac{1}{2}$ N.       | +26                | -6     |                   |                |
|          |        |        | N.               | -70 24.7                         | E. $\frac{1}{2}$ N.       | +26                | -6     |                   |                |
|          |        |        | N.S.             | -69 49.2                         | E. $\frac{1}{2}$ N.       | +26                | -6     |                   |                |
| 25.      | -58 51 | 258 34 | Direct.          | -69 48.3                         | E. $\frac{1}{2}$ N.       | +26                | -6     | -67 39 -67 39     | A heavy swell. |
|          | -58 56 | 263 52 | Direct.          | -68 52.8                         | E. by N. $\frac{1}{2}$ N. | +40                | -5     |                   |                |
| 26.      | -59 01 | 267 59 | Direct.          | -67 56.0                         | E. by N. $\frac{1}{2}$ N. | +40                | -5     | -67 01 -67 01     | Ship unsteady. |
|          |        |        | S.               | -68 21.7                         | E. by N. $\frac{1}{2}$ N. | +40                | -5     |                   |                |
|          |        |        | N.               | -68 18.7                         | E. by N. $\frac{1}{2}$ N. | +40                | -5     |                   |                |
|          |        |        | N.S.             | -67 56.8                         | E. by N. $\frac{1}{2}$ N. | +40                | -5     |                   |                |
| 27.      | -59 02 | 271 58 | Direct.          | -67 59.5                         | E. by N. $\frac{1}{2}$ N. | +40                | -5     | -67 01 -67 01     |                |
|          |        |        | Direct.          | -67 25.5                         | E.N.E.                    | +46                | -5     |                   |                |
|          |        |        | S.               | -68 44.6                         | E.N.E.                    | +46                | -5     |                   |                |
|          |        |        | N.               | -67 35.7                         | E.N.E.                    | +46                | -5     |                   |                |
|          |        |        | N.S.             | -67 13.7                         | E.N.E.                    | +46                | -5     |                   |                |
|          |        |        | Direct.          | -67 30.5                         | E.N.E.                    | +46                | -5     |                   |                |



## Observations of Inclination. (Continued.)

| 1842.    | Lat.    | Long.    | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |               | True Inclination. | Remarks.                   |
|----------|---------|----------|------------------|----------------------------------|---------------------------|--------------------|---------------|-------------------|----------------------------|
|          |         |          |                  |                                  |                           | Ship's attraction. | Index.        |                   |                            |
| Mar. 28. | 58° 55' | 276° 30' | Direct.          | 66° 10' 0                        | N.E. by E.                | +55                | -4            | -65 27 -65 27     |                            |
|          | 58 50   | 277 12   | Direct.          | 66 13 0                          | N.E. by E.                | +55                | -4            |                   |                            |
|          |         |          | S.               | 66 41 4                          | N.E. by E.                | +55                | -4            |                   |                            |
|          |         |          | N.               | 66 22 2                          | N.E. by E.                | +55                | -4            |                   |                            |
|          |         |          | N.S.             | 66 14 5                          | N.E. by E.                | +55                | -4            | -64 49 -64 49     |                            |
|          |         |          | Direct.          | 66 09 5                          | N.E. by E.                | +55                | -4            |                   |                            |
|          |         |          | Direct.          | 65 40 5                          | N.E. 1/2 E.               | +57                | -4            |                   |                            |
|          |         |          | S.               | 65 56 7                          | N.E. 1/2 E.               | +57                | -4            |                   |                            |
|          |         |          | N.               | 65 46 0                          | N.E. 1/2 E.               | +57                | -4            | -63 44 -63 41     |                            |
|          |         |          | N.S.             | 65 28 5                          | N.E. 1/2 E.               | +57                | -4            |                   |                            |
|          |         |          | Direct.          | 65 36 0                          | N.E. 1/2 E.               | +57                | -4            |                   |                            |
|          |         |          | Direct.          | 64 27 9                          | N.E. by E. 1/2 E.         | +50                | -3            |                   |                            |
| 29.      | 58 23   | 280 03   | S.               | 64 27 7                          | N.E. by E. 1/2 E.         | +50                | -3            | -63 31 -63 05     | A very heavy swell.        |
|          |         |          | N.               | 64 39 2                          | N.E. by E. 1/2 E.         | +50                | -3            |                   |                            |
|          |         |          | N.S.             | 64 29 9                          | N.E. by E. 1/2 E.         | +50                | -3            |                   |                            |
|          |         |          | Direct.          | 64 22 0                          | N.E. 1/2 E.               | +54                | -3            |                   |                            |
|          |         |          | Direct.          | 63 52 3                          | N.E. 1/2 N.               | +58                | -3            | -62 57 -63 7      |                            |
|          |         |          | Direct.          | 63 49 0                          | N.E. by N.                | +60                | -3            |                   |                            |
|          |         |          | N.               | 64 34 2                          | N.E. by N.                | +60                | -3            |                   |                            |
|          |         |          | N.S.             | 64 10 0                          | N.E. by N.                | +60                | -3            |                   |                            |
|          |         |          | Direct.          | 63 43 0                          | N.E. by N.                | +60                | -3            | -61 15 -61 15     |                            |
|          |         |          | Direct.          | 62 24 0                          | N.E. by N.                | +56                | -2            |                   |                            |
|          |         |          | S.               | 62 16 2                          | N.E. by N.                | +56                | -2            |                   |                            |
|          |         |          | N.               | 61 50 6                          | N.E. by N.                | +56                | -2            |                   |                            |
| 30.      | 58 29   | 282 04   | N.S.             | 61 59 0                          | N.E. by N.                | +56                | -2            | -58 45 -58 51     | A swell from the westward. |
|          |         |          | Direct.          | 62 17 0                          | N.E. by N.                | +56                | -2            |                   |                            |
|          |         |          | Direct.          | 59 31 0                          | E.N.E.                    | +44                | -1            |                   |                            |
|          |         |          | S.               | 59 28 3                          | E.N.E.                    | +44                | -1            |                   |                            |
|          |         |          | N.               | 59 55 5                          | E.N.E.                    | +44                | -1            | -59 21 -59 01     |                            |
|          |         |          | N.S.             | 58 59 0                          | E.N.E.                    | +44                | 0             |                   |                            |
|          |         |          | Direct.          | 59 25 3                          | E.N.E.                    | +44                | -1            |                   |                            |
|          |         |          | Direct.          | 58 35 5                          | S.S.E.                    | -46                | 0             |                   |                            |
|          |         |          | Direct.          | 59 44 0                          | N.E.                      | +55                | -1            | -56 10 -56 10     |                            |
|          |         |          | S.               | 60 36 7                          | N.E.                      | +55                | -1            |                   |                            |
|          |         |          | N.               | 60 05 7                          | N.E.                      | +55                | -1            |                   |                            |
|          |         |          | N.S.             | 59 36 5                          | N.E.                      | +55                | -1            |                   |                            |
| April 1. | 54 50   | 298 08   | Direct.          | 59 33 5                          | N.E.                      | +55                | -1            | -53 52 -53 52     | Too much motion to use S.  |
|          |         |          | Direct.          | 57 34 0                          | N. by E.                  | +54                | 0             |                   |                            |
|          |         |          | N.               | 57 00 3                          | N. by E.                  | +54                | 0             |                   |                            |
|          |         |          | N.S.             | 57 10 0                          | N. by E.                  | +54                | 0             |                   |                            |
|          |         |          | Direct.          | 57 24 0                          | N. by E.                  | +54                | 0             | -52 23 -51 39     |                            |
|          |         |          | Direct.          | 54 47 5                          | N.N.E.                    | +47                | +2            |                   |                            |
|          |         |          | S.               | 54 56 6                          | N.N.E.                    | +47                | +2            |                   |                            |
|          |         |          | N.               | 54 45 7                          | N.N.E.                    | +47                | +2            |                   |                            |
|          |         |          | N.S.             | 54 30 7                          | N.N.E.                    | +47                | +2            | -53 41 -52 34     |                            |
|          |         |          | Direct.          | 54 26 0                          | N.N.E.                    | +47                | +2            |                   |                            |
|          |         |          | Direct.          | 54 23 8                          | N.N.E.                    | +41                | +2            |                   |                            |
|          |         |          | Direct.          | 53 08 0                          | N.W. by N.                | +42                | +3            |                   |                            |
|          |         | Direct.  | 52 10 0          | E. by S.                         | +18                       | +3                 | -52 30 -52 30 |                   |                            |
|          |         | Direct.  | 52 29 1          | Observed on shore.               |                           |                    |               |                   |                            |
|          |         | S.       | 52 42 7          |                                  |                           |                    |               |                   |                            |
|          |         | N.       | 52 37 9          |                                  |                           |                    |               |                   |                            |
|          |         | N.S.     | 52 41 2*         |                                  |                           |                    |               |                   |                            |

\* Observed on shore; face west.

|         |          |
|---------|----------|
| Direct. | -53 48.9 |
| S.      | -53 29.2 |
| N.      | -53 45.9 |
| N.S.    | -53 41.5 |

## Observations of Inclination. (Continued.)

| 1842.    | Lat.       | Long.    | Method.<br>employed. | Observed<br>Inclination.<br>Face east. | Direction of<br>ship's head. | Corrections.               |        | True Inclination. | Remarks. |
|----------|------------|----------|----------------------|--|------------------------------|----------------------------|--------|-------------------|----------|
|          |            |          |                      |  |                              | Ship's<br>attrac-<br>tion. | Index. |                   |          |
| Aug. 19. | —51° 32'   | 301° 53' | Direct.              | —52° 20.6                              | Observed<br>on shore.        | }                          | +3     | —52° 30' —52° 30' |          |
|          |            |          | S.                   | —52 35.6                               |                              |                            |        |                   |          |
|          |            |          | N.                   | —52 24.4                               |                              |                            |        |                   |          |
|          |            |          | N.S.                 | —52 31.5*                              |                              |                            |        |                   |          |
| 17.      | —51 32     | 301 53   | Direct.              | —52 46.5                               | W.                           | +37                        | +3     | —52 14            |          |
|          |            |          | S.                   | —53 00.9                               | W.                           | +37                        | +3     |                   |          |
|          |            |          | Direct.              | —52 38.8                               | W.N.W.                       | +38                        | +3     | —51 58            |          |
|          |            |          | S.                   | —52 39.4                               | W.N.W.                       | +38                        | +3     |                   |          |
|          | At Anchor. |          | Direct.              | —52 45.8                               | N.W.                         | +42                        | +3     | —52 08            |          |
|          |            |          | S.                   | —52 59.5                               | N.W.                         | +42                        | +3     |                   |          |
|          |            |          | Direct.              | —52 53.0                               | N.N.W.                       | +41                        | +3     | —52 06            |          |
|          |            |          | S.                   | —52 46.4                               | N.N.W.                       | +41                        | +3     |                   |          |
|          |            |          | Direct.              | —52 54.0                               | N.                           | +41                        | +3     | —52 09            |          |
|          |            |          | S.                   | —52 52.3                               | N.                           | +41                        | +3     |                   |          |
|          |            |          | Direct.              | —52 37.5                               | N.N.E.                       | +41                        | +3     | —51 57            |          |
|          |            |          | S.                   | —52 44.0                               | N.N.E.                       | +41                        | +3     |                   |          |
|          |            |          | Direct.              | —52 42.5                               | N.E.                         | +42                        | +3     | —51 58            |          |
|          |            |          | S.                   | —52 43.2                               | N.E.                         | +42                        | +3     |                   |          |
|          |            |          | Direct.              | —52 42.2                               | E.N.E.                       | +38                        | +3     | —52 02            |          |
|          |            |          | S.                   | —52 44.7                               | E.N.E.                       | +38                        | +3     |                   |          |
|          |            |          | Direct.              | —52 32.0                               | E.                           | +37                        | +3     | —51 47            | —52 05   |
|          |            |          | S.                   | —52 21.5                               | E.                           | +37                        | +3     |                   |          |
|          |            |          | Direct.              | —52 31.0                               | E.S.E.                       | +9                         | +3     | —52 13            |          |
|          |            |          | S.                   | —52 20.1                               | E.S.E.                       | +9                         | +3     |                   |          |
|          |            |          | Direct.              | —52 13.2                               | S.E.                         | —14                        | +3     | —52 29            |          |
|          |            |          | S.                   | —52 22.6                               | S.E.                         | —14                        | +3     |                   |          |
|          |            |          | Direct.              | —51 51.7                               | S.S.E.                       | —32                        | +3     | —52 33            |          |
|          |            |          | S.                   | —52 16.2                               | S.S.E.                       | —32                        | +3     |                   |          |
|          |            |          | Direct.              | —51 21.0                               | S.                           | —40                        | +3     | —52 13            |          |
|          |            |          | S.                   | —51 51.0                               | S.                           | —40                        | +3     |                   |          |
|          |            |          | Direct.              | —51 33.0                               | S.S.W.                       | —32                        | +3     | —51 58            |          |
|          |            |          | S.                   | —51 25.0                               | S.S.W.                       | —32                        | +3     |                   |          |
|          |            |          | Direct.              | —51 51.0                               | S.W.                         | —14                        | +3     | —51 35            |          |
|          |            |          | S.                   | —51 40.7                               | S.W.                         | —14                        | +3     |                   |          |
|          |            |          | Direct.              | —52 22.0                               | W.S.W.                       | +9                         | +3     | —52 05            |          |
|          |            |          | S.                   | —52 12.5                               | W.S.W.                       | +9                         | +3     |                   |          |
|          |            |          | Direct.              | —52 46.8                               | W.                           | +37                        | +3     | —52 07            |          |

\* Observed on shore;  
face west.

|         |           |
|---------|-----------|
| Direct. | —53° 34.2 |
| S.      | —53 31.8  |
| N.      | —53 24.3  |
| N.S.    | —53 21.8  |

Observations of the INCLINATION made in Her Majesty's Ship Terror, with Needle  
F. C. B., between April 1841 and August 1842.

Observers Captain FRANCIS RAWDON CROZIER, and Mr. THOMAS MOORE, Mate, R.N.

| 1841.    | Lat.                           | Long.          | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks.   |  |
|----------|--------------------------------|----------------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|--|--|
|          |                                |                |                  |                                  |                           | Ship's attraction. | Index. |                   |  |  |
| Apr. 19. | Hobarton Magnetic Observatory. | —42 52 147 24* | Direct.          | —70 29.6                         | Observed on shore.        | ....               | —35    | —70 52 —70 52     | Aspareneedle(marked C.) was used as deflector N. and deflector S.: and the magnets of the apparatus as Mag. N. Mag. S. and Mag. N.S. |  |
|          |                                |                | Direct.          | —70 25.9                         |                           | ....               | —35    |                   |  |  |
|          |                                |                | Def. N.          | —69 33.5                         |                           | ....               | —81    |                   |  |  |
|          |                                |                | Def. S.          | —70 17.9                         |                           | ....               | —35    |                   |  |  |
|          |                                |                | Mag. N.S.        | —70 09.6                         |                           | ....               | —35    |                   |  |  |
|          |                                |                | Mag. N.          | —70 09.9                         |                           | ....               | —35    |                   |  |  |
|          |                                |                | Mag. S.          | —70 10.7†                        | ....                      | —35                |        |                   |  |  |
| July 7.  | Running out of Storm Bay.      |                | Direct.          | —69 46.5                         | S.E. $\frac{3}{4}$ E.     | —32                | —35    | —71 00 —71 00     | Ship steady.   |  |
|          |                                |                | Def. N.          | —69 29.9                         | S.E. $\frac{3}{4}$ E.     | —32                | —81    |                   |  |  |
|          |                                |                | Def. S.          | —69 38.8                         | S.E. $\frac{3}{4}$ E.     | —32                | —35    |                   |  |  |
|          |                                |                | Direct.          | —69 51.2                         | S.E. $\frac{3}{4}$ E.     | —32                | —35    |                   |  |  |
| 8.       | —43 03 148 20                  |                | Direct.          | —70 58.0                         | W. $\frac{1}{2}$ N.       | +27                | —35    | —71 18            | Ship very steady.  |  |
|          |                                |                | Def. N.          | —70 50.4                         | W. $\frac{1}{2}$ N.       | +27                | —81    |                   |  |  |
|          |                                |                | Def. S.          | —71 02.0                         | W. $\frac{1}{2}$ N.       | +27                | —35    |                   |  |  |
|          |                                |                | Direct.          | —71 04.0                         | W. $\frac{1}{2}$ N.       | +27                | —35    | —70 44            |  |  |
| 9.       | —42 24 149 30                  |                | Direct.          | —70 43.3                         | N.N.W.                    | +76                | —35    |                   |  |  |
|          |                                |                | Def. N.          | —70 34.1                         | N.N.W.                    | +76                | —81    | —70 10            |  |  |
|          |                                |                | Def. S.          | —70 36.0                         | N.N.W.                    | +76                | —35    |                   |  |  |
|          |                                |                | Direct.          | —70 45.5                         | N.N.W.                    | +76                | —35    | —69 05 —69 05     | Ship very steady.  |  |
| 10.      | —40 51 149 28                  |                | Direct.          | —69 42.7                         | N. by w.                  | +78                | —35    |                   |  |  |
|          |                                |                | Def. N.          | —69 19.7                         | N. by w.                  | +78                | —81    |                   |  |  |
|          |                                |                | Def. S.          | —69 37.7                         | N. by w.                  | +78                | —35    |                   |  |  |
|          |                                |                | Direct.          | —69 47.0                         | N. by w.                  | +78                | —35    | —66 57 —66 57     | Ship very steady.  |  |
| 11.      | —38 17 150 22                  |                | Direct.          | —67 41.3                         | N. by E.                  | +73                | —35    |                   |  |  |
|          |                                |                | Def. N.          | —67 23.3                         | N. by E.                  | +73                | —81    |                   |  |  |
|          |                                |                | Def. S.          | —67 07.0                         | N. by E.                  | +73                | —35    |                   |  |  |
|          |                                |                | Direct.          | —67 42.7                         | N. by E.                  | +73                | —35    |                   |  |  |

\* Observations at Hobarton to obtain corrections for the ship's attraction.

|                    |             |          |        |             |          |        |
|--------------------|-------------|----------|--------|-------------|----------|--------|
| June 22. At anchor | Direct. . . | —70 14.3 | W.     | Direct. . . | —69 54.9 | E.     |
|                    | Def. N. . . | —69 52.5 | W.     | Def. N. . . | —69 21.9 | E.     |
|                    | Direct. . . | —69 59.0 | W.S.W. | Direct. . . | —70 14.1 | E.N.E. |
|                    | Def. N. . . | —69 38.4 | W.S.W. | Def. N. . . | —69 51.5 | E.N.E. |
|                    | Direct. . . | —69 24.5 | S.W.   | Direct. . . | —70 21.4 | N.E.   |
|                    | Def. N. . . | —68 49.9 | S.W.   | Def. N. . . | —70 12.0 | N.E.   |
|                    | Direct. . . | —68 57.0 | S.S.W. | Direct. . . | —70 31.6 | N.N.E. |
|                    | Def. N. . . | —68 38.2 | S.S.W. | Def. N. . . | —70 16.9 | N.N.E. |
|                    | Direct. . . | —68 37.5 | S.     | Direct. . . | —70 48.2 | N.     |
|                    | Def. N. . . | —68 30.9 | S.     | Def. N. . . | —70 28.2 | N.     |
|                    | Direct. . . | —68 40.0 | S.S.E. | Direct. . . | —71 01.8 | N.N.W. |
|                    | Def. N. . . | —68 14.3 | S.S.E. | Def. N. . . | —70 42.3 | N.N.W. |
|                    | Direct. . . | —68 52.2 | S.E.   | Direct. . . | —70 59.6 | N.W.   |
|                    | Def. N. . . | —68 26.4 | S.E.   | Def. N. . . | —70 13.9 | N.W.   |
|                    | Direct. . . | —69 22.6 | E.S.E. | Direct. . . | —70 47.6 | W.N.W. |
|                    | Def. N. . . | —68 59.1 | E.S.E. | Def. N. . . | —70 32.5 | W.N.W. |

† Observed on shore; face west.

|                 |          |               |          |               |          |
|-----------------|----------|---------------|----------|---------------|----------|
| Direct. . . . . | —70 39.9 | Mag. N.S. . . | —70 54.4 | Mag. S. . . . | —70 39.9 |
| Direct. . . . . | —70 40.2 | Mag. N. . . . | —70 54.4 | Def. N. . . . | —71 25.9 |
| Def. S. . . . . | —70 40.0 |               |          |               |          |

## Observations of Inclination. (Continued.)

| 1841.    | Lat.                    | Long.    | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination.  | Remarks.                               |
|----------|-------------------------|----------|------------------|----------------------------------|---------------------------|--------------------|--------|--|--|
|          |                         |          |                  |                                  |                           | Ship's attraction. | Index. |  |  |
| July 12. | —37° 28'                | 151° 30' | Direct.          | —66° 45.1                        | N.E. $\frac{1}{2}$ N.     | +63                | —35    | —66 22 —66 22  | Ship steering steadily.                |
|          |                         |          | Def. N.          | —66 40.0                         | N.E. $\frac{1}{2}$ N.     | +63                | —81    |  |  |
|          |                         |          | Def. S.          | —66 19.1                         | N.E. $\frac{1}{2}$ N.     | +63                | —35    |  |  |
|          |                         |          | Direct.          | —66 49.7                         | N.E. $\frac{1}{2}$ N.     | +63                | —35    | —66 11 —66 11  | Ship unsteady.                         |
| 13.      | —36 21                  | 151 39   | Direct.          | —66 24.5                         | N.N.W. $\frac{1}{4}$ W.   | +69                | —35    |  |  |
|          |                         |          | Def. N.          | —66 35.9                         | N.N.W. $\frac{1}{4}$ W.   | +69                | —81    |  |  |
|          |                         |          | Direct.          | —66 29.1                         | N.N.W. $\frac{1}{4}$ W.   | +69                | —35    | —62 58 —62 58  | Steering steadily.                     |
| 14.      | —34 06                  | 151 19   | Direct.          | —63 25.9                         | N.                        | +67                | —35    |  |  |
|          |                         |          | Def. N.          | —63 08.4                         | N.                        | +67                | —81    |  |  |
|          |                         |          | Def. S.          | —63 11.9                         | N.                        | +67                | —35    | —62 59 —62 59  |  |
|          |                         |          | Direct.          | —63 29.6                         | N.                        | +67                | —35    |  |  |
| 19.      | Garden Island, Sydney.  |          | Direct.          | —62 29.3*                        | Observed on shore.        | ....               | —35    |  |  |
|          |                         |          | Def. N.          | —61 36.7                         |                           | ....               | —81    | —63 00 —63 16 —63 20 —62 57 —63 16 —62 49 —62 56 —62 21 —62 30 —62 41 —62 40 |  |
|          |                         |          | Def. S.          | —62 29.8                         |                           | ....               | —35    |  |  |
|          |                         |          | Mag. N.          | —62 15.2                         |                           | ....               | —35    |  |  |
|          |                         |          | Mag. S.          | —62 17.4                         |                           | ....               | —35    |  |  |
|          |                         |          | Mag. N.S.        | —62 14.0                         |                           | ....               | —35    |  |  |
|          |                         |          | Direct.          | —62 28.8                         |                           | ....               | —35    | —63 00 —63 16 —63 20   |  |
| 30.      | At anchor.              |          | Direct.          | —62 36.6                         | w. by s.                  | +12                | —35    |  |  |
| Aug. 4.  |                         |          | Direct.          | —63 06.1                         | w.                        | +25                | —35    |  |  |
|          |                         |          | Direct.          | —63 03.3                         | w. $\frac{1}{2}$ s.       | +18                | —35    | —62 57 —63 16  |  |
| 5.       |                         |          | Direct.          | —62 06.4                         | s.w. by w.                | —16                | —35    |  |  |
|          |                         |          | Direct.          | —62 16.0                         | s.w. $\frac{1}{2}$ w.     | —25                | —35    |  |  |
| 5.       | Running out of harbour. |          | Direct.          | —62 52.9                         | E. by N. $\frac{1}{2}$ N. | +39                | —35    | —62 49 —62 52  | Head swell on the 5th, steering badly. |
|          |                         |          | Def. N.          | —62 14.1                         | E. by N. $\frac{1}{2}$ N. | +39                | —81    |  |  |
|          |                         |          | Def. S.          | —62 25.4                         | E. by N. $\frac{1}{2}$ N. | +39                | —35    |  |  |
|          |                         |          | Mag. N.          | —62 34.4                         | E. by N. $\frac{1}{2}$ N. | +39                | —35    | —62 30 —62 41 —62 40   |  |
|          |                         |          | Mag. S.          | —62 44.6                         | E. by N. $\frac{1}{2}$ N. | +39                | —35    |  |  |
|          |                         |          | Direct.          | —62 43.5                         | E. by N. $\frac{1}{2}$ N. | +39                | —35    |  |  |
| 6.       | —34 01                  | 153 17   | Direct.          | —62 31.3                         | E. by N.                  | +35                | —35    | —62 30 —62 30  | Steering badly.                        |
|          |                         |          | Def. N.          | —62 06.1                         | E. by N.                  | +35                | —81    |  |  |
|          |                         |          | Def. S.          | —62 28.2                         | E. by N.                  | +35                | —35    |  |  |
|          |                         |          | Direct.          | —62 27.2                         | E. by N.                  | +35                | —35    | —61 46 —61 46  | Steering wildly.                       |
|          | —33 54                  | 153 54   | Direct.          | —62 23.7                         | E. by N.                  | +35                | —35    |  |  |
|          |                         |          | Def. N.          | —62 02.6                         | E. by N.                  | +35                | —81    |  |  |
|          |                         |          | Def. S.          | —62 02.8                         | E. by N.                  | +35                | —35    | —61 04 —61 04  | Steering tolerably.                    |
| 7.       | —33 56                  | 156 38   | Direct.          | —62 24.1                         | E. by N.                  | +35                | —35    |  |  |
|          |                         |          | Direct.          | —61 40.6                         | E. by N.                  | +35                | —35    |  |  |
|          |                         |          | Def. N.          | —61 09.9                         | E. by N.                  | +35                | —81    | —60 52 —60 52  | Steering badly.                        |
|          |                         |          | Def. S.          | —61 40.7                         | E. by N.                  | +35                | —35    |  |  |
|          |                         |          | Direct.          | —61 47.6                         | E. by N.                  | +35                | —35    |  |  |
| 8.       | —33 31                  | 160 20   | Direct.          | —61 17.4                         | E. by N.                  | +35                | —35    | —60 52 —60 52  |  |
|          |                         |          | Def. N.          | —60 38.1                         | E. by N.                  | +35                | —81    |  |  |
|          |                         |          | Def. S.          | —60 22.1                         | E. by N.                  | +35                | —35    |  |  |
|          |                         |          | Direct.          | —61 14.2                         | E. by N.                  | +35                | —35    | —60 52 —60 52  |  |
| 9.       | —33 42                  | 164 05   | Direct.          | —60 40.6                         | E.                        | +26                | —35    |  |  |
|          |                         |          | Def. N.          | —60 17.2                         | E.                        | +26                | —81    |  |  |
|          |                         |          | Def. S.          | —60 30.8                         | E.                        | +26                | —35    | —60 52 —60 52  |  |
|          |                         |          | Direct.          | —60 37.7                         | E.                        | +26                | —35    |  |  |

\* Observed on shore; face west. { Direct. .... —62 52.9    Mag. N. .... —63 00.8    Mag. N. and S. —63 03.7  
 { Def. N. .... —63 00.7    Mag. S. .... —62 57.0    Direct. .... —62 52.3  
 { Def. S. .... —62 52.4

## Observations of Inclination. (Continued.)

| 1841.    | Lat.   | Long.     | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |               | True Inclination.                        | Remarks.                                      |  |
|----------|--------|-----------|------------------|----------------------------------|---------------------------|--------------------|---------------|--|---|--|
|          |        |           |                  |                                  |                           | Ship's attraction. | Index.        |  |   |  |
| Aug. 10. | —33 47 | 166 39    | Direct.          | —59 59.9                         | E. by N. $\frac{1}{2}$ N. | +39                | —35           | ° ' ° '                                  | Long swell, motion quick, steering steadily.  |  |
|          |        |           | Def. N.          | —59 56.7                         | E. by N. $\frac{1}{2}$ N. | +39                | —81           |  |   |  |
|          |        |           | Def. S.          | —59 38.1                         | E. by N. $\frac{1}{2}$ N. | +39                | —35           |  |   |  |
|          |        |           | Direct.          | —60 02.2                         | E. by N. $\frac{1}{2}$ N. | +39                | —35           |  |   |  |
|          |        |           | Direct.          | —59 42.3                         | E.                        | +26                | —35           |  |   |  |
|          |        |           | Def. N.          | —59 00.3                         | E.                        | +26                | —81           |  |   |  |
|          | —33 42 | 166 36    | Def. S.          | —59 42.7                         | E.                        | +26                | —35           | —60 02                                   |   | —59 55                                   |
|          |        |           | Mag. N.          | —59 21.1                         | E.                        | +26                | —35           |  |   |  |
|          |        |           | Mag. S.          | —59 39.9                         | E.                        | +26                | —35           |  |   |  |
|          |        |           | Direct.          | —60 02.2                         | E. by N.                  | +36                | —35           |  |   |  |
|          |        |           | Direct.          | —60 13.9                         | N.E. by E.                | +50                | —35           |  |   |  |
|          |        |           | Def. N.          | —59 18.4                         | N.E. by E.                | +50                | —81           |  |   |  |
| 11.      | —33 34 | 167 37    | Def. S.          | —60 03.5                         | N.E. by E.                | +50                | —35           | —59 49                                   | Wind light, with a heavy swell, motion quick. |  |
|          |        |           | Mag. N.          | —60 04.1                         | N.E. by E.                | +50                | —35           |  |   |  |
|          |        |           | Mag. S.          | —60 01.4                         | N.E. by E.                | +50                | —35           |  |   |  |
|          |        |           | Mag. N.S.        | —59 54.0                         | N.E. by E.                | +50                | —35           |  |   |  |
|          |        |           | Direct.          | —60 09.5                         | N.E. by E.                | +50                | —35           |  |   |  |
|          |        |           | Direct.          | —59 53.1                         | E.                        | +26                | —35           |  |   |  |
|          | —33 31 | 167 41    | Def. N.          | —59 17.2                         | E.                        | +26                | —81           | —60 07                                   |   | Motion quick, steering well.             |
|          |        |           | Direct.          | —58 59.8                         | E.N.E.                    | +43                | —35           |  |   |  |
|          |        |           | Def. N.          | —58 22.6                         | E.N.E.                    | +43                | —81           |  |   |  |
|          |        |           | Def. S.          | —58 56.9                         | E.N.E.                    | +43                | —35           |  |   |  |
|          |        |           | Mag. N.          | —58 36.5                         | E.N.E.                    | +43                | —35           |  |   |  |
|          |        |           | Mag. S.          | —58 23.1                         | E.N.E.                    | +43                | —35           |  |   |  |
| 12.      | —33 00 | 169 20    | Direct.          | —58 56.7                         | E.N.E.                    | +43                | —35           | —58 43                                   | Ship unsteady.                                |  |
|          |        |           | Direct.          | —59 10.4                         | N.E.                      | +52                | —35           |  |   |  |
|          |        |           | Mag. N.S.        | —58 40.5                         | N.E.                      | +52                | —35           |  |   |  |
|          |        |           | Direct.          | —59 09.1                         | N.E.                      | +52                | —35           |  |   |  |
|          |        |           | Direct.          | —56 21.9                         | S.E. by E.                | —10                | —35           |  |   |  |
|          |        |           | Def. N.          | —56 00.5                         | S.E. by E.                | —10                | —81           |  |   |  |
|          | —32 12 | 170 27    | Def. S.          | —56 18.1                         | S.E. by E.                | —10                | —35           | —57 13                                   |   | Much motion, steering well.              |
|          |        |           | Direct.          | —56 24.6                         | S.E. by E.                | —10                | —35           |  |   |  |
|          |        |           | Direct.          | —56 58.5                         | S.E. by E.                | —10                | —35           |  |   |  |
|          |        |           | Def. N.          | —56 11.3                         | S.E. by E.                | —10                | —81           |  |   |  |
|          |        |           | Def. S.          | —56 40.0                         | S.E. by E.                | —10                | —35           |  |   |  |
|          |        |           | Mag. N.          | —56 46.1                         | S.E. by E.                | —10                | —35           |  |   |  |
| 14.      | —32 11 | 171 20    | Mag. N.S.        | —56 55.9                         | S.E. by E.                | —10                | —35           | —57 36                                   | A head sea, table very unsteady.              |  |
|          |        |           | Mag. S.          | —56 49.8                         | S.E. by E.                | —10                | —35           |  |   |  |
|          |        |           | Direct.          | —56 51.0                         | S.E. by E.                | —10                | —35           |  |   |  |
|          |        |           | Direct.          | —57 39.5                         | E. by S.                  | +14                | —35           |  |   |  |
|          |        |           | Def. N.          | —57 06.2                         | E. by S.                  | +14                | —81           |  |   |  |
|          |        |           | Direct.          | —58 22.1                         | E. $\frac{1}{2}$ N.       | +32                | —35           |  |   |  |
|          | —33 55 | 171 59    | Def. N.          | —57 57.4                         | E. $\frac{1}{2}$ N.       | +32                | —81           | —58 24                                   |   | Head sea, steering badly, ship unsteady. |
|          |        |           | Direct.          | —58 20.8                         | E. $\frac{1}{2}$ N.       | +32                | —35           |  |   |  |
|          |        |           | Direct.          | —57 57.7                         | E.S.E.                    | +4                 | —35           |  |   |  |
|          |        |           | Def. N.          | —57 32.5                         | E.S.E.                    | +4                 | —81           |  |   |  |
|          |        |           | Def. S.          | —57 22.1                         | E.S.E.                    | +4                 | —35           |  |   |  |
|          |        |           | Mag. N.          | —57 24.9                         | E.S.E.                    | +4                 | —35           |  |   |  |
| —33 58   | 172 06 | Mag. N.S. | —57 30.0         | E.S.E.                           | +4                        | —35                | —58 14 —58 14 | Head sea, steering badly, ship unsteady. |   |  |
|          |        | Mag. S.   | —57 22.9         | E.S.E.                           | +4                        | —35                |               |  |   |  |
|          |        | Direct.   | —58 00.5         | E.S.E.                           | +4                        | —35                |               |  |   |  |
|          |        | Direct.   | —59 25.6         | N.W. $\frac{1}{2}$ N.            | +51                       | —35                |               |  |   |  |
|          |        | Def. N.   | —59 00.3         | N.W. $\frac{1}{2}$ N.            | +51                       | —81                |               |  |   |  |
|          |        | Def. S.   | —58 46.2         | N.W. $\frac{1}{2}$ N.            | +51                       | —35                |               |  |   |  |
| 16.      | —34 15 | 172 50    | Mag. N.          | —59 01.4                         | N.W. $\frac{1}{2}$ N.     | +51                | —35           |  | —58 48  | Head sea, steering badly, ship unsteady. |
|          |        |           | Mag. N.S.        | —58 55.8                         | N.W. $\frac{1}{2}$ N.     | +51                | —35           |  |   |  |
|          |        |           |                  |                                  |                           |                    |               |  |   |  |
|          |        |           |                  |                                  |                           |                    |               |  |   |  |

## Observations of Inclination. (Continued.)

| 1841.    | Lat.  | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head.   | Corrections.       |        | True Inclination. | Remarks.                                 |
|----------|---|--------|------------------|----------------------------------|-----------------------------|--------------------|--------|-------------------|--|
|          |   |        |                  |                                  |                             | Ship's attraction. | Index. |                   |  |
| Aug. 16. | —34 15  | 172 50 | Mag. S.          | —58 08.6                         | N.W. $\frac{1}{2}$ N.       | +51                | —35    | —58 48            | Head sea, steering badly, ship unsteady. |
|          |   |        | Direct.          | —59 24.6                         | N.W. $\frac{1}{2}$ N.       | +51                | —35    | —58 48            |  |
|          |   |        | Direct.          | —58 26.9                         | E. by S. $\frac{1}{2}$ S.   | +7                 | —35    | —58 46            |  |
|          |   |        | Mag. N.S.        | —58 04.7                         | E. by S. $\frac{1}{2}$ S.   | +7                 | —35    | —58 46            |  |
|          |   |        | Direct.          | —58 23.1                         | E. by S. $\frac{1}{2}$ S.   | +7                 | —35    | —58 46            |  |
| 17.      | —34 24  | 173 43 | Direct.          | —58 33.2                         | E. by S. $\frac{1}{2}$ S.   | +7                 | —35    | —58 46            |  |
|          |   |        | Def. N.          | —58 21.7                         | E. by S. $\frac{1}{2}$ S.   | +7                 | —81    | —59 00            | Strong wind, a good deal of motion.      |
|          |   |        | Def. S.          | —58 23.3                         | E. by S. $\frac{1}{2}$ S.   | +7                 | —35    | —59 00            |  |
|          |   |        | Mag. N.          | —58 25.9                         | E. by S. $\frac{1}{2}$ S.   | +7                 | —35    | —59 00            |  |
|          |   |        | Mag. N.S.        | —58 25.5                         | E. by S. $\frac{1}{2}$ S.   | +7                 | —35    | —59 00            |  |
|          |   |        | Mag. S.          | —58 21.4                         | E. by S. $\frac{1}{2}$ S.   | +7                 | —35    | —59 00            |  |
|          |   |        | Direct.          | —58 26.8                         | E. by S. $\frac{1}{2}$ S.   | +7                 | —35    | —59 00            |  |
| 18.      | Running into the Bay of Islands.                                  |        | Direct.          | —58 20.6                         | S.W.                        | —30                | —35    | —59 36            | Heavy sea, steering wildly.              |
|          |   |        | Def. N.          | —58 08.4                         | S.W.                        | —30                | —81    | —59 36            |  |
|          |   |        | Direct.          | —58 19.2                         | S.W.                        | —30                | —35    | —59 36            |  |
| Oct. 21. | Bay of Islands, New Zealand.                                      |        | Direct.          | —59 00.4                         |                             |                    | —35    | —59 34            | Magnetic observatory.                    |
|          | —35 16  | 174 00 | Def. N.          | —57 57.5                         |                             |                    | —81    | —59 18            |  |
|          |   |        | Def. S.          | —59 05.1                         |                             |                    | —35    | —59 40            |  |
|          |   |        | Mag. N.          | —58 41.0                         |                             |                    | —35    | —59 16            |  |
|          |   |        | Mag. N.S.        | —58 43.6                         |                             |                    | —35    | —59 19            |  |
|          |   |        | Mag. S.          | —58 38.4                         |                             |                    | —35    | —59 13            |  |
|          |   |        | Direct.          | —59 01.0                         |                             |                    | —35    | —59 36            |  |
| 29.      |   |        | Direct.          | —59 00.8                         | Observed on shore.          |                    | —35    | —59 36            |  |
|          |   |        | Def. N.          | —57 58.4                         |                             |                    | —81    | —59 19            |  |
|          |   |        | Def. S.          | —58 59.2                         |                             |                    | —35    | —59 34            |  |
|          |   |        | Mag. N.          | —58 38.7                         |                             |                    | —35    | —59 14            |  |
|          |   |        | Mag. N.S.        | —58 40.3                         |                             |                    | —35    | —59 15            |  |
|          |   |        | Mag. S.          | —58 37.1                         |                             |                    | —35    | —59 12            |  |
|          |   |        | Direct.          | —59 02.2*                        |                             |                    | —35    | —59 37            |  |
| Nov. 23. | Running out of Bay of Islands, about one mile from Piercy Island. |        | Direct.          | —57 50.2                         | S.E. by E.                  | —17                | —35    | —58 42            | Very steady.                             |
|          |   |        | Direct.          | —58 34.3                         | E. by S.                    | +11                | —35    | —58 58            |  |
|          |   |        | Def. N.          | —57 57.1                         | E. by S.                    | +11                | —81    | —59 07            |  |
|          |   |        | Def. S.          | —58 40.9                         | E. by S.                    | +11                | —35    | —59 05            | Ship unsteady.                           |
|          |   |        | Direct.          | —58 34.2                         | E. by S.                    | +11                | —35    | —58 58            |  |
| 24.      | —36 20  | 177 27 | Direct.          | —59 13.5                         | E.S.E.                      | —5                 | —35    | —59 53            |  |
|          |   |        | Def. N.          | —58 23.2                         | E.S.E.                      | —5                 | —81    | —59 49            | —59 20                                   |
|          |   |        | Def. S.          | —58 53.7                         | E.S.E.                      | —5                 | —35    | —59 34            |  |
|          |   |        | Mag. N.          | —58 39.2                         | E.S.E.                      | —5                 | —35    | —59 19            |  |
|          |   |        | Mag. N.S.        | —58 37.0                         | E.S.E.                      | —5                 | —35    | —59 17            | —59 20                                   |
|          |   |        | Mag. S.          | —58 37.3                         | E.S.E.                      | —5                 | —35    | —59 17            |  |
|          |   |        | Direct.          | —59 14.7                         | E.S.E.                      | —5                 | —35    | —59 55            |  |
|          |   |        | Direct.          | —59 41.1                         | S.E. by S.                  | —40                | —35    | —60 56            | —60 37                                   |
| 25.      | —38 00  | 179 34 | Def. N.          | —58 31.6                         | S.E. by S.                  | —40                | —81    | —60 33            |  |
|          |   |        | Def. S.          | —58 54.4                         | S.E. by S.                  | —40                | —35    | —60 09            |  |
|          |   |        | Mag. N.          | —58 54.0                         | S.E. by S.                  | —40                | —35    | —60 09            | —60 37                                   |
|          |   |        | Mag. N.S.        | —59 02.5                         | S.E. by S.                  | —40                | —35    | —60 17            |  |
|          |   |        | Mag. S.          | —58 55.4                         | S.E. by S.                  | —40                | —35    | —60 10            |  |
|          |   |        | Direct.          | —59 37.6                         | S.E. by S.                  | —40                | —35    | —60 53            | Head sea, table unsteady.                |
|          | —38 27  | 179 59 | Direct.          | —60 11.8                         | S.E. by E. $\frac{1}{2}$ E. | —12                | —35    | —60 59            |  |

\* Observed on shore;  
face west.

|             |          |          |          |          |
|-------------|----------|----------|----------|----------|
| Direct. . . | Oct. 21. | —59 47.6 | Oct. 29. | —59 54.6 |
| Def. N. . . | Oct. 21. | —60 13.9 | Oct. 29. | —60 10.7 |
| Def. S. . . | Oct. 21. | —60 00.5 | Oct. 29. | —60 06.3 |
| Mag. N. . . | Oct. 21. | —60 10.3 | Oct. 29. | —60 13.1 |
| Mag. N.S.   | Oct. 21. | —60 13.7 | Oct. 29. | —60 01.2 |
| Mag. S. . . | Oct. 21. | —60 07.4 | Oct. 29. | —60 12.8 |
| Direct. . . | Oct. 21. | —59 48.6 | Oct. 29. | —59 58.5 |

## Observations of Inclination. (Continued.)

| 1841.    | Lat.   | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks.   |
|----------|--------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|--|
|          |        |        |                  |                                  |                           | Ship's attraction. | Index. |                   |  |
| Nov. 25. | —38 27 | 179 59 | Def. N.          | —59 06.2                         | S.E. by E. 1/2 E.         | —12                | —81    | —60 39            | Head sea, table unsteady.                              |
|          |        |        | Def. S.          | —60 03.3                         | S.E. by E. 1/2 E.         | —12                | —35    | —60 50            |  |
|          |        |        | Mag. N.          | —59 51.3                         | S.E. by E. 1/2 E.         | —12                | —35    | —60 38            |  |
|          |        |        | Mag. N.S.        | —59 46.0                         | S.E. by E. 1/2 E.         | —12                | —35    | —60 33            |  |
|          |        |        | Mag. S.          | —60 00.6                         | S.E. by E. 1/2 E.         | —12                | —35    | —60 48            |  |
|          |        |        | Direct.          | —60 12.9                         | S.E. by E. 1/2 E.         | —12                | —35    | —61 00            | Heavy sea, much motion, observations not satisfactory. |
|          | —38 57 | 181 18 | Direct.          | —60 00.6                         | E.S.E.                    | —5                 | —35    | —60 41            |  |
| 26.      | —38 48 | 182 05 | Direct.          | —61 08.6                         | E.S.E.                    | —5                 | —35    | —61 49            |  |
|          |        |        | Def. N.          | —60 00.6                         | E.S.E.                    | —5                 | —81    | —61 27            |  |
|          |        |        | Def. S.          | —60 37.7                         | E.S.E.                    | —5                 | —35    | —61 18            |  |
|          |        |        | Direct.          | —60 11.9                         | S.E.                      | —31                | —35    | —61 18            |  |
|          |        |        | Def. N.          | —59 07.5                         | S.E.                      | —31                | —81    | —61 00            |  |
|          |        |        | Def. S.          | —59 48.8                         | S.E.                      | —31                | —35    | —60 55            |  |
|          |        |        | Mag. N.          | —59 36.8                         | S.E.                      | —31                | —35    | —60 43            |  |
|          |        |        | Mag. N.S.        | —59 48.5                         | S.E.                      | —31                | —35    | —60 54            |  |
|          |        |        | Mag. S.          | —59 38.9                         | S.E.                      | —31                | —35    | —60 45            | Tolerably steady.                                      |
|          |        |        | Direct.          | —60 08.7                         | S.E.                      | —31                | —35    | —61 15            |  |
|          | —39 02 | 182 35 | Direct.          | —61 14.4                         | E.S.E.                    | —5                 | —35    | —61 54            |  |
|          |        |        | Def. N.          | —60 13.3                         | E.S.E.                    | —5                 | —81    | —61 39            |  |
|          |        |        | Def. S.          | —60 46.2                         | E.S.E.                    | —5                 | —35    | —61 26            |  |
|          |        |        | Mag. N.          | —60 42.2                         | E.S.E.                    | —5                 | —35    | —61 22            | Head swell with considerable motion.                   |
|          |        |        | Mag. N.S.        | —60 51.5                         | E.S.E.                    | —5                 | —35    | —61 31            |  |
|          |        |        | Mag. N.          | —60 06.7                         | E.S.E.                    | —5                 | —35    | —61 47            |  |
|          |        |        | Direct.          | —61 13.9                         | E.S.E.                    | —5                 | —35    | —61 54            |  |
| 27.      | —39 14 | 182 54 | Direct.          | —60 24.6                         | S.E. by E.                | —20                | —35    | —61 20            |  |
|          |        |        | Def. N.          | —59 12.0                         | S.E. by E.                | —20                | —81    | —60 53            | Tolerably steady, steering well.                       |
|          |        |        | Def. S.          | —60 30.1                         | S.E. by E.                | —20                | —35    | —61 25            |  |
|          |        |        | Mag. N.          | —59 54.5                         | S.E. by E.                | —20                | —35    | —60 50            |  |
|          |        |        | Mag. N.S.        | —59 55.1                         | S.E. by E.                | —20                | —35    | —60 50            |  |
|          |        |        | Mag. S.          | —60 15.2                         | S.E. by E.                | —20                | —35    | —61 10            |  |
|          |        |        | Direct.          | —60 31.5                         | S.E. by E.                | —20                | —35    | —61 27            | Slight motion.   |
|          | —39 15 | 183 02 | Direct.          | —59 41.2                         | S. by E. 1/2 E.           | —56                | —35    | —61 12            |  |
|          |        |        | Direct.          | —59 41.8                         | S. 1/2 E.                 | —61                | —35    | —61 18            |  |
|          | —39 31 | 183 00 | Direct.          | —59 51.6                         | S. by E.                  | —60                | —35    | —61 27            |  |
|          |        |        | Def. N.          | —59 13.4                         | S. by E.                  | —60                | —81    | —61 34            |  |
|          |        |        | Def. S.          | —59 59.5                         | S. by E.                  | —60                | —35    | —61 34            | Table steady.  |
|          |        |        | Mag. N.          | —59 23.9                         | S. by E.                  | —60                | —35    | —60 59            |  |
|          |        |        | Mag. N.S.        | —59 30.9                         | S. by E.                  | —60                | —35    | —61 06            |  |
|          |        |        | Mag. S.          | —59 44.6                         | S. by E.                  | —60                | —35    | —61 20            |  |
|          |        |        | Direct.          | —59 55.0                         | S. by E.                  | —60                | —35    | —61 30            |  |
| 28.      | —40 35 | 183 00 | Direct.          | —61 14.0                         | E.S.E.                    | —5                 | —35    | —61 54            | Slight motion, steering well.                          |
|          |        |        | Direct.          | —60 47.6                         | S.E.                      | —33                | —35    | —61 56            |  |
|          |        |        | Def. N.          | —59 58.5                         | S.E.                      | —33                | —81    | —61 53            |  |
|          |        |        | Def. S.          | —60 57.6                         | S.E.                      | —33                | —35    | —62 06            |  |
|          |        |        | Mag. N.          | —60 28.1                         | S.E.                      | —33                | —35    | —61 36            |  |
|          |        |        | Mag. N.S.        | —60 29.6                         | S.E.                      | —33                | —35    | —61 38            |  |
|          |        |        | Mag. S.          | —60 46.0                         | S.E.                      | —33                | —35    | —61 54            |  |
|          |        |        | Direct.          | —60 47.3                         | S.E.                      | —33                | —35    | —61 55            |  |
|          | —40 50 | 183 11 | Direct.          | —60 51.2                         | S.S.E. 1/2 E.             | —48                | —35    | —62 14            |  |
|          |        |        | Def. N.          | —59 43.5                         | S.S.E. 1/2 E.             | —48                | —81    | —61 53            |  |
|          |        |        | Def. S.          | —60 55.4                         | S.S.E. 1/2 E.             | —48                | —35    | —62 18            |  |
|          |        |        | Mag. N.          | —60 13.9                         | S.S.E. 1/2 E.             | —48                | —35    | —61 37            |  |
|          |        |        | Mag. N.S.        | —60 30.0                         | S.S.E. 1/2 E.             | —48                | —35    | —61 53            |  |
|          |        |        | Mag. S.          | —60 30.1                         | S.S.E. 1/2 E.             | —48                | —35    | —61 53            |  |
|          |        |        | Direct.          | —60 54.0                         | S.S.E. 1/2 E.             | —48                | —35    | —62 17            |  |

## Observations of Inclination. (Continued.)

| 1841.    | Lat.   | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head.   | Corrections.        |          | True Inclination. | Remarks. |                                   |                              |        |
|----------|--------|--------|------------------|----------------------------------|-----------------------------|---------------------|----------|-------------------|----------|-----------------------------------|------------------------------|--------|
|          |        |        |                  |                                  |                             | Ship's attraction.  | Index.   |                   |          |                                   |                              |        |
| Nov. 29. | —41 34 | 183 40 | Direct.          | —61 27.5                         | s. by E.                    | —60                 | —35      | —63 03            | —62 57   | Slight motion, steering well.     |                              |        |
|          |        |        | Def. N.          | —60 27.5                         | s. by E.                    | —60                 | —81      | —62 49            |          |                                   |                              |        |
|          |        |        | Def. S.          | —61 31.3                         | s. by E.                    | —60                 | —35      | —63 06            |          |                                   |                              |        |
|          |        |        | Mag. N.          | —61 37.1                         | s. by E.                    | —60                 | —35      | —63 12            |          |                                   |                              |        |
|          |        |        | Mag. N.S.        | —61 03.5                         | s. by E.                    | —60                 | —35      | —62 39            |          |                                   |                              |        |
|          |        |        | Mag. S.          | —60 58.9                         | s. by E.                    | —60                 | —35      | —62 34            |          |                                   |                              |        |
|          | —42 40 | 183 46 | Direct.          | —61 44.5                         | s. by E.                    | —60                 | —35      | —63 19            | —63 46   |                                   |                              |        |
|          |        |        | Direct.          | —62 23.7                         | s.                          | —64                 | —35      | —64 03            |          |                                   |                              |        |
|          |        |        | Def. N.          | —61 02.1                         | s.                          | —64                 | —81      | —63 27            |          |                                   |                              |        |
|          |        |        | Def. S.          | —62 08.6                         | s.                          | —64                 | —35      | —63 48            |          |                                   |                              |        |
|          |        |        | Mag. N.          | —61 54.9                         | s.                          | —64                 | —35      | —63 34            |          |                                   |                              |        |
|          |        |        | Mag. N.S.        | —62 03.6                         | s.                          | —64                 | —35      | —63 43            |          |                                   |                              |        |
|          | 30.    | —43 33 | 183 10           | Mag. S.                          | —62 01.2                    | s.                  | —64      | —35               | —63 40   | —65 22                            | Table steady, steering well. |        |
|          |        |        |                  | Direct.                          | —62 29.6                    | s.                  | —64      | —35               | —64 09   |                                   |                              |        |
|          |        |        |                  | Direct.                          | —63 26.2                    | s. $\frac{1}{2}$ w. | —63      | —35               | —65 04   |                                   |                              |        |
|          |        |        |                  | Def. N.                          | —62 29.3                    | s. $\frac{1}{2}$ w. | —63      | —81               | —64 53   |                                   |                              |        |
|          |        |        |                  | Def. S.                          | —63 58.6                    | s. $\frac{1}{2}$ w. | —63      | —35               | —65 37   |                                   |                              |        |
|          |        |        |                  | Mag. N.                          | —63 16.8                    | s. $\frac{1}{2}$ w. | —63      | —35               | —64 55   |                                   |                              |        |
|          |        | —43 50 | 183 00           | Mag. N.S.                        | —62 58.2                    | s. $\frac{1}{2}$ w. | —63      | —35               | —64 36   | —65 22                            | Cross sea, motion slight.    |        |
|          |        |        |                  | Mag. S.                          | —63 46.3                    | s. $\frac{1}{2}$ w. | —63      | —35               | —65 24   |                                   |                              |        |
|          |        |        |                  | Direct.                          | —63 26.2                    | s. $\frac{1}{2}$ w. | —63      | —35               | —65 04   |                                   |                              |        |
|          |        |        |                  | Direct.                          | —63 43.0                    | s. by w.            | —62      | —35               | —65 20   |                                   |                              |        |
|          |        |        |                  | —44 15                           | Direct.                     | —64 07.3            | s. by w. | —62               | —35      |                                   |                              | —65 44 |
|          |        |        |                  | Def. N.                          | —63 29.4                    | s. by w.            | —62      | —81               | —65 52   |                                   |                              |        |
| Dec. 1.  | —45 30 | 183 12 | Def. S.          | —63 59.7                         | s. by w.                    | —62                 | —35      | —65 37            | —66 43   | Much pitching, steering well.     |                              |        |
|          |        |        | Mag. N.          | —63 51.9                         | s. by w.                    | —62                 | —35      | —65 29            |          |                                   |                              |        |
|          |        |        | Mag. N.S.        | —63 52.9                         | s. by w.                    | —62                 | —35      | —65 30            |          |                                   |                              |        |
|          |        |        | Mag. S.          | —63 58.1                         | s. by w.                    | —62                 | —35      | —65 35            |          |                                   |                              |        |
|          |        |        | Direct.          | —64 11.4                         | s. by w.                    | —62                 | —35      | —65 48            |          |                                   |                              |        |
|          |        |        | Direct.          | —65 46.1                         | s.E. by E.                  | —24                 | —35      | —66 45            |          |                                   |                              |        |
|          | —45 48 | 183 25 | Def. N.          | —65 01.6                         | s.E. by E.                  | —24                 | —81      | —66 47            | —67 32   | Ship pitching, but steering well. |                              |        |
|          |        |        | Def. S.          | —65 19.5                         | s.E. by E.                  | —24                 | —35      | —66 19            |          |                                   |                              |        |
|          |        |        | Mag. N.          | —65 14.3                         | s.E. by E.                  | —24                 | —35      | —66 13            |          |                                   |                              |        |
|          |        |        | Mag. N.S.        | —65 31.7                         | s.E. by E.                  | —24                 | —35      | —66 31            |          |                                   |                              |        |
|          |        |        | Mag. S.          | —66 00.8                         | s.E. by E.                  | —24                 | —35      | —67 00            |          |                                   |                              |        |
|          |        |        | Direct.          | —65 40.0                         | s.E. by E.                  | —24                 | —35      | —66 39            |          |                                   |                              |        |
| 2.       | —47 13 | 184 30 | Direct.          | —65 43.9                         | s.E. $\frac{1}{2}$ E.       | —31                 | —35      | —66 50            | —67 32   | Very steady.                      |                              |        |
|          |        |        | Def. N.          | —64 55.1                         | s.E. $\frac{1}{2}$ E.       | —31                 | —81      | —66 47            |          |                                   |                              |        |
|          |        |        | Def. S.          | —65 36.8                         | s.E. $\frac{1}{2}$ E.       | —31                 | —35      | —66 43            |          |                                   |                              |        |
|          |        |        | Mag. N.          | —65 54.2                         | s.E. $\frac{1}{2}$ E.       | —31                 | —35      | —67 00            |          |                                   |                              |        |
|          |        |        | Mag. N.S.        | —65 40.5                         | s.E. $\frac{1}{2}$ E.       | —31                 | —35      | —66 47            |          |                                   |                              |        |
|          |        |        | Mag. S.          | —65 49.2                         | s.E. $\frac{1}{2}$ E.       | —31                 | —35      | —66 55            |          |                                   |                              |        |
|          | —47 39 | 184 55 | Direct.          | —65 47.4                         | s.E. $\frac{1}{2}$ E.       | —31                 | —35      | —66 53            | —67 32   | Very steady.                      |                              |        |
|          |        |        | Direct.          | —66 30.4                         | s.E. by E. $\frac{1}{2}$ E. | —18                 | —35      | —67 23            |          |                                   |                              |        |
|          |        |        | Def. N.          | —65 41.8                         | s.E. by E. $\frac{1}{2}$ E. | —18                 | —81      | —67 21            |          |                                   |                              |        |
|          |        |        | Def. S.          | —66 43.2                         | s.E. by E. $\frac{1}{2}$ E. | —18                 | —35      | —67 36            |          |                                   |                              |        |
|          |        |        | Mag. N.          | —66 31.4                         | s.E. by E. $\frac{1}{2}$ E. | —18                 | —35      | —67 24            |          |                                   |                              |        |
|          |        |        | Mag. N.S.        | —66 30.3                         | s.E. by E. $\frac{1}{2}$ E. | —18                 | —35      | —67 23            |          |                                   |                              |        |
|          |        |        | Mag. S.          | —66 37.0                         | s.E. by E. $\frac{1}{2}$ E. | —18                 | —35      | —67 30            | —67 32   | Very steady.                      |                              |        |
|          |        |        | Direct.          | —66 34.6                         | s.E. by E. $\frac{1}{2}$ E. | —18                 | —35      | —67 28            |          |                                   |                              |        |
|          |        |        | Direct.          | —66 54.4                         | s.E. by E.                  | —26                 | —35      | —67 55            |          |                                   |                              |        |
|          |        |        | Def. N.          | —65 36.6                         | s.E. by E.                  | —26                 | —81      | —67 24            |          |                                   |                              |        |
|          |        |        | Def. S.          | —66 40.1                         | s.E. by E.                  | —26                 | —35      | —67 41            |          |                                   |                              |        |
|          |        |        | Mag. N.          | —66 21.5                         | s.E. by E.                  | —26                 | —35      | —67 23            |          |                                   |                              |        |
|          |        |        | Mag. N.S.        | —66 35.4                         | s.E. by E.                  | —26                 | —35      | —67 36            | —67 32   | Very steady.                      |                              |        |
|          |        |        | Mag. S.          | —66 34.7                         | s.E. by E.                  | —26                 | —35      | —67 36            |          |                                   |                              |        |
|          |        |        | Direct.          | —66 47.4                         | s.E. by E.                  | —26                 | —35      | —67 48            |          |                                   |                              |        |



## Observations of Inclination. (Continued.)

| 1841.   | Lat.   | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head.   | Corrections.       |        | True Inclination. | Remarks.                             |
|---------|--------|--------|------------------|----------------------------------|-----------------------------|--------------------|--------|-------------------|--------------------------------------|
|         |        |        |                  |                                  |                             | Ship's attraction. | Index. |                   |                                      |
| Dec. 3. | —48 18 | 185 54 | Direct.          | —67 34.4                         | S.E. by E.                  | —27                | —35    | —68 36            | ° ' }                                |
|         |        |        | Def. N.          | —66 19.7                         | S.E. by E.                  | —27                | —81    | —68 08            |                                      |
|         |        |        | Def. S.          | —67 23.9                         | S.E. by E.                  | —27                | —35    | —68 26            |                                      |
|         |        |        | Mag. N.          | —67 17.7                         | S.E. by E.                  | —27                | —35    | —68 20            |                                      |
|         |        |        | Mag. N.S.        | —67 21.9                         | S.E. by E.                  | —27                | —35    | —68 24            |                                      |
|         |        |        | Mag. S.          | —67 17.1                         | S.E. by E.                  | —27                | —35    | —68 19            |                                      |
|         |        |        | Direct.          | —67 38.6                         | S.E. by E.                  | —27                | —35    | —68 41            |                                      |
|         |        |        | Direct.          | —67 46.6                         | E.S.E.                      | —11                | —35    | —68 33            |                                      |
|         |        |        | Direct.          | —68 01.5                         | S.E. by E. $\frac{1}{2}$ E. | —19                | —35    | —68 56            |                                      |
|         | —48 48 | 186 38 | Def. N.          | —67 07.3                         | S.E. by E. $\frac{1}{2}$ E. | —19                | —81    | —68 47            | —68 40                               |
|         |        |        | Def. S.          | —67 55.0                         | S.E. by E. $\frac{1}{2}$ E. | —19                | —35    | —68 49            |                                      |
|         |        |        | Mag. N.          | —67 49.5                         | S.E. by E. $\frac{1}{2}$ E. | —19                | —35    | —68 44            |                                      |
|         | —49 05 | 186 54 | Mag. N.S.        | —67 44.7                         | S.E. by E. $\frac{1}{2}$ E. | —19                | —35    | —68 39            |                                      |
|         |        |        | Mag. S.          | —67 53.8                         | S.E. by E. $\frac{1}{2}$ E. | —19                | —35    | —68 48            |                                      |
|         |        |        | Direct.          | —68 54.3                         | S.E. by E. $\frac{1}{2}$ E. | —19                | —35    | —69 48            |                                      |
| 4.      | —49 24 | 187 23 | Direct.          | —68 53.5                         | N.E. by E.                  | +54                | —35    | —68 35            |                                      |
|         |        |        | Direct.          | —68 33.0                         | E. $\frac{1}{2}$ N.         | +26                | —35    | —68 42            |                                      |
|         |        |        | Direct.          | —68 29.8                         | E.                          | +20                | —35    | —68 45            |                                      |
|         |        |        | Direct.          | —68 42.3                         | E.N.E.                      | +45                | —35    | —68 32            | Steady.                              |
|         |        |        | Direct.          | —68 28.7                         | W.S.W.                      | —12                | —35    | —69 16            |                                      |
|         |        |        | Direct.          | —68 45.7                         | W.                          | +20                | —35    | —69 01            |                                      |
|         |        |        | Direct.          | —68 52.2                         | E.                          | +20                | —35    | —69 07            |                                      |
|         |        |        | Def. N.          | —67 28.0                         | E.                          | +20                | —81    | —68 29            |                                      |
|         |        |        | Direct.          | —68 48.0                         | E. by S.                    | +4                 | —35    | —69 19            |                                      |
|         |        |        | Def. N.          | —67 29.5                         | E. by S.                    | +4                 | —81    | —68 47            | —68 59                               |
|         |        |        | Def. S.          | —68 52.0                         | E. by S.                    | +4                 | —35    | —69 23            |                                      |
|         |        |        | Mag. N.          | —68 29.0                         | E. by S.                    | +4                 | —35    | —69 00            |                                      |
|         |        |        | Mag. N.S.        | —68 28.1                         | E. by S.                    | +4                 | —35    | —68 59            | Swell from north-ward. Table steady. |
|         |        |        | Mag. S.          | —68 42.7                         | E. by S.                    | +4                 | —35    | —69 14            |                                      |
|         |        |        | Direct.          | —69 01.0                         | E. by S.                    | +4                 | —35    | —69 32            |                                      |
| 5.      | —49 23 | 188 54 | Direct.          | —68 43.9                         | E. by S.                    | +4                 | —35    | —69 15            |                                      |
|         |        |        | Def. N.          | —67 31.6                         | E. by S.                    | +4                 | —81    | —68 49            |                                      |
|         |        |        | Def. S.          | —68 42.2                         | E. by S.                    | +4                 | —35    | —69 13            |                                      |
|         |        |        | Mag. N.          | —68 42.6                         | E. by S.                    | +4                 | —35    | —69 14            |                                      |
|         |        |        | Mag. N.S.        | —68 40.1                         | E. by S.                    | +4                 | —35    | —69 11            |                                      |
|         |        |        | Mag. S.          | —68 30.6                         | E. by S.                    | +4                 | —35    | —69 02            |                                      |
|         |        |        | Direct.          | —68 44.2                         | E. by S.                    | +4                 | —35    | —69 15            | —68 55                               |
|         |        |        | Direct.          | —68 15.9                         | E. by S.                    | +4                 | —35    | —68 47            |                                      |
|         |        |        | Def. N.          | —67 25.5                         | E. by S.                    | +4                 | —81    | —68 43            |                                      |
|         | —49 38 | 189 44 | Def. S.          | —68 06.1                         | E. by S.                    | +4                 | —35    | —68 37            |                                      |
|         |        |        | Mag. N.          | —67 57.8                         | E. by S.                    | +4                 | —35    | —68 29            |                                      |
|         |        |        | Mag. N.S.        | —68 01.6                         | E. by S.                    | +4                 | —35    | —68 33            |                                      |
|         |        |        | Mag. S.          | —68 22.7                         | E. by S.                    | +4                 | —35    | —68 54            |                                      |
|         |        |        | Direct.          | —68 14.3                         | E. by S.                    | +4                 | —35    | —68 45            |                                      |
|         |        |        | Direct.          | —68 12.9                         | E. by S.                    | +4                 | —35    | —68 44            |                                      |
| 6.      | —49 50 | 190 46 | Def. N.          | —67 22.6                         | E. by S.                    | +4                 | —81    | —68 40            |                                      |
|         |        |        | Def. S.          | —68 09.6                         | E. by S.                    | +4                 | —35    | —68 41            |                                      |
|         |        |        | Mag. N.          | —68 07.4                         | E. by S.                    | +4                 | —35    | —68 38            |                                      |
|         |        |        | Mag. N.S.        | —68 05.2                         | E. by S.                    | +4                 | —35    | —68 36            |                                      |
|         |        |        | Mag. S.          | —68 21.5                         | E. by S.                    | +4                 | —35    | —68 53            |                                      |
|         |        |        | Direct.          | —68 16.3                         | E. by S.                    | +4                 | —35    | —68 47            |                                      |
|         | —50 02 | 191 21 | Direct.          | —68 09.8                         | E. by S.                    | +4                 | —35    | —68 41            | —68 43                               |
|         |        |        | Direct.          | —68 17.0                         | E. by S.                    | +4                 | —35    | —68 48            |                                      |
|         |        |        | Def. N.          | —67 22.2                         | E. by S.                    | +4                 | —81    | —68 39            |                                      |
|         | —50 08 | 191 39 | Def. S.          | —68 16.8                         | E. by S.                    | +4                 | —35    | —68 48            |                                      |
|         |        |        | Mag. N.          | —68 09.2                         | E. by S.                    | +4                 | —35    | —68 40            |                                      |
|         |        |        | Mag. N.S.        | —68 08.4                         | E. by S.                    | +4                 | —35    | —68 39            |                                      |
|         |        |        | Mag. S.          | —68 18.2                         | E. by S.                    | +4                 | —35    | —68 49            | Swell from north-ward. Table steady. |
|         |        |        |                  |                                  |                             |                    |        |                   |                                      |
|         |        |        |                  |                                  |                             |                    |        |                   |                                      |

## Observations of Inclination. (Continued.)

| 1841.   | Lat.   | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks.   |
|---------|--------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|--|
|         |        |        |                  |                                  |                           | Ship's attraction. | Index. |                   |  |
| Dec. 7. | —50 32 | 191 52 | Direct.          | —68 24.2                         | S.E. by E.                | —27                | —35    | —69 26            | Table steady.  |
|         |        |        | Def. N.          | —67 47.4                         | S.E. by E.                | —27                | —81    | —69 35            |  |
|         |        |        | Def. S.          | —68 18.1                         | S.E. by E.                | —27                | —35    | —69 20            |  |
|         |        |        | Mag. N.          | —68 02.0                         | S.E. by E.                | —27                | —35    | —69 04            |  |
|         |        |        | Mag. N.S.        | —67 50.3                         | S.E. by E.                | —27                | —35    | —68 52            |  |
|         |        |        | Mag. S.          | —68 07.9                         | S.E. by E.                | —27                | —35    | —69 10            |  |
|         | —50 45 | 192 19 | Direct.          | —68 28.1                         | S.E. by E.                | —27                | —35    | —69 30            |  |
|         |        |        | Direct.          | —68 31.2                         | S.E. $\frac{1}{2}$ E.     | —35                | —35    | —69 41            |  |
|         |        |        | Def. N.          | —67 31.3                         | S.E. $\frac{1}{2}$ E.     | —35                | —81    | —69 27            |  |
|         |        |        | Def. S.          | —68 08.4                         | S.E. $\frac{1}{2}$ E.     | —35                | —35    | —69 18            |  |
|         |        |        | Mag. N.          | —68 39.3                         | S.E. $\frac{1}{2}$ E.     | —35                | —35    | —69 49            |  |
|         |        |        | Mag. N.S.        | —68 30.9                         | S.E. $\frac{1}{2}$ E.     | —35                | —35    | —69 41            |  |
| 8.      | —51 37 | 194 00 | Mag. S.          | —68 13.2                         | S.E. $\frac{1}{2}$ E.     | —35                | —35    | —69 23            |  |
|         |        |        | Direct.          | —68 30.3                         | S.E. $\frac{1}{2}$ E.     | —35                | —35    | —69 40            |  |
|         |        |        | Direct.          | —69 18.9                         | E. by S.                  | + 4                | —35    | —69 50            |  |
|         |        |        | Def. N.          | —68 23.8                         | E. by S.                  | + 4                | —81    | —69 41            |  |
|         |        |        | Def. S.          | —69 20.4                         | E. by S.                  | + 4                | —35    | —69 51            |  |
|         |        |        | Mag. N.          | —69 19.6                         | E. by S.                  | + 4                | —35    | —69 51            |  |
|         | —52 00 | 194 53 | Mag. N.S.        | —69 13.8                         | E. by S.                  | + 4                | —35    | —69 45            |  |
|         |        |        | Mag. S.          | —69 31.4                         | E. by S.                  | + 4                | —35    | —70 02            |  |
|         |        |        | Direct.          | —69 22.4                         | E. by S.                  | + 4                | —35    | —69 53            |  |
|         |        |        | Direct.          | —69 24.6                         | E. by S.                  | + 4                | —35    | —69 56            |  |
|         |        |        | Direct.          | —69 29.8                         | E. by S.                  | + 4                | —35    | —70 01            |  |
|         |        |        | Def. N.          | —68 30.1                         | E. by S.                  | + 4                | —81    | —69 47            |  |
| 9.      | —52 14 | 197 49 | Def. S.          | —69 17.1                         | E. by S.                  | + 4                | —35    | —69 48            | Table steady, steering indifferently.                |
|         |        |        | Mag. N.          | —69 08.9                         | E. by S.                  | + 4                | —35    | —69 40            |  |
|         |        |        | Mag. N.S.        | —69 11.7                         | E. by S.                  | + 4                | —35    | —69 43            |  |
|         |        |        | Mag. S.          | —69 29.7                         | E. by S.                  | + 4                | —35    | —70 01            |  |
|         |        |        | Direct.          | —69 27.0                         | E. by S.                  | + 4                | —35    | —69 58            |  |
|         |        |        | Direct.          | —69 41.0                         | E. by S.                  | + 4                | —35    | —70 12            |  |
|         | —52 32 | 198 31 | Def. N.          | —68 37.6                         | E. by S.                  | + 4                | —81    | —69 55            |  |
|         |        |        | Def. S.          | —69 29.3                         | E. by S.                  | + 4                | —35    | —70 00            |  |
|         |        |        | Mag. N.          | —69 38.3                         | E. by S.                  | + 4                | —35    | —70 09            |  |
|         |        |        | Mag. N.S.        | —69 56.9                         | E. by S.                  | + 4                | —35    | —70 28            |  |
|         |        |        | Mag. S.          | —69 35.8                         | E. by S.                  | + 4                | —35    | —70 07            |  |
|         |        |        | Direct.          | —69 42.6                         | E. by S.                  | + 4                | —35    | —70 14            |  |
| 10.     | —53 01 | 202 16 | Direct.          | —69 41.2                         | E. by S.                  | + 4                | —35    | —70 12            | Motion quick, steering wild. Strong wind, heavy sea. |
|         |        |        | Direct.          | —69 47.1                         | E. by S.                  | + 4                | —35    | —70 18            |  |
|         |        |        | Mag. N.S.        | —69 19.7                         | E. by S.                  | + 4                | —35    | —69 51            |  |
|         |        |        | Direct.          | —69 56.5                         | E. by S.                  | + 4                | —35    | —70 28            |  |
| 11.     | —52 51 | 203 56 | Direct.          | —69 53.3                         | E. $\frac{1}{2}$ N.       | +26                | —35    | —70 02            | Motion violent, steering well.                       |
|         |        |        | Def. N.          | —68 59.6                         | E. $\frac{1}{2}$ N.       | +26                | —81    | —69 55            |  |
|         |        |        | Def. S.          | —69 59.1                         | E. $\frac{1}{2}$ N.       | +26                | —35    | —70 08            |  |
|         |        |        | Mag. N.          | —69 36.5                         | E. $\frac{1}{2}$ N.       | +26                | —35    | —69 45            |  |
|         |        |        | Mag. N.S.        | —69 30.2                         | E. $\frac{1}{2}$ N.       | +26                | —35    | —69 39            |  |
|         |        |        | Mag. S.          | —69 55.8                         | E. $\frac{1}{2}$ N.       | +26                | —35    | —70 05            |  |
|         |        |        | Direct.          | —70 04.7                         | E. $\frac{1}{2}$ N.       | +26                | —35    | —70 14            |  |
|         |        |        | Direct.          | —70 00.9                         | E. $\frac{1}{2}$ S.       | +12                | —35    | —70 24            |  |
| 12.     | —52 53 | 205 07 | Direct.          | —69 14.2                         | E.S.E.                    | —12                | —35    | —70 01            | Head sea, table not very steady.                     |
|         |        |        | Def. N.          | —67 53.9                         | E.S.E.                    | —12                | —81    | —69 27            |  |
|         |        |        | Def. S.          | —68 55.7                         | E.S.E.                    | —12                | —35    | —69 43            |  |
|         |        |        | Mag. N.          | —68 45.1                         | E.S.E.                    | —12                | —35    | —69 32            |  |
|         |        |        | Mag. N.S.        | —68 19.8                         | E.S.E.                    | —12                | —35    | —69 07            |  |
|         |        |        | Mag. S.          | —68 53.5                         | E.S.E.                    | —12                | —35    | —69 41            |  |
|         |        |        | Direct.          | —69 16.4                         | E.S.E.                    | —12                | —35    | —70 03            |  |
|         |        |        | Direct.          | —69 19.3                         | E.S.E.                    | —12                | —35    | —70 06            |  |
|         | —53 12 | 205 40 | Direct.          | —69 19.3                         | E.S.E.                    | —12                | —35    | —70 06            |  |
|         |        |        | Direct.          | —69 19.3                         | E.S.E.                    | —12                | —35    | —70 06            |  |

## Observations of Inclination. (Continued.)

| 1841.    | Lat.   | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks.                          |
|----------|--------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|-----------------------------------|
|          |        |        |                  |                                  |                           | Ship's attraction. | Index. |                   |                                   |
| Dec. 12. | —53 31 | 206 14 | Direct.          | —69 18.8                         | E.S.E.                    | —12                | —35    | —70 06            | Table steady, steering wild.      |
|          |        |        | Def. N.          | —68 07.1                         | E.S.E.                    | —12                | —81    | —69 40            |                                   |
|          |        |        | Def. S.          | —69 05.5                         | E.S.E.                    | —12                | —35    | —69 53            |                                   |
|          |        |        | Mag. N.          | —69 07.0                         | E.S.E.                    | —12                | —35    | —69 54            |                                   |
|          |        |        | Mag. N.S.        | —69 01.4                         | E.S.E.                    | —12                | —35    | —69 51            |                                   |
|          |        |        | Mag. S.          | —69 58.3                         | E.S.E.                    | —12                | —35    | —70 45            | A slight motion, steering well.   |
|          |        |        | Direct.          | —69 19.5                         | E.S.E.                    | —12                | —35    | —70 06            |                                   |
|          |        |        | Direct.          | —69 18.1                         | E.S.E.                    | —12                | —35    | —70 05            |                                   |
|          |        |        | Def. N.          | —68 59.2                         | E.S.E.                    | —12                | —81    | —70 32            |                                   |
|          |        |        | Def. S.          | —69 02.6                         | E.S.E.                    | —12                | —35    | —69 50            |                                   |
| 13.      | —54 19 | 208 24 | Mag. N.          | —69 16.0                         | E.S.E.                    | —12                | —35    | —70 03            | Table steady, steering wildly.    |
|          |        |        | Mag. N.S.        | —69 16.0                         | E.S.E.                    | —12                | —35    | —70 03            |                                   |
|          |        |        | Mag. S.          | —69 14.0                         | E.S.E.                    | —12                | —35    | —70 01            |                                   |
|          |        |        | Direct.          | —69 16.6                         | E.S.E.                    | —12                | —35    | —70 04            |                                   |
|          |        |        | Direct.          | —69 32.9                         | E.S.E.                    | —12                | —35    | —70 20            |                                   |
|          | —54 53 | 209 24 | Def. N.          | —68 59.0                         | E.S.E.                    | —12                | —81    | —70 32            | A heavy sea, ship steering badly. |
|          |        |        | Def. S.          | —69 28.8                         | E.S.E.                    | —12                | —35    | —70 16            |                                   |
|          |        |        | Mag. N.          | —69 13.4                         | E.S.E.                    | —12                | —35    | —70 00            |                                   |
|          |        |        | Mag. N.S.        | —69 24.6                         | E.S.E.                    | —12                | —35    | —70 12            |                                   |
|          |        |        | Mag. S.          | —70 00.3                         | E.S.E.                    | —12                | —35    | —70 47            |                                   |
|          |        |        | Direct.          | —69 32.6                         | E.S.E.                    | —12                | —35    | —70 20            | A swell from the N.W.             |
|          |        |        | Direct.          | —69 39.5                         | E.S.E.                    | —12                | —35    | —70 27            |                                   |
|          |        |        | Def. N.          | —68 55.8                         | E.S.E.                    | —12                | —81    | —70 29            |                                   |
|          |        |        | Direct.          | —68 52.9                         | S.E. by S.                | —55                | —35    | —70 23            |                                   |
|          |        |        | Def. N.          | —68 11.4                         | S.E. by S.                | —55                | —81    | —70 27            |                                   |
| 14.      | —56 14 | 211 43 | Def. S.          | —68 27.0                         | S.E. by S.                | —55                | —35    | —69 57            | Ship tolerably steady.            |
|          |        |        | Mag. N.          | —68 59.1                         | S.E. by S.                | —55                | —35    | —70 29            |                                   |
|          |        |        | Mag. N.S.        | —68 46.1                         | S.E. by S.                | —55                | —35    | —70 16            |                                   |
|          |        |        | Mag. S.          | —68 34.0                         | S.E. by S.                | —55                | —35    | —70 04            |                                   |
|          |        |        | Direct.          | —68 52.1                         | S.E. by S.                | —55                | —35    | —70 22            |                                   |
|          | —56 30 | 211 50 | Direct.          | —70 08.2                         | S.E. by S.                | —57                | —35    | —71 40            | Ship steady.                      |
|          |        |        | Def. N.          | —69 12.9                         | S.E. by S.                | —57                | —81    | —71 31            |                                   |
|          |        |        | Def. S.          | —70 10.1                         | S.E. by S.                | —57                | —35    | —71 42            |                                   |
|          |        |        | Mag. N.          | —70 03.2                         | S.E. by S.                | —57                | —35    | —71 35            |                                   |
|          |        |        | Mag. N.S.        | —70 06.2                         | S.E. by S.                | —57                | —35    | —71 38            |                                   |
|          |        |        | Mag. S.          | —70 22.0                         | S.E. by S.                | —57                | —35    | —71 54            | Ship steady.                      |
|          |        |        | Direct.          | —70 16.1                         | S.E. by S.                | —57                | —35    | —71 48            |                                   |
|          |        |        | Direct.          | —70 17.8                         | S.E. by S.                | —57                | —35    | —71 50            |                                   |
|          |        |        | Def. N.          | —69 11.7                         | S.E. by S.                | —57                | —81    | —71 30            |                                   |
|          |        |        | Def. S.          | —70 12.1                         | S.E. by S.                | —57                | —35    | —71 44            |                                   |
| 15.      | —56 53 | 212 06 | Mag. N.          | —70 04.2                         | S.E. by S.                | —57                | —35    | —71 36            | Ship steady.                      |
|          |        |        | Mag. N.S.        | —70 00.2                         | S.E. by S.                | —57                | —35    | —71 32            |                                   |
|          |        |        | Mag. S.          | —70 22.1                         | S.E. by S.                | —57                | —35    | —71 54            |                                   |
|          |        |        | Direct.          | —70 17.2                         | S.E. by S.                | —57                | —35    | —71 49            |                                   |
|          |        |        | Direct.          | —70 19.5                         | S.E. by S.                | —57                | —35    | —71 52            |                                   |
|          |        |        | Def. N.          | —69 29.1                         | S.E. by S.                | —57                | —81    | —71 47            | Ship steady.                      |
|          |        |        | Def. S.          | —70 12.7                         | S.E. by S.                | —57                | —35    | —71 45            |                                   |
|          |        |        | Mag. N.          | —70 05.2                         | S.E. by S.                | —57                | —35    | —71 37            |                                   |
|          |        |        | Mag. N.S.        | —69 59.7                         | S.E. by S.                | —57                | —35    | —71 32            |                                   |
|          |        |        | Mag. S.          | —70 35.2                         | S.E. by S.                | —57                | —35    | —72 07            |                                   |
|          |        |        | Direct.          | —70 22.9                         | S.E. by S.                | —57                | —35    | —71 55            | Ship steady.                      |
|          |        |        | Direct.          | —70 42.4                         | S.                        | —77                | —35    | —72 34            |                                   |
|          |        |        | Direct.          | —70 50.5                         | S. by E.                  | —75                | —35    | —72 40            |                                   |
|          |        |        | Direct.          | —70 27.5                         | S.S.E.                    | —69                | —35    | —72 12            |                                   |
|          |        |        | Direct.          | —70 30.8                         | S.E. by S.                | —57                | —35    | —72 03            |                                   |
|          |        |        | Def. N.          | —69 33.8                         | S.E. by S.                | —57                | —81    | —71 52            |                                   |

## Observations of Inclination. (Continued.)

| 1841.    | Lat.   | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks.  |
|----------|--------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|---|
|          |        |        |                  |                                  |                           | Ship's attraction. | Index. |                   |   |
| Dec. 15. | -56 53 | 212 06 | Def. S.          | -70 26.1                         | S.E. by S.                | -57                | -35    | -71 58            | <div> <div>-72 14</div> <div>-73 09</div> <div>-73 45</div> <div>-75 32</div> <div>-76 37</div> </div> Ship very steady.<br><br><br><br><br><br><br><br><br><br><br><br><br><br>Ship steady, steering well.<br><br><br><br><br><br><br><br><br><br><br><br><br><br>Slight motion, steering well.<br><br><br><br><br><br><br><br><br><br><br><br><br><br>Ship steady, sailing amongst loose ice. |
|          |        |        | Mag. N.          | -70 12.5                         | S.E. by S.                | -57                | -35    | -71 45            |   |
|          |        |        | Mag. N.S.        | -70 09.6                         | S.E. by S.                | -57                | -35    | -71 42            |   |
|          |        |        | Mag. S.          | -70 34.0                         | S.E. by S.                | -57                | -35    | -72 06            |   |
|          |        |        | Direct.          | -70 30.6                         | S.E. by S.                | -57                | -35    | -72 03            |   |
|          |        |        | Direct.          | -70 37.3                         | S.S.E.                    | -69                | -35    | -72 21            |   |
|          | -57 16 | 212 17 | Def. N.          | -70 00.6                         | S.S.E.                    | -69                | -81    | -72 31            |   |
|          |        |        | Def. S.          | -70 54.6                         | S.S.E.                    | -69                | -35    | -72 39            |   |
|          |        |        | Mag. N.          | -70 49.7                         | S.S.E.                    | -69                | -35    | -72 34            |   |
|          |        |        | Mag. N.S.        | -70 25.1                         | S.S.E.                    | -69                | -35    | -72 09            |   |
|          |        |        | Mag. S.          | -70 46.1                         | S.S.E.                    | -69                | -35    | -72 30            |   |
|          |        |        | Direct.          | -70 41.5                         | S.S.E.                    | -69                | -35    | -72 26            |   |
| 16.      | -57 44 | 212 59 | Direct.          | -71 03.3                         | S.S.E.                    | -70                | -35    | -72 48            |   |
|          |        |        | Def. N.          | -70 29.6                         | S.S.E.                    | -70                | -81    | -73 01            |   |
|          |        |        | Def. S.          | -71 08.2                         | S.S.E.                    | -70                | -35    | -72 53            |   |
|          |        |        | Mag. N.          | -71 09.6                         | S.S.E.                    | -70                | -35    | -72 55            |   |
|          |        |        | Mag. N.S.        | -71 02.8                         | S.S.E.                    | -70                | -35    | -72 48            |   |
|          |        |        | Mag. S.          | -71 15.7                         | S.S.E.                    | -70                | -35    | -73 01            |   |
|          | -58 28 | 213 08 | Direct.          | -71 11.9                         | S.S.E.                    | -70                | -35    | -72 57            |   |
|          |        |        | Direct.          | -71 56.4                         | S.S.E.                    | -70                | -35    | -73 41            |   |
|          |        |        | Def. N.          | -71 20.8                         | S.S.E.                    | -70                | -81    | -73 52            |   |
|          |        |        | Def. S.          | -71 52.3                         | S.S.E.                    | -70                | -35    | -73 37            |   |
|          |        |        | Mag. N.          | -71 39.7                         | S.S.E.                    | -70                | -35    | -73 25            |   |
|          |        |        | Mag. N.S.        | -71 23.9                         | S.S.E.                    | -70                | -35    | -73 09            |   |
| 17.      | -58 44 | 213 11 | Mag. S.          | -71 59.3                         | S.S.E.                    | -70                | -35    | -73 44            |   |
|          |        |        | Direct.          | -72 04.4                         | S.S.E.                    | -70                | -35    | -73 49            |   |
|          |        |        | Direct.          | -72 16.2                         | S.S.E.                    | -70                | -35    | -74 01            |   |
|          |        |        | Def. N.          | -71 24.5                         | S.S.E.                    | -70                | -81    | -73 56            |   |
|          |        |        | Def. S.          | -72 22.6                         | S.S.E.                    | -70                | -35    | -74 08            |   |
|          |        |        | Mag. N.          | -71 57.1                         | S.S.E.                    | -70                | -35    | -73 42            |   |
|          | -60 48 | 213 51 | Mag. N.S.        | -71 47.8                         | S.S.E.                    | -70                | -35    | -73 33            |   |
|          |        |        | Mag. S.          | -72 01.3                         | S.S.E.                    | -70                | -35    | -73 46            |   |
|          |        |        | Direct.          | -72 16.1                         | S.S.E.                    | -70                | -35    | -74 01            |   |
|          |        |        | Direct.          | -73 24.1                         | S.S.E.                    | -73                | -35    | -75 12            |   |
|          |        |        | Def. N.          | -72 33.2                         | S.S.E.                    | -73                | -81    | -75 07            |   |
|          |        |        | Def. S.          | -73 29.4                         | S.S.E.                    | -73                | -35    | -75 17            |   |
| 18.      | -61 37 | 213 54 | Mag. N.          | -73 01.5                         | S.S.E.                    | -73                | -35    | -74 49            |   |
|          |        |        | Mag. N.S.        | -73 04.2                         | S.S.E.                    | -73                | -35    | -74 52            |   |
|          |        |        | Mag. S.          | -73 31.1                         | S.S.E.                    | -73                | -35    | -75 19            |   |
|          |        |        | Direct.          | -73 28.8                         | S.S.E.                    | -73                | -35    | -75 17            |   |
|          |        |        | Direct.          | -74 10.9                         | S. $\frac{1}{2}$ E.       | -81                | -35    | -76 07            |   |
|          |        |        | Def. N.          | -73 06.9                         | S. $\frac{1}{2}$ E.       | -81                | -81    | -75 49            |   |
|          | -62 34 | 212 34 | Def. S.          | -73 59.8                         | S. $\frac{1}{2}$ E.       | -81                | -35    | -75 56            |   |
|          |        |        | Mag. N.          | -73 52.8                         | S. $\frac{1}{2}$ E.       | -81                | -35    | -75 49            |   |
|          |        |        | Mag. N.S.        | -73 39.5                         | S. $\frac{1}{2}$ E.       | -81                | -35    | -75 36            |   |
|          |        |        | Mag. S.          | -74 08.6                         | S. $\frac{1}{2}$ E.       | -81                | -35    | -76 05            |   |
|          |        |        | Direct.          | -74 13.1                         | S. $\frac{1}{2}$ E.       | -81                | -35    | -76 09            |   |
|          |        |        | Direct.          | -74 51.6                         | S. by E.                  | -79                | -35    | -76 46            |   |
| 18.      | -62 51 | 212 50 | Def. N.          | -73 48.3                         | S. by E.                  | -79                | -81    | -76 28            |   |
|          |        |        | Def. S.          | -74 43.7                         | S. by E.                  | -79                | -35    | -76 38            |   |
|          |        |        | Mag. N.          | -74 23.1                         | S. by E.                  | -79                | -35    | -76 17            |   |
|          |        |        | Mag. N.S.        | -74 23.9                         | S. by E.                  | -79                | -35    | -76 18            |   |
|          |        |        | Mag. S.          | -74 38.9                         | S. by E.                  | -79                | -35    | -76 33            |   |
|          |        |        | Direct.          | -74 46.1                         | S. by E.                  | -79                | -35    | -76 40            |   |
|          |        |        | Direct.          | -75 20.5                         | S. by W.                  | -79                | -35    | -77 14            |   |

## Observations of Inclination. (Continued.)

| 1841.    | Lat.     | Long.    | Method employed. | Observed Inclination. Face east. | Direction of ship's head.   | Corrections.       |        | True Inclination. | Remarks.                                 |
|----------|----------|----------|------------------|----------------------------------|-----------------------------|--------------------|--------|-------------------|--|
|          |          |          |                  |                                  |                             | Ship's attraction. | Index. |                   |  |
| Déc. 19. | -63° 06' | 210° 55' | Direct.          | -75° 52.3                        | s.s.w.                      | -74                | -35    | -77° 41'          | Ship steady, sailing amongst loose ice.  |
|          |          |          | Direct.          | -75 45.3                         | s. by w.                    | -80                | -35    | -77 40            |  |
|          |          |          | Def. N.          | -74 56.9                         | s. by w.                    | -80                | -81    | -77 38            |  |
|          |          |          | Def. S.          | -75 35.6                         | s. by w.                    | -80                | -35    | -77 31            |  |
|          |          |          | Mag. N.          | -75 24.5                         | s. by w.                    | -80                | -35    | -77 20            |  |
|          | -63 21   | 209 55   | Mag. N.S.        | -75 21.2                         | s. by w.                    | -80                | -35    | -77 16            |  |
|          |          |          | Mag. S.          | -75 37.8                         | s. by w.                    | -80                | -35    | -77 33            |  |
|          |          |          | Direct.          | -75 51.8                         | s. by w.                    | -80                | -35    | -77 47            |  |
|          |          |          | Direct.          | -76 08.3                         | s.w. by s.                  | -62                | -35    | -77 45            |  |
|          |          |          | Direct.          | -76 00.0                         | s.s.w. $\frac{1}{2}$ w.     | -68                | -35    | -77 43            |  |
| 20.      | -63 36   | 208 20   | Direct.          | -77 00.8                         | w. by s. $\frac{3}{4}$ s.   | -12                | -35    | -77 48            | Ship steady, steering amongst loose ice. |
|          |          |          | Direct.          | -76 36.2                         | s.w. by w. $\frac{1}{2}$ w. | -25                | -35    | -77 36            |  |
|          |          |          | Direct.          | -76 13.7                         | s.s.w.                      | -74                | -35    | -78 03            |  |
|          |          |          | Def. N.          | -75 10.8                         | s.s.w.                      | -74                | -81    | -77 46            |  |
|          |          |          | Def. S.          | -76 04.8                         | s.s.w.                      | -74                | -35    | -77 54            |  |
|          | -63 53   | 208 32   | Mag. N.          | -75 45.5                         | s.s.w.                      | -74                | -35    | -77 35            |  |
|          |          |          | Mag. N.S.        | -75 44.8                         | s.s.w.                      | -74                | -35    | -77 34            |  |
|          |          |          | Mag. S.          | -76 08.0                         | s.s.w.                      | -74                | -35    | -77 57            |  |
|          |          |          | Direct.          | -76 01.3                         | s. by w.                    | -80                | -35    | -77 56            |  |
|          |          |          | Direct.          | -76 24.9                         | s.w. by s.                  | -62                | -35    | -78 02            |  |
| 21.      | -64 11   | 206 35   | Direct.          | -76 00.4                         | s.                          | -82                | -35    | -77 57            | Ship steady, sailing amongst loose ice.  |
|          |          |          | Direct.          | -76 45.2                         | s.w.                        | -49                | -35    | -78 09            |  |
|          |          |          | Direct.          | -76 24.3                         | s.w. by s.                  | -62                | -35    | -78 01            |  |
|          |          |          | Direct.          | -76 45.5                         | s.w.                        | -49                | -35    | -78 10            |  |
|          |          |          | Direct.          | -76 06.9                         | s.                          | -82                | -35    | -78 04            |  |
|          | -64 51   | 206 19   | Def. N.          | -75 01.3                         | s.                          | -82                | -81    | -77 44            |  |
|          |          |          | Def. S.          | -75 53.4                         | s.                          | -82                | -35    | -77 50            |  |
|          |          |          | Mag. N.          | -75 44.5                         | s.                          | -82                | -35    | -77 42            |  |
|          |          |          | Mag. N.S.        | -75 36.8                         | s.                          | -82                | -35    | -77 34            |  |
|          |          |          | Mag. S.          | -75 57.7                         | s.                          | -82                | -35    | -77 55            |  |
| 22.      | -65 19   | 205 08   | Direct.          | -76 08.9                         | s.                          | -82                | -35    | -78 06            | Ship steady, sailing amongst loose ice.  |
|          |          |          | Direct.          | -76 15.3                         | s. by w.                    | -80                | -35    | -78 10            |  |
|          |          |          | Direct.          | -76 32.9                         | s.s.w.                      | -75                | -35    | -78 23            |  |
|          |          |          | Def. N.          | -75 31.5                         | s.s.w.                      | -75                | -81    | -78 08            |  |
|          |          |          | Def. S.          | -76 29.6                         | s.s.w.                      | -75                | -35    | -78 20            |  |
|          | -65 34   | 205 00   | Mag. N.          | -76 10.0                         | s.s.w.                      | -75                | -35    | -78 00            |  |
|          |          |          | Mag. N.S.        | -76 01.2                         | s.s.w.                      | -75                | -35    | -77 51            |  |
|          |          |          | Mag. S.          | -76 00.8                         | s.s.w.                      | -75                | -35    | -77 51            |  |
|          |          |          | Direct.          | -76 43.1                         | s. $\frac{1}{2}$ E.         | -82                | -35    | -78 40            |  |
|          |          |          | Direct.          | -76 32.7                         | s. by E.                    | -81                | -35    | -78 29            |  |
|          | -65 34   | 205 00   | Direct.          | -76 41.8                         | s. by E. $\frac{1}{2}$ E.   | -78                | -35    | -78 35            | Sailing amongst loose ice, very steady.  |
|          |          |          | Direct.          | -77 03.2                         | s. $\frac{3}{4}$ E.         | -82                | -35    | -79 00            |  |
|          |          |          | Direct.          | -77 06.4                         | s. by w.                    | -81                | -35    | -79 02            |  |
|          |          |          | Def. N.          | -76 06.6                         | s. by w.                    | -81                | -81    | -78 49            |  |
|          |          |          | Def. S.          | -77 02.2                         | s. by w.                    | -81                | -35    | -78 58            |  |
|          | -65 34   | 205 00   | Direct.          | -77 04.7                         | s. by w.                    | -81                | -35    | -79 01            |  |
|          |          |          | Direct.          | -77 29.4                         | s. $\frac{1}{2}$ w.         | -83                | -35    | -79 27            |  |
|          |          |          | Def. N.          | -76 37.6                         | s. $\frac{1}{2}$ w.         | -83                | -81    | -79 22            |  |
|          |          |          | Def. S.          | -77 20.3                         | s. $\frac{1}{2}$ w.         | -83                | -35    | -79 18            |  |
|          |          |          | Mag. N.          | -77 08.4                         | s. $\frac{1}{2}$ w.         | -83                | -35    | -79 06            |  |
|          | -65 34   | 205 00   | Mag. N.S.        | -76 59.9                         | s. $\frac{1}{2}$ w.         | -83                | -35    | -78 58            |  |
|          |          |          | Mag. S.          | -77 30.4                         | s. $\frac{1}{2}$ w.         | -83                | -35    | -79 28            |  |
|          |          |          | Direct.          | -77 28.6                         | s. $\frac{1}{2}$ w.         | -83                | -35    | -79 27            |  |
|          |          |          | Direct.          | -77 26.4                         | s.                          | -84                | -35    | -79 25            |  |
|          |          |          | Direct.          | -77 27.8                         | s.                          | -84                | -35    | -79 27            |  |
|          | -65 34   | 205 00   | Def. N.          | -76 20.5                         | s.                          | -84                | -81    | -79 05            |  |
|          |          |          |                  |                                  |                             |                    |        | -79 16            |  |

## Observations of Inclination. (Continued.)

| 1841.    | Lat.     | Long.    | Method employed. | Observed Inclination. Face east. | Direction of ship's head.   | Corrections.       |        | True Inclination. | Remarks.                                |
|----------|----------|----------|------------------|----------------------------------|-----------------------------|--------------------|--------|-------------------|---|
|          |          |          |                  |                                  |                             | Ship's attraction. | Index. |                   |   |
| Dec. 22. | —65° 34' | 205° 00' | Def. S.          | —77° 14'·7                       | S.                          | —84                | —35    | —79° 14'          | Sailing amongst loose ice, very steady. |
|          |          |          | Mag. N.          | —77° 04'·0                       | S.                          | —84                | —35    | —79° 03'          |   |
|          |          |          | Mag. N.S.        | —76° 53'·3                       | S.                          | —84                | —35    | —78° 52'          |   |
|          |          |          | Mag. S.          | —77° 23'·6                       | S.                          | —84                | —35    | —79° 23'          |   |
| 23.      | —65° 47' | 204° 19' | Direct.          | —77° 30'·4                       | S. $\frac{3}{4}$ W.         | —82                | —35    | —79° 27'          |   |
|          |          |          | Direct.          | —79° 54'·8                       | N.E.                        | +69                | —35    | —79° 21'          |   |
|          |          |          | Direct.          | —79° 45'·9                       | N.E. $\frac{1}{2}$ E.       | +64                | —35    | —79° 17'          |   |
|          |          |          | Direct.          | —79° 30'·8                       | N.E. by E.                  | +59                | —35    | —79° 07'          |   |
|          |          |          | Direct.          | —77° 34'·8                       | S.                          | —84                | —35    | —79° 34'          |   |
|          |          |          | Def. N.          | —76° 44'·1                       | S.                          | —84                | —81    | —79° 29'          |   |
|          |          |          | Direct.          | —79° 12'·3                       | E. by N.                    | +32                | —35    | —79° 15'          |   |
|          |          |          | Def. S.          | —79° 04'·9                       | E. by N.                    | +32                | —35    | —79° 08'          |   |
|          |          |          | Mag. S.          | —78° 44'·5                       | E. by N.                    | +32                | —35    | —78° 48'          | Sailing amongst loose ice, very steady. |
|          |          |          | Mag. N.S.        | —77° 15'·9*                      | E. by N.                    | +32                | —35    | —77° 19'          |   |
|          |          |          | Direct.          | —78° 10'·8                       | S.W. $\frac{1}{4}$ S.       | —55                | —35    | —79° 41'          |   |
|          |          |          | Direct.          | —77° 46'·2                       | S. by W.                    | —82                | —35    | —79° 43'          |   |
|          |          |          | Def. N.          | —77° 23'·0                       | S. by W.                    | —82                | —81    | —80° 06'          |   |
|          |          |          | Direct.          | —77° 45'·1                       | S. $\frac{1}{4}$ W.         | —83                | —35    | —79° 43'          |   |
|          |          |          | Direct.          | —77° 44'·6                       | S. $\frac{3}{4}$ W.         | —82                | —35    | —79° 42'          |   |
|          |          |          | Direct.          | —77° 57'·6                       | S.S.W.                      | —76                | —35    | —79° 49'          |   |
|          |          |          | Direct.          | —77° 34'·4                       | S.                          | —84                | —35    | —79° 33'          |   |
|          |          |          | Direct.          | —79° 51'·1                       | N.E. $\frac{1}{2}$ E.       | +63                | —35    | —79° 23'          |   |
|          |          |          | Direct.          | —79° 57'·6                       | N.E.                        | +69                | —35    | —79° 24'          |   |
|          |          |          | Direct.          | —79° 32'·1                       | N.E. by E. $\frac{1}{2}$ E. | +52                | —35    | —79° 15'          |   |
|          |          |          | Direct.          | —78° 18'·6                       | S.E. by E. $\frac{1}{2}$ E. | —27                | —35    | —79° 21'          | Sailing amongst loose ice, very steady. |
|          |          |          | Direct.          | —78° 14'·3                       | S.E. by E.                  | —36                | —35    | —79° 25'          |   |
|          |          |          | Direct.          | —78° 23'·0                       | E.S.E.                      | —17                | —35    | —79° 15'          |   |
|          |          |          | Direct.          | —80° 26'·0                       | N.                          | +86                | —35    | —79° 35'          |   |
| 24.      | —65° 50' | 204° 08' | Direct.          | —80° 03'·9                       | N.E. by N.                  | +75                | —35    | —79° 24'          |   |
|          |          |          | Direct.          | —80° 11'·6                       | N.N.E.                      | +81                | —35    | —79° 26'          |   |
|          |          |          | Direct.          | —80° 19'·4                       | N. by E.                    | +85                | —35    | —79° 29'          |   |
|          |          |          | Direct.          | —80° 31'·9                       | N. by W.                    | +85                | —35    | —79° 42'          |   |
|          |          |          | Direct.          | —80° 28'·8                       | N. by W.                    | +85                | —35    | —79° 39'          |   |
|          |          |          | Def. N.          | —79° 26'·9                       | N. by W.                    | +85                | —81    | —79° 23'          |   |
|          |          |          | Mag. S.          | —80° 21'·4                       | N. by W.                    | +85                | —35    | —79° 31'          |   |
|          |          |          | Mag. N.          | —80° 08'·5                       | N. by W.                    | +85                | —35    | —79° 19'          |   |
|          |          |          | Mag. N.S.        | —80° 00'·0                       | N. by W.                    | +85                | —35    | —79° 10'          | Ship fast to a piece of ice.            |
|          |          |          | Direct.          | —80° 01'·8                       | N.E.                        | +69                | —35    | —79° 28'          |   |
|          |          |          | Mag. S.          | —79° 50'·6                       | N.E.                        | +69                | —35    | —79° 17'          |   |
| 25.      | —66° 01' | 204° 00' | Direct.          | —80° 29'·6                       | N.N.W.                      | +81                | —35    | —79° 44'          |   |
|          |          |          | Direct.          | —80° 29'·2                       | N.W.                        | +69                | —35    | —79° 55'          |   |
|          |          |          | Direct.          | —79° 01'·3                       | E.                          | +16                | —35    | —79° 19'          |   |
|          |          |          | Direct.          | —79° 09'·2                       | E. by N.                    | +32                | —35    | —79° 12'          |   |
|          |          |          | Direct.          | —78° 56'·5                       | E. $\frac{3}{4}$ S.         | +4                 | —35    | —79° 28'          |   |
|          |          |          | Direct.          | —80° 31'·4                       | N.W. $\frac{1}{4}$ N.       | +70                | —35    | —79° 56'          |   |
|          |          |          | Direct.          | —78° 39'·0                       | E. by S. $\frac{3}{4}$ S.   | —12                | —35    | —79° 26'          | Sailing amongst ice, very steady.       |
| 26.      | —65° 57' | 204° 27' | Direct.          | —80° 39'·4                       | N. by W.                    | +85                | —35    | —79° 49'          |   |
|          |          |          | Direct.          | —80° 31'·5                       | N.W. $\frac{3}{4}$ W.       | +61                | —35    | —80° 06'          |   |
|          |          |          | Direct.          | —78° 21'·3                       | S.E.                        | —51                | —35    | —79° 47'          |   |
| 27.      | —66° 08' | 203° 50' | Direct.          | —78° 39'·0                       | E.S.E.                      | —18                | —35    | —79° 32'          |   |
|          |          |          | Direct.          | —78° 44'·5                       | E.S.E.                      | —18                | —35    | —79° 37'          |   |
|          |          |          | Direct.          | —79° 00'·2                       | E. by S.                    | —1                 | —35    | —79° 36'          |   |
|          |          |          | Def. N.          | —77° 37'·7                       | E.S.E.                      | —18                | —81    | —79° 17'          |   |
|          |          |          | Def. S.          | —78° 30'·0                       | E.S.E.                      | —18                | —35    | —79° 23'          |   |
|          |          |          | Direct.          | —80° 38'·3                       | N.W. by N.                  | +75                | —35    | —79° 58'          | Sailing amongst ice, very steady.       |

\* The result is omitted in the mean, as it differs so widely from all others of the same period.

## Observations of Inclination. (Continued.)

| 1841.    | Lat.     | Long.    | Method employed. | Observed Inclination. Face east. | Direction of ship's head.   | Corrections.       |        | True Inclination. | Remarks.   |
|----------|----------|----------|------------------|----------------------------------|-----------------------------|--------------------|--------|-------------------|--|
|          |          |          |                  |                                  |                             | Ship's attraction. | Index. |                   |  |
| Dec. 27. | -66° 08' | 203° 50' | Mag. N.          | -80° 16.1                        | N.W. by N.                  | +75                | -35    | -79° 36'          | Sailing amongst ice, very steady.  |
|          |          |          | Mag. N.S.        | -79 58.1                         | N.W. by N.                  | +75                | -35    | -79 18            |  |
|          |          |          | Mag. S.          | -80 34.0                         | N.W. by N.                  | +75                | -35    | -79 54            |  |
|          |          |          | Direct.          | -78 03.0                         | s. by E.                    | -83                | -35    | -80 01            |  |
|          |          |          | Direct.          | -78 21.3                         | s.E.                        | -52                | -35    | -79 48            |  |
|          |          |          | Direct.          | -80 00.0                         | w. by N.                    | +32                | -35    | -80 03            |  |
|          |          |          | Def. N.          | -78 52.8                         | w. by N.                    | +32                | -81    | -79 42            |  |
|          |          |          | Direct.          | -80 50.2                         | N. $\frac{1}{2}$ W.         | +85                | -35    | -80 00            |  |
|          |          |          | Direct.          | -78 29.2                         | s.W. by s.                  | -65                | -35    | -80 09            |  |
|          |          |          | Direct.          | -79 22.8                         | E.                          | +16                | -35    | -79 42            |  |
|          |          |          | Direct.          | -80 44.3                         | N.W. $\frac{1}{2}$ W.       | +64                | -35    | -80 15            |  |
|          |          |          | Direct.          | -80 47.6                         | N.W.                        | +69                | -35    | -80 14            |  |
| 28.      | -66° 10' | 202° 54' | Direct.          | -79 26.8                         | E. $\frac{1}{2}$ N.         | +24                | -35    | -79 38            | Sailing amongst ice, very steady.  |
|          |          |          | Direct.          | -79 24.7                         | E. by s.                    | 0                  | -35    | -80 00            |  |
|          |          |          | Direct.          | -81 13.2                         | N. W. by N.                 | +75                | -35    | -80 33            |  |
|          |          |          | Direct.          | -79 45.3                         | E.                          | +16                | -35    | -80 04            |  |
|          |          |          | Direct.          | -79 59.8                         | E. by N.                    | +32                | -35    | -80 03            |  |
|          |          |          | Direct.          | -80 09.2                         | E.N.E.                      | +46                | -35    | -79 58            |  |
|          |          |          | Direct.          | -80 14.0                         | N.E. by E. $\frac{1}{2}$ E. | +52                | -35    | -79 57            |  |
|          |          |          | Direct.          | -81 15.6                         | N. by W.                    | +85                | -35    | -80 26            |  |
|          |          |          | Direct.          | -81 17.6                         | N. $\frac{1}{2}$ W.         | +85                | -35    | -80 28            | Fast to a piece of ice: Erebus fast to the same piece distant fifty yards. Terror's head to North*.<br>Erebus bearing E. |
|          |          |          | Direct.          | -81 15.5                         | N.                          | +86                | -35    | -80 25            |  |
|          |          |          | Direct.          | -81 10.2                         | N. $\frac{1}{2}$ E.         | +85                | -35    | -80 20            |  |
|          |          |          | Direct.          | -81 11.8                         | N. by E.                    | +85                | -35    | -80 22            |  |
| 30.      | -66° 25' | 203° 12' | Direct.          | -80 28.6                         | w. $\frac{1}{2}$ N.         | +24                | -35    | -80 40            | Ditto; Erebus N.   |
|          |          |          | Direct.          | -81 14.8                         | N.W. $\frac{1}{2}$ W.       | +64                | -35    | -80 46            |  |
|          |          |          | Def. N.          | -80 22.2                         | N.W. $\frac{1}{2}$ W.       | +64                | -81    | -80 39            |  |
|          |          |          | Def. S.          | -81 06.3                         | N.W. $\frac{1}{2}$ W.       | +64                | -35    | -80 37            |  |
|          |          |          | Mag. N.          | -81 03.7                         | N.W. $\frac{1}{2}$ W.       | +64                | -35    | -80 34            |  |
|          |          |          | Mag. N.S.        | -80 50.7                         | N.W. $\frac{1}{2}$ W.       | +64                | -35    | -80 22            | Ditto; Erebus N.E.   |
|          |          |          | Mag. S.          | -81 01.3                         | N.W. $\frac{1}{2}$ W.       | +64                | -35    | -80 32            |  |
|          |          |          | Direct.          | -81 15.4                         | N.W. $\frac{1}{2}$ W.       | +64                | -35    | -80 46            |  |
|          |          |          | Direct.          | -81 12.4                         | N. $\frac{1}{2}$ W.         | +85                | -35    | -80 22            |  |
|          |          |          | Direct.          | -78 46.1                         | s.E.                        | -52                | -35    | -80 13            | Ditto; Erebus E.   |
|          |          |          | Direct.          | -78 26.1                         | s. by W.                    | -83                | -35    | -80 24            |  |
|          |          |          | Direct.          | -78 29.6                         | s. by W. $\frac{1}{2}$ W.   | -80                | -35    | -80 25            |  |
| 5.       | -66° 14' | 203° 17' | Direct.          | -79 36.7                         | E. $\frac{1}{2}$ s.         | +8                 | -35    | -80 04            | Running amongst loose ice, very steady.  |
|          |          |          | Direct.          | -77 46.2                         | s. $\frac{3}{4}$ W.         | -83                | -35    | -79 44            |  |
|          |          |          | Direct.          | -80 15.8                         | N. $\frac{3}{4}$ E.         | +85                | -35    | -79 26            |  |
|          |          |          | Direct.          | -80 31.9                         | N.W.                        | +69                | -35    | -79 58            |  |
|          |          |          | Def. N.          | -79 32.1                         | N.W.                        | +69                | -81    | -79 44            |  |
|          |          |          | Def. S.          | -80 26.2                         | N.W.                        | +69                | -35    | -79 52            |  |
|          |          |          | Mag. N.          | -80 15.7                         | N.W.                        | +69                | -35    | -79 42            |  |
|          |          |          | Mag. N.S.        | -80 05.8                         | N.W.                        | +69                | -35    | -79 32            |  |
|          |          |          | Mag. S.          | -80 34.5                         | N.W.                        | +69                | -35    | -80 01            | Running amongst loose ice, very steady.  |
|          |          |          | Direct.          | -80 37.9                         | N.W.                        | +69                | -35    | -80 04            |  |
|          |          |          | Direct.          | -79 53.0                         | s.                          | -85                | -35    | -79 53            |  |
|          |          |          | Direct.          | -78 00.9                         | s. by E.                    | -83                | -35    | -79 59            |  |
| 8.       | -66° 05' | 204° 02' | Direct.          | -78 15.2                         | s. by W. $\frac{1}{2}$ W.   | -80                | -35    | -80 10            |  |
|          |          |          | Direct.          | -80 44.1                         | N.                          | +86                | -35    | -79 53            |  |
|          |          |          | Def. N.          | -79 45.4                         | N.                          | +86                | -81    | -79 40            |  |
|          |          |          | Def. S.          | -80 41.6                         | N.                          | +86                | -35    | -79 51            |  |
|          |          |          | Mag. N.          | -80 27.8                         | N.                          | +86                | -35    | -79 37            | Running amongst loose ice, very steady.  |

\* These observations are omitted in the general table of results, and in the map: the proximity of the two ships appears however to have produced scarcely any sensible effect on the inclination needle.

### Observations of Inclination. (Continued.)

| 1842.   | Lat.   | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks.                                       |
|---------|--------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|--|
|         |        |        |                  |                                  |                           | Ship's attraction. | Index. |                   |  |
| Jan. 8. | -66 05 | 204 02 | Mag. N.S.        | -80 20.7                         | N.                        | +86                | -35    | -79 30            | Running amongst loose ice, very steady.        |
|         |        |        | Mag. S.          | -80 46.2                         | N.                        | +86                | -35    | -79 55            |  |
|         |        |        | Direct.          | -80 45.4                         | N.                        | +86                | -35    | -79 54            |  |
|         |        |        | Direct.          | -78 00.6                         | s. by E.                  | -83                | -35    | -79 59            |  |
|         |        |        | Direct.          | -78 25.8                         | s.w. by s.                | -65                | -35    | -80 06            |  |
|         |        |        | Direct.          | -80 40.4                         | N. by w.                  | +85                | -35    | -79 50            |  |
|         |        |        | Direct.          | -80 43.1                         | N.                        | +86                | -35    | -79 52            |  |
|         |        |        | Direct.          | -79 10.0                         | E. 1/2 S.                 | +8                 | -35    | -79 37            |  |
|         |        |        | Direct.          | -77 56.0                         | s.                        | -85                | -35    | -79 56            |  |
|         |        |        | Direct.          | -78 58.2                         | E. by s.                  | -1                 | -35    | -79 34            |  |
| 9.      | -66 01 | 204 04 | Direct.          | -79 22.2                         | E. 1/4 N.                 | +20                | -35    | -79 37            | Running amongst loose ice, very steady.        |
|         |        |        | Direct.          | -78 46.0                         | s.w. by w.                | -36                | -35    | -79 57            |  |
|         |        |        | Direct.          | -78 33.8                         | s.w. 1/2 w.               | -44                | -35    | -79 53            |  |
|         |        |        | Def. N.          | -77 34.8                         | s.w. 1/2 w.               | -44                | -81    | -79 40            |  |
|         |        |        | Direct.          | -78 36.3                         | s.w.                      | -52                | -35    | -80 03            |  |
|         |        |        | Direct.          | -79 00.8                         | w.s.w.                    | -18                | -35    | -79 54            |  |
|         |        |        | Def. S.          | -79 10.9                         | w.s.w.                    | -18                | -35    | -80 04            |  |
|         |        |        | Mag. N.          | -78 28.8                         | s.w. by w.                | -36                | -35    | -79 40            |  |
|         |        |        | Mag. N.S.        | -78 24.4                         | s.w. by w.                | -36                | -35    | -79 35            |  |
|         |        |        | Mag. S.          | -78 48.6                         | s.w. by w.                | -36                | -35    | -80 00            |  |
| 10.     | -65 57 | 203 56 | Direct.          | -78 45.2                         | s.w. by w.                | -36                | -35    | -79 56            | Running amongst loose ice, very steady.        |
|         |        |        | Direct.          | -79 03.7                         | w.s.w.                    | -18                | -35    | -79 57            |  |
|         |        |        | Direct.          | -79 30.4                         | w. by s.                  | -1                 | -35    | -80 06            |  |
|         |        |        | Def. N.          | -78 23.7                         | w. by s.                  | -1                 | -81    | -79 46            |  |
|         |        |        | Def. S.          | -79 14.9                         | w. by s.                  | -1                 | -35    | -79 51            |  |
|         |        |        | Mag. N.          | -79 17.4                         | w. by s.                  | -1                 | -35    | -79 53            |  |
|         |        |        | Direct.          | -79 15.1                         | E.                        | +16                | -35    | -79 34            |  |
|         |        |        | Mag. S.          | -79 17.6                         | E.                        | +16                | -35    | -79 37            |  |
|         |        |        | Mag. N.S.        | -78 55.2                         | E.                        | +16                | -35    | -79 14            |  |
|         |        |        | Direct.          | -79 15.7                         | E.                        | +16                | -35    | -79 35            |  |
|         |        |        | Direct.          | -78 29.0                         | s.E. by E. 1/2 E.         | -27                | -35    | -79 31            | Very steady, working about in a hole of water. |
|         |        |        | Direct.          | -79 41.5                         | w. 1/4 s.                 | +12                | -35    | -80 05            |  |
|         |        |        | Direct.          | -79 23.8                         | w. by s. 1/2 s.           | -8                 | -35    | -80 07            |  |
|         | -65 58 | 203 37 | Direct.          | -78 44.5                         | s.w. by w.                | -36                | -35    | -79 55            |  |
|         |        |        | Direct.          | -78 46.3                         | s.w. by w.                | -36                | -35    | -79 57            |  |
| 11.     | -65 56 | 203 31 | Direct.          | -77 58.3                         | s. by E.                  | -83                | -35    | -79 56            |  |
|         |        |        | Direct.          | -77 53.2                         | s.                        | -85                | -35    | -79 53            |  |
|         |        |        | Def. N.          | -76 51.8                         | s.                        | -85                | -81    | -79 58            |  |
|         |        |        | Def. S.          | -77 56.7                         | s.                        | -85                | -35    | -79 57            |  |
|         |        |        | Mag. N.          | -77 31.0                         | s.                        | -85                | -35    | -79 31            |  |
|         |        |        | Mag. N.S.        | -77 35.4                         | s.                        | -85                | -35    | -79 35            | Very steady, working about in a hole of water. |
|         |        |        | Mag. S.          | -77 49.3                         | s.                        | -85                | -35    | -79 49            |  |
| 12.     | -65 45 | 203 23 | Direct.          | -78 30.4                         | s.w.                      | -52                | -35    | -79 57            |  |
|         |        |        | Direct.          | -78 20.6                         | s.w. by s.                | -65                | -35    | -80 01            |  |
|         |        |        | Direct.          | -78 44.4                         | s.w. by w.                | -36                | -35    | -79 55            |  |
| 13.     | -66 06 | 202 10 | Direct.          | -78 13.7                         | s. by w.                  | -82                | -35    | -80 11            |  |
|         |        |        | Direct.          | -77 50.3                         | s.                        | -84                | -35    | -79 49            |  |
|         | -66 12 | 202 12 | Direct.          | -80 22.0                         | N.N.E.                    | +81                | -35    | -79 36            |  |
|         |        |        | Direct.          | -80 46.2                         | N.                        | +86                | -35    | -79 55            |  |
|         |        |        | Direct.          | -80 38.4                         | N. 1/2 E.                 | +85                | -35    | -79 48            |  |
|         |        |        | Def. N.          | -79 44.5                         | N. 1/2 E.                 | +85                | -81    | -79 41            | Very steady, working about in a hole of water. |
|         |        |        | Def. S.          | -80 39.1                         | N. 1/2 E.                 | +85                | -35    | -79 49            |  |
|         |        |        | Mag. N.          | -80 22.8                         | N. 1/2 E.                 | +85                | -35    | -79 33            |  |
|         |        |        | Mag. N.S.        | -80 20.0                         | N. 1/2 E.                 | +85                | -35    | -79 30            |  |
|         |        |        | Mag. S.          | -80 37.4                         | N. 1/2 E.                 | +85                | -35    | -79 47            |  |
|         |        |        | Direct.          | -80 39.8                         | N. 1/2 E.                 | +85                | -35    | -79 50            |  |
|         |        |        | Direct.          | -78 07.0                         | S.S.E.                    | -77                | -35    | -79 59            |  |
|         |        |        | Direct.          | -77 58.2                         | s.                        | -85                | -35    | -79 58            |  |



## Observations of Inclination. (Continued.)

| 1842.    | Lat.   | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks. |
|----------|--------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|----------|
|          |        |        |                  |                                  |                           | Ship's attraction. | Index. |                   |          |
| Jan. 14. | -66 08 | 201 46 | Direct.          | -77 58.8                         | S.                        | -85                | -35    | -79 59            | -79 35   |
|          |        |        | Direct.          | -78 09.0                         | S. by E.                  | -83                | -35    | -80 07            |          |
|          |        |        | Direct.          | -80 23.5                         | N.N.E.                    | +81                | -35    | -79 38            |          |
|          |        |        | Direct.          | -80 20.4                         | N.E.                      | +69                | -35    | -79 46            |          |
|          |        |        | Direct.          | -79 51.7                         | N.E. by E.                | +59                | -35    | -79 28            |          |
|          |        |        | Def. N.          | -79 01.7                         | N.E. by E.                | +59                | -81    | -79 24            |          |
|          |        |        | Def. S.          | -80 00.4                         | N.E. by E.                | +59                | -35    | -79 36            |          |
|          |        |        | Mag. N.          | -79 39.7                         | N.E. by E.                | +59                | -35    | -79 16            |          |
|          |        |        | Mag. N.S.        | -79 28.8                         | N.E. by E.                | +59                | -35    | -79 05            |          |
|          |        |        | Mag. S.          | -80 17.5                         | N.N.E.                    | +81                | -35    | -79 32            |          |
| 15.      | -65 59 | 202 22 | Direct.          | -78 45.5                         | E.S.E.                    | -18                | -35    | -79 39            | -79 38   |
|          |        |        | Direct.          | -79 19.4                         | E.                        | +16                | -35    | -79 38            |          |
|          |        |        | Direct.          | -78 31.4                         | S.W. by S.                | -65                | -35    | -80 11            |          |
|          |        |        | Direct.          | -78 45.9                         | E.S.E.                    | -18                | -35    | -79 39            |          |
| 16.      | -65 47 | 202 08 | Direct.          | -79 23.8                         | E.                        | +16                | -35    | -79 43            | -79 38   |
|          |        |        | Def. N.          | -78 32.3                         | E.                        | +16                | -81    | -79 37            |          |
|          |        |        | Def. S.          | -79 13.2                         | E.                        | +16                | -35    | -79 32            |          |
|          |        |        | Mag. N.          | -79 06.4                         | E.                        | +16                | -35    | -79 25            |          |
|          |        |        | Mag. N.S.        | -79 00.0                         | E.                        | +16                | -35    | -79 19            |          |
|          |        |        | Mag. S.          | -79 19.3                         | E.                        | +16                | -35    | -79 38            |          |
|          |        |        | Direct.          | -79 23.4                         | E.                        | +16                | -35    | -79 42            |          |
|          |        |        | Direct.          | -79 25.3                         | E.                        | +16                | -35    | -79 44            |          |
|          |        |        | Direct.          | -80 05.9                         | N.E.                      | +69                | -35    | -79 32            |          |
|          |        |        | Direct.          | -80 55.9                         | N.                        | +86                | -35    | -80 05            |          |
| 17.      | -65 47 | 201 56 | Direct.          | -80 50.3                         | N. by E. $\frac{5}{8}$ E. | +82                | -35    | -80 03            | -80 22   |
|          |        |        | Direct.          | -78 47.2                         | S.S.W. $\frac{1}{2}$ W.   | -71                | -35    | -80 33            |          |
| 19.      | -66 11 | 200 45 | Direct.          | -79 51.6                         | W. by S.                  | -1                 | -35    | -80 28            | -80 22   |
|          |        |        | Direct.          | -80 25.6                         | W. by N.                  | +32                | -35    | -80 29            |          |
| 20.      | -67 37 | 200 12 | Direct.          | -80 03.1                         | W.                        | +16                | -35    | -80 22            | -80 22   |
|          |        |        | Direct.          | -80 47.6                         | N. by E.                  | +85                | -35    | -79 58            |          |
|          |        |        | Direct.          | -80 59.8                         | N. by E. $\frac{1}{2}$ E. | +83                | -35    | -80 12            |          |
|          |        |        | Direct.          | -78 26.8                         | S. by W.                  | -83                | -35    | -80 25            |          |
|          |        |        | Direct.          | -78 44.7                         | S.S.W.                    | -77                | -35    | -80 37            |          |
|          |        |        | Direct.          | -78 38.3                         | S. by W.                  | -83                | -35    | -80 36            |          |
| 21.      | -66 43 | 202 50 | Direct.          | -78 35.4                         | S.                        | -85                | -35    | -80 35            | -80 06*  |
|          |        |        | Direct.          | -80 12.8                         | E. by N.                  | +32                | -35    | -80 16            |          |
| 26.      | -67 12 | 203 12 | Def. N.          | -79 15.3                         | E. by N.                  | +32                | -81    | -80 04            | -80 43   |
|          |        |        | Def. S.          | -80 14.2                         | E. by N.                  | +32                | -35    | -80 17            |          |
|          |        |        | Mag. N.          | -80 07.4                         | E. by N.                  | +32                | -35    | -80 10            |          |
|          |        |        | Mag. N.S.        | -79 55.1                         | E. by N.                  | +32                | -35    | -79 58            |          |
|          |        |        | Direct.          | -80 03.0                         | E.                        | +16                | -35    | -80 22            |          |
|          |        |        | Direct.          | -78 54.4                         | S.E. by E.                | -36                | -35    | -80 05            |          |
|          |        |        | Mag. N.S.        | -78 23.2                         | S.E. by E.                | -36                | -35    | -79 34            |          |
|          |        |        | Mag. S.          | -78 46.7                         | S.E. by E.                | -36                | -35    | -79 58            |          |
|          |        |        | Direct.          | -79 28.2                         | E.S.E.                    | -18                | -35    | -80 21            |          |
|          |        |        | Direct.          | -80 38.8                         | E. by N.                  | +32                | -35    | -80 42            |          |
| 28.      | -67 46 | 204 17 | Def. N.          | -79 40.5                         | E. by N.                  | +32                | -81    | -80 30            | -80 43   |
|          |        |        | Def. S.          | -81 31.3                         | N.                        | +86                | -35    | -80 40            |          |
|          |        |        | Direct.          | -80 46.1                         | E.N.E.                    | +46                | -35    | -80 35            |          |
|          |        |        | Direct.          | -81 45.8                         | N. by E.                  | +85                | -35    | -80 56            |          |
|          |        |        | Def. N.          | -81 02.7                         | N. by E.                  | +85                | -81    | -81 07            |          |
|          |        |        | Direct.          | -81 31.0                         | N.N.E.                    | +81                | -35    | -80 45            |          |
|          |        |        | Def. N.          | -80 43.8                         | N.N.E.                    | +81                | -81    | -80 44            |          |
|          |        |        | Mag. N.          | -81 24.4                         | N.N.E.                    | +81                | -35    | -80 38            |          |
|          |        |        |                  |                                  |                           |                    |        |                   |          |
|          |        |        |                  |                                  |                           |                    |        |                   |          |

\* Omitted in the Map, in consequence of the vicinity of the other ship.

## Observations of Inclination. (Continued.)

| 1842.    | Lat.   | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks.   |
|----------|--------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|--|
|          |        |        |                  |                                  |                           | Ship's attraction. | Index. |                   |  |
| Jan. 28. | -67 46 | 204 17 | Mag. N.S.        | -81 16.6                         | N.N.E.                    | +81                | -35    | -80 31            | } -80 43<br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><b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\* Omitted in the mean; apparently the degree should have been written 80 instead of 78.

## Observations of Inclination. (Continued.)

| 1842.   | Lat.     | Long.    | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks.              |
|---------|----------|----------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|-----------------------|
|         |          |          |                  |                                  |                           | Ship's attraction. | Index. |                   |                       |
| Feb. 2. | -67° 56' | 199° 48' | Direct.          | -79° 28.6                        | s. by w.                  | -83                | -35    | -81° 27'          |                       |
|         |          |          | Def. N.          | -78 37.8                         | s. by w.                  | -83                | -81    | -81 22            |                       |
|         |          |          | Def. S.          | -79 15.1                         | s. by w.                  | -83                | -35    | -81 13            |                       |
|         |          |          | Mag. N.          | -78 53.6                         | s. by w.                  | -83                | -35    | -80 52            |                       |
|         |          |          | Mag. N.S.        | -79 07.5                         | s. by w.                  | -83                | -35    | -81 06            |                       |
|         |          |          | Mag. S.          | -79 26.9                         | s. by w.                  | -83                | -35    | -81 25            |                       |
|         |          |          | Direct.          | -79 27.4                         | s. by w.                  | -83                | -35    | -81 25            |                       |
|         |          |          | Direct.          | -79 34.2                         | s.s.w.                    | -77                | -35    | -81 26            |                       |
| 3.      | -68 21   | 200 06   | Def. N.          | -78 31.9                         | s.s.w.                    | -77                | -81    | -81 10            | Table steady.         |
|         |          |          | Def. S.          | -79 26.7                         | s.s.w.                    | -77                | -35    | -81 19            |                       |
|         |          |          | Mag. N.          | -79 24.2                         | s.s.w.                    | -77                | -35    | -81 16            |                       |
|         |          |          | Mag. N.S.        | -79 23.4                         | s.s.w.                    | -77                | -35    | -81 15            |                       |
|         |          |          | Mag. S.          | -79 28.6                         | s.s.w.                    | -77                | -35    | -81 21            |                       |
|         |          |          | Direct.          | -79 36.1                         | s.s.w.                    | -77                | -35    | -81 28            |                       |
| 4.      | -68 45   | 199 41   | Direct.          | -79 32.5                         | s.                        | -85                | -35    | -81 33            |                       |
|         |          |          | Def. N.          | -78 50.3                         | s.                        | -85                | -81    | -81 36            |                       |
|         |          |          | Def. S.          | -79 36.6                         | s.                        | -85                | -35    | -81 37            |                       |
|         |          |          | Mag. N.          | -79 17.2                         | s.                        | -85                | -35    | -81 17            |                       |
|         |          |          | Mag. N.S.        | -79 12.4                         | s.                        | -85                | -35    | -81 12            |                       |
|         |          |          | Mag. S.          | -79 43.4                         | s.                        | -85                | -35    | -81 43            |                       |
|         |          |          | Direct.          | -79 32.1                         | s. by E.                  | -83                | -35    | -81 30            |                       |
|         |          |          | Def. N.          | -78 50.4                         | s. by E.                  | -83                | -81    | -81 34            |                       |
|         | -68 49   | 199 26   | Def. S.          | -79 25.8                         | s. by E.                  | -83                | -35    | -81 24            | Fresh breeze, steady. |
|         |          |          | Direct.          | -82 31.4                         | N.N.W.                    | +82                | -35    | -81 44            |                       |
| 5.      | -68 52   | 198 24   | Def. N.          | -81 48.7                         | N.N.W.                    | +82                | -81    | -81 48            |                       |
|         |          |          | Direct.          | -81 51.5                         | s.w.                      | -52                | -35    | -83 19            |                       |
|         |          |          | Def. N.          | -79 59.5                         | s.w.                      | -52                | -81    | -82 13            |                       |
|         |          |          | Def. S.          | -80 58.7                         | s.w.                      | -52                | -35    | -82 26            |                       |
|         |          |          | Mag. N.          | -80 48.0                         | s.w.                      | -52                | -35    | -82 15            |                       |
|         |          |          | Mag. N.S.        | -80 36.8                         | s.w.                      | -52                | -35    | -82 04            |                       |
|         |          |          | Mag. S.          | -81 04.1                         | s.w.                      | -52                | -35    | -82 31            |                       |
|         |          |          | Direct.          | -81 21.6                         | s.w. $\frac{1}{2}$ w.     | -44                | -35    | -82 41            |                       |
|         |          |          | Direct.          | -81 20.0                         | s.w. by w.                | -36                | -35    | -82 31            |                       |
|         |          |          | Direct.          | -81 09.2                         | s. by w.                  | -84                | -35    | -83 08            |                       |
| 6.      | -69 55   | 192 17   | Def. N.          | -80 15.1                         | s. by w.                  | -84                | -81    | -83 00            |                       |
|         |          |          | Def. S.          | -81 04.2                         | s. by w.                  | -84                | -35    | -83 03            |                       |
|         |          |          | Mag. N.          | -80 52.3                         | s. by w.                  | -84                | -35    | -82 51            |                       |
|         |          |          | Mag. N.S.        | -80 39.1                         | s. by w.                  | -84                | -35    | -82 38            |                       |
|         |          |          | Mag. S.          | -81 09.2                         | s. by w.                  | -84                | -35    | -83 08            |                       |
|         |          |          | Direct.          | -81 12.8                         | s. by w.                  | -84                | -35    | -83 12            |                       |
|         |          |          | Direct.          | -80 56.9                         | s.                        | -86                | -35    | -82 58            |                       |
|         |          |          | Def. N.          | -80 00.2                         | s.                        | -86                | -81    | -82 47            |                       |
|         |          |          | Direct.          | -81 12.6                         | s. by w.                  | -84                | -35    | -83 12            |                       |
|         |          |          | Direct.          | -81 35.1                         | s.s.w.                    | -78                | -35    | -83 28            |                       |
| 7.      | -70 05   | 191 03   | Def. N.          | -80 38.2                         | s.s.w.                    | -78                | -81    | -83 17            |                       |
|         |          |          | Direct.          | -81 56.4                         | s.w.                      | -52                | -35    | -83 23            |                       |
|         |          |          | Direct.          | -81 35.3                         | s. by w. $\frac{3}{4}$ w. | -80                | -35    | -83 30            |                       |
|         |          |          | Def. S.          | -81 20.0                         | s.s.w.                    | -78                | -35    | -83 13            |                       |
|         |          |          | Mag. N.          | -81 24.7                         | s.s.w.                    | -78                | -35    | -83 18            |                       |
|         |          |          | Mag. N.S.        | -81 15.6                         | s.s.w.                    | -78                | -35    | -83 09            |                       |
|         |          |          | Mag. S.          | -81 23.9                         | s.s.w.                    | -78                | -35    | -83 17            |                       |
|         |          |          | Direct.          | -81 29.6                         | s. by w. $\frac{1}{2}$ w. | -81                | -35    | -83 26            |                       |
| 8.      | -70 08   | 186 39   | Direct.          | -81 56.9                         | s.w.                      | -52                | -35    | -83 24            |                       |
|         |          |          | Def. N.          | -81 16.7                         | s.w.                      | -52                | -81    | -83 30            |                       |
|         |          |          | Direct.          | -82 12.3                         | s.w. by w.                | -36                | -35    | -83 23            |                       |
|         |          |          | Def. N.          | -81 34.1                         | s.w. by w.                | -36                | -83    | -83 31            |                       |

## Observations of Inclination. (Continued.)

| 1842.   | Lat.       | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks.   |
|---------|------------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|--|
|         |            |        |                  |                                  |                           | Ship's attraction. | Index. |                   |  |
| Feb. 8. | -70 08     | 186 39 | Def. S.          | -82 09.9                         | s.w. by w.                | -36                | -35    | -83 21            | Table steady.  |
|         |            |        | Mag. N.          | -82 10.1                         | s.w. by w.                | -36                | -35    | -83 21            |  |
|         |            |        | Mag. N.S.        | -82 03.7                         | s.w. by w.                | -36                | -35    | -83 15            |  |
|         |            |        | Mag. S.          | -82 10.3                         | s.w. by w.                | -36                | -35    | -83 21            |  |
|         |            |        | Direct.          | -82 15.9                         | s.w. by w.                | -36                | -35    | -83 27            |  |
|         |            |        | Direct.          | -81 19.7                         | s.                        | -87                | -35    | -83 22            |  |
|         | -70 17     | 186 04 | Direct.          | -81 16.1                         | s.                        | -87                | -35    | -83 18            |  |
|         |            |        | Def. N.          | -80 37.6                         | s.                        | -87                | -81    | -83 26            |  |
|         |            |        | Def. S.          | -81 38.5                         | s.                        | -87                | -35    | -83 41            |  |
|         |            |        | Mag. N.          | -81 11.6                         | s.                        | -87                | -35    | -83 14            |  |
|         |            |        | Mag. N.S.        | -81 04.5                         | s.                        | -87                | -35    | -83 07            |  |
|         |            |        | Mag. S.          | -81 33.4                         | s.                        | -87                | -35    | -83 35            |  |
|         | 9. -70 32  | 185 38 | Direct.          | -81 20.6                         | s.                        | -87                | -35    | -83 23            |  |
|         |            |        | Direct.          | -83 51.8                         | w. by N.                  | +32                | -35    | -83 55            |  |
|         |            |        | Def. N.          | -83 09.4                         | w. by N.                  | +32                | -81    | -83 58            |  |
|         |            |        | Def. S.          | -83 55.8                         | w. by N.                  | +32                | -35    | -83 59            |  |
|         |            |        | Mag. N.S.        | -83 36.2                         | w. by N.                  | +32                | -35    | -83 39            |  |
|         |            |        | Direct.          | -82 08.5                         | w. by N.                  | +32                | -35    | -82 12            |  |
|         |            |        | Def. N.          | -81 14.8                         | w. by N.                  | +32                | -81    | -82 04            | -83 30 Head swell, unsteady.                             |
|         |            |        | Direct.          | -82 02.7                         | S.E. $\frac{1}{2}$ S.     | -59                | -35    | -83 37            |  |
|         |            |        | Def. S.          | -82 01.0                         | S.E. $\frac{1}{2}$ S.     | -59                | -35    | -83 35            |  |
|         |            |        | Mag. N.S.        | -82 03.5                         | S.E. $\frac{1}{2}$ S.     | -59                | -35    | -83 38            |  |
|         | 10. -69 56 | 184 43 | Direct.          | -82 12.6                         | S.E. by S.                | -66                | -35    | -83 54            |  |
|         |            |        | Direct.          | -83 33.0                         | w. by S.                  | -1                 | -35    | -84 09            |  |
|         |            |        | Def. N.          | -82 37.3                         | w. by S.                  | -1                 | -81    | -83 59            |  |
|         |            |        | Def. S.          | -83 31.5                         | w. by S.                  | -1                 | -35    | -84 07            |  |
|         |            |        | Mag. N.          | -83 25.9                         | w. by S.                  | -1                 | -35    | -84 02            | -84 03 Heavy swell, unsteady.                            |
|         |            |        | Mag. N.S.        | -83 11.0                         | w. by S.                  | -1                 | -35    | -83 47            |  |
|         |            |        | Mag. S.          | -83 33.1                         | w. by S.                  | -1                 | -35    | -84 09            |  |
|         |            |        | Direct.          | -83 34.2                         | w. by S.                  | -1                 | -35    | -84 10            |  |
|         |            |        | Direct.          | -83 46.2                         | w.                        | +17                | -35    | -84 04            |  |
|         |            |        | Direct.          | -83 21.8                         | W.S.W.                    | -18                | -35    | -84 15            |  |
|         | 11. -69 51 | 183 02 | Def. N.          | -82 21.1                         | W.S.W.                    | -18                | -81    | -84 00            |  |
|         |            |        | Def. S.          | -83 04.0                         | W.S.W.                    | -18                | -35    | -83 57            |  |
|         |            |        | Mag. N.          | -83 25.7                         | W.S.W.                    | -18                | -35    | -84 19            | -84 09 Strong wind, westerly swell, ship unsteady.       |
|         |            |        | Mag. N.S.        | -82 58.0                         | W.S.W.                    | -18                | -35    | -83 51            |  |
|         |            |        | Mag. S.          | -83 20.5                         | W.S.W.                    | -18                | -35    | -84 14            |  |
|         |            |        | Direct.          | -82 45.0                         | s.w. by S.                | -66                | -35    | -84 26            |  |
|         | -70 03     | 181 44 | Direct.          | -82 46.6                         | S.E. by S.                | -66                | -35    | -84 28            |  |
|         |            |        | Def. N.          | -81 48.5                         | S.E. by S.                | -66                | -81    | -84 16            |  |
|         | 12. -71 03 | 180 56 | Def. S.          | -82 39.3                         | S.E. by S.                | -66                | -35    | -84 20            | -84 20 Cross sea, table very unsteady.                   |
|         |            |        | Mag. N.          | -82 24.9                         | S.E. by S.                | -66                | -35    | -84 06            |  |
|         |            |        | Mag. N.S.        | -82 21.1                         | S.E. by S.                | -66                | -35    | -84 02            |  |
|         |            |        | Mag. S.          | -82 34.9                         | S.E. by S.                | -66                | -35    | -84 16            |  |
|         |            |        | Direct.          | -82 45.2                         | S.E. by S.                | -66                | -35    | -84 26            | Table very unsteady, a cross sea.                        |
|         |            |        | Direct.          | -83 08.2                         | S.E. by S.                | -66                | -35    | -84 49            |  |
|         | 13. -72 07 | 181 50 | Direct.          | -83 16.8                         | S.E. by S.                | -66                | -35    | -84 58            |  |
|         |            |        | Def. N.          | -82 21.1                         | S.E. by S.                | -66                | -81    | -84 48            |  |
|         |            |        | Def. S.          | -83 18.6                         | S.E. by S.                | -66                | -35    | -85 00            |  |
|         |            |        | Mag. N.          | -83 06.9                         | S.E. by S.                | -66                | -35    | -84 48            |  |
|         |            |        | Mag. N.S.        | -82 55.3                         | S.E. by S.                | -66                | -35    | -84 36            | -84 59 A swell from N.W., ship unsteady, steering badly. |
|         |            |        | Mag. S.          | -83 17.7                         | S.E. by S.                | -66                | -35    | -84 59            |  |
|         |            |        | Direct.          | -83 20.2                         | S.E. by S.                | -66                | -35    | -85 01            |  |
|         |            |        | Direct.          | -83 37.9                         | S.E. by S.                | -66                | -35    | -85 19            |  |
|         |            |        | Direct.          | -83 40.5                         | S.E. by S.                | -66                | -35    | -85 22            |  |

## Observations of Inclination. (Continued.)

| 1842.    | Lat.     | Long.    | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks.   |
|----------|----------|----------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|--|
|          |          |          |                  |                                  |                           | Ship's attraction. | Index. |                   |  |
| Feb. 14. | -72° 55' | 181° 33' | Direct.          | -83° 58.2                        | S.E. by E.                | -36                | -35    | -85° 09'          | A swell from the W.N.W., unsteady.                 |
|          |          |          | Def. N.          | -83 21.7                         | S.E. by E.                | -36                | -81    | -85 19            |  |
|          |          |          | Def. S.          | -84 07.0                         | S.E. by E.                | -36                | -35    | -85 18            |  |
|          |          |          | Mag. N.          | -84 01.7                         | S.E. by E.                | -36                | -35    | -85 13            |  |
|          |          |          | Mag. N.S.        | -83 29.5                         | S.E. by E.                | -36                | -35    | -84 40            |  |
|          | -73 23   | 181 11   | Mag. S.          | -83 58.4                         | S.E. by E.                | -36                | -35    | -85 09            | Strong breeze, unsteady. Heavy sea, very unsteady. |
|          |          |          | Direct.          | -84 00.6                         | S.E. by E.                | -36                | -35    | -85 12            |  |
|          |          |          | Direct.          | -84 16.8                         | S.E.                      | -52                | -35    | -85 44            |  |
|          |          |          | Direct.          | -84 51.4                         | S.E. by S.                | -66                | -35    | -86 32            |  |
|          |          |          | Direct.          | -85 13.4                         | S.S.E.                    | -79                | -35    | -87 07            |  |
| 15.      | -74 20   | 177 55   | Def. N.          | -84 17.5                         | S.S.E.                    | -79                | -81    | -86 58            | Table steady.                                      |
|          |          |          | Def. S.          | -85 10.6                         | S.S.E.                    | -79                | -35    | -87 05            |  |
|          |          |          | Mag. N.          | -85 08.8                         | S.S.E.                    | -79                | -35    | -87 03            |  |
|          |          |          | Mag. N.S.        | -84 53.3                         | S.S.E.                    | -79                | -35    | -86 47            |  |
|          |          |          | Mag. S.          | -85 12.0                         | S.S.E.                    | -79                | -35    | -87 06            |  |
|          | -74 51   | 174 02   | Direct.          | -85 15.6                         | S.S.E.                    | -79                | -35    | -87 10            | N.W. swell, slight motion.                         |
|          |          |          | Direct.          | -85 49.1                         | S.E.                      | -52                | -35    | -87 16            |  |
|          |          |          | Direct.          | -86 56.1                         | E. ½ S.                   | + 7                | -35    | -87 24            |  |
|          |          |          | Direct.          | -86 33.0                         | E. by S.                  | - 2                | -35    | -87 10            |  |
|          |          |          | Def. N.          | -85 35.9                         | E. by S.                  | - 2                | -81    | -86 59            |  |
| 16.      | -75 05   | 173 10   | Def. S.          | -86 39.6                         | E. by S.                  | - 2                | -35    | -87 17            | Very unsteady, steering badly.                     |
|          |          |          | Mag. N.S.        | -86 13.2                         | E. by S.                  | - 2                | -35    | -86 50            |  |
|          |          |          | Direct.          | -87 15.8                         | E.N.E.                    | +46                | -35    | -87 05            |  |
|          |          |          | Direct.          | -87 12.6                         | E. by N. ½ N.             | +39                | -35    | -87 09            |  |
|          |          |          | Def. N.          | -86 31.1                         | E. by N. ½ N.             | +39                | -81    | -87 13            |  |
|          | -75 09   | 173 16   | Def. S.          | -87 05.2                         | E. by N. ½ N.             | +39                | -35    | -87 01            | Table steady.                                      |
|          |          |          | Mag. N.          | -86 50.8                         | E. by N. ½ N.             | +39                | -35    | -86 47            |  |
|          |          |          | Mag. N.S.        | -86 39.4                         | E. by N. ½ N.             | +39                | -35    | -86 35            |  |
|          |          |          | Mag. S.          | -87 33.9                         | E. by N. ½ N.             | +39                | -35    | -87 30            |  |
|          |          |          | Direct.          | -87 08.0                         | E. by N. ½ N.             | +39                | -35    | -87 04            |  |
| 17.      | -75 57   | 175 08   | Direct.          | -87 06.3                         | E.N.E.                    | +46                | -35    | -86 55            | Very unsteady, steering badly.                     |
|          |          |          | Def. N.          | -86 16.8                         | E.N.E.                    | +46                | -81    | -86 52            |  |
|          |          |          | Def. S.          | -87 21.3                         | E.N.E.                    | +46                | -35    | -87 10            |  |
|          |          |          | Mag. N.          | -87 14.9                         | E.N.E.                    | +46                | -35    | -87 04            |  |
|          |          |          | Mag. N.S.        | -86 45.6                         | E.N.E.                    | +46                | -35    | -86 35            |  |
| 18.      | -76 06   | 174 57   | Mag. S.          | -87 15.2                         | E.N.E.                    | +46                | -35    | -87 04            | Table steady.                                      |
|          |          |          | Direct.          | -87 37.4                         | N.E. ½ E.                 | +64                | -35    | -87 08            |  |
|          |          |          | Direct.          | -86 56.5                         | N.E. by E. ½ E.           | +52                | -35    | -86 39            |  |
|          |          |          | Direct.          | -87 27.6                         | N. by E.                  | +88                | -35    | -86 35            |  |
|          |          |          | Def. N.          | -86 54.2                         | N. by E.                  | +88                | -81    | -86 47            |  |
| 19.      | -77 02   | 181 37   | Def. S.          | -87 45.2                         | N. by E.                  | +88                | -35    | -86 52            | Cross sea, table unsteady.                         |
|          |          |          | Mag. N.          | -87 16.6                         | N. by E.                  | +88                | -35    | -86 24            |  |
|          |          |          | Mag. N.S.        | -87 15.1                         | N. by E.                  | +88                | -35    | -86 22            |  |
|          |          |          | Mag. S.          | -86 53.6                         | N. by E.                  | +88                | -35    | -86 01            |  |
|          |          |          | Direct.          | -87 29.1                         | N. by E.                  | +88                | -35    | -86 36            |  |
| 20.      | -77 09   | 181 22   | Direct.          | -87 01.3                         | N.E. ½ N.                 | +72                | -35    | -86 24            | Table steady.                                      |
|          |          |          | Direct.          | -86 44.6                         | N.E.                      | +69                | -35    | -86 11            |  |
|          |          |          | Def. N.          | -86 04.7                         | N.E.                      | +69                | -81    | -86 17            |  |
|          |          |          | Def. S.          | -86 42.3                         | N.E.                      | +69                | -35    | -86 08            |  |
|          |          |          | Mag. N.          | -86 26.7                         | N.E.                      | +69                | -35    | -85 53            |  |
| 21.      | -76 50   | 186 21   | Mag. N.S.        | -86 23.0                         | N.E.                      | +69                | -35    | -85 49            | Strong gale, heavy sea, a great deal of motion.    |
|          |          |          | Mag. S.          | -86 48.5                         | N.E.                      | +69                | -35    | -86 15            |  |
|          |          |          | Direct.          | -86 39.1                         | N.E.                      | +69                | -35    | -86 05            |  |
|          |          |          | Direct.          | -85 56.9                         | N.E. by E.                | +59                | -35    | -85 33            |  |
|          |          |          | Direct.          | -84 13.7                         | S.W.                      | -52                | -35    | -85 41            |  |
| 21.      | -75 45   | 195 02   | Direct.          | -84 13.7                         | S.W.                      | -52                | -35    | -85 41            | Strong gale, heavy sea, a great deal of motion.    |
|          |          |          | Direct.          | -84 13.7                         | S.W.                      | -52                | -35    | -85 41            |  |
|          |          |          | Direct.          | -84 13.7                         | S.W.                      | -52                | -35    | -85 41            |  |
|          |          |          | Direct.          | -84 13.7                         | S.W.                      | -52                | -35    | -85 41            |  |
|          |          |          | Direct.          | -84 13.7                         | S.W.                      | -52                | -35    | -85 41            |  |

## Observations of Inclination. (Continued.)

| 1842.    | Lat.   | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks.                                       |
|----------|--------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|--|
|          |        |        |                  |                                  |                           | Ship's attraction. | Index. |                   |  |
| Feb. 22. | -76 24 | 184 54 | Direct.          | -83 41.5                         | S.E. by S.                | -66                | -35    | -85 23            | A head sea, ship unsteady.                     |
|          |        |        | Def. N.          | -82 56.0                         | S.E. by S.                | -66                | -81    | -85 23            |  |
|          |        |        | Def. S.          | -83 37.0                         | S.E. by S.                | -66                | -35    | -85 18            |  |
|          |        |        | Mag. N.          | -83 19.8                         | S.E. by S.                | -66                | -35    | -85 01            |  |
|          |        |        | Mag. N.S.        | -82 59.8                         | S.E. by S.                | -66                | -35    | -84 41            |  |
|          |        |        | Mag. S.          | -83 29.9                         | S.E. by S.                | -66                | -35    | -85 11            |  |
|          | -76 46 | 193 48 | Direct.          | -83 45.2                         | S.E. by S.                | -66                | -35    | -85 26            | -85 12   |
|          |        |        | Direct.          | -84 19.4                         | E.S.E.                    | -18                | -35    | -85 12            |  |
|          |        |        | Direct.          | -84 37.4                         | E. by S.                  | -1                 | -35    | -85 13            |  |
|          |        |        | Def. N.          | -83 51.4                         | E. by S.                  | -1                 | -81    | -85 13            |  |
|          |        |        | Def. S.          | -84 50.8                         | E. by S.                  | -1                 | -35    | -85 27            |  |
|          |        |        | Mag. N.          | -84 31.6                         | E. by S.                  | -1                 | -35    | -85 08            |  |
|          | -77 13 | 193 52 | Mag. N.S.        | -84 17.0                         | E. by S.                  | -1                 | -35    | -84 53            | Light swell, gentle motion.                    |
|          |        |        | Mag. S.          | -84 27.8                         | E. by S.                  | -1                 | -35    | -85 04            |  |
|          |        |        | Direct.          | -85 02.7                         | E.                        | +17                | -35    | -85 21            |  |
|          |        |        | Direct.          | -84 14.6                         | S.W. by W. 1/2 W.         | -27                | -35    | -85 17            |  |
|          |        |        | Direct.          | -85 13.0                         | N.E. by E.                | +59                | -35    | -84 49            |  |
|          |        |        | Def. N.          | -84 34.3                         | N.E. by E.                | +59                | -81    | -84 56            |  |
| 23.      | -77 48 | 197 23 | Def. S.          | -85 21.1                         | N.E. by E.                | +59                | -35    | -84 57            | -84 49 Table very steady.                      |
|          |        |        | Direct.          | -85 05.7                         | E.N.E.                    | +46                | -35    | -84 55            |  |
|          | -77 47 | 197 25 | Mag. N.          | -84 21.4                         | E.N.E.                    | +46                | -35    | -84 10            |  |
|          |        |        | Mag. N.S.        | -84 41.7                         | E.N.E.                    | +46                | -35    | -84 31            |  |
|          |        |        | Mag. S.          | -85 00.2                         | E.N.E.                    | +46                | -35    | -84 49            |  |
|          |        |        | Direct.          | -85 05.5                         | E.N.E.                    | +46                | -35    | -84 55            |  |
|          | -77 14 | 199 29 | Direct.          | -84 00.0                         | S.W. by S.                | -66                | -35    | -85 41            |  |
|          |        |        | Def. N.          | -83 17.5                         | S.W. by S.                | -66                | -81    | -85 45            |  |
|          |        |        | Def. S.          | -83 57.7                         | S.W. by S.                | -66                | -35    | -85 39            |  |
|          |        |        | Mag. N.          | -83 42.9                         | S.W. by S.                | -66                | -35    | -85 24            |  |
|          |        |        | Mag. N.S.        | -83 32.3                         | S.W. by S.                | -66                | -35    | -85 13            |  |
|          |        |        | Mag. S.          | -84 11.7                         | S.W. by S.                | -66                | -35    | -85 53            |  |
| 24.      | -77 00 | 198 50 | Direct.          | -85 13.3                         | w.                        | +17                | -35    | -85 31            | -85 35 Swell from N.E., steady.                |
|          |        |        | Direct.          | -84 25.8                         | S.W. by W.                | -36                | -35    | -85 37            |  |
|          | -75 20 | 194 36 | Direct.          | -85 30.9                         | w.                        | +17                | -35    | -85 49            |  |
|          |        |        | Def. N.          | -84 33.1                         | w.                        | +17                | -81    | -85 37            |  |
|          |        |        | Def. S.          | -85 28.4                         | w.                        | +17                | -35    | -85 46            |  |
|          |        |        | Mag. N.          | -85 15.5                         | w.                        | +17                | -35    | -85 34            |  |
|          |        |        | Mag. N.S.        | -84 59.3                         | w.                        | +17                | -35    | -85 17            |  |
|          |        |        | Mag. S.          | -85 22.7                         | w.                        | +17                | -35    | -85 41            |  |
| 25.      | -77 00 | 198 50 | Direct.          | -85 38.6                         | w.                        | +17                | -35    | -85 57            | -85 46 Swell from the E.N.E., steady.          |
|          |        |        | Direct.          | -84 34.6                         | S.W. by S.                | -66                | -35    | -86 16            |  |
|          | -75 20 | 194 36 | Direct.          | -86 03.9                         | W.N.W.                    | +46                | -35    | -85 53            |  |
|          |        |        | Direct.          | -85 37.4                         | N.W. by W.                | +60                | -35    | -85 12            |  |
|          |        |        | Def. N.          | -84 44.0                         | N.W. by W.                | +60                | -81    | -85 05            |  |
|          |        |        | Def. S.          | -85 36.9                         | N.W. by W.                | +60                | -35    | -85 12            |  |
|          |        |        | Mag. N.          | -85 19.6                         | N.W. by W.                | +60                | -35    | -84 55            |  |
|          |        |        | Mag. N.S.        | -85 37.8                         | N.W. by W.                | +60                | -35    | -85 13            |  |
| 26.      | -73 10 | 189 21 | Mag. S.          | -85 30.6                         | N.W. by W.                | +60                | -35    | -85 06            | -85 08 Strong breeze, motion great.            |
|          |        |        | Direct.          | -85 35.6                         | N.W. by W.                | +60                | -35    | -85 11            |  |
|          | -72 03 | 187 40 | Direct.          | -83 30.8                         | S.W.                      | -52                | -35    | -84 58            |  |
|          |        |        | Def. N.          | -82 37.6                         | S.W.                      | -52                | -81    | -84 51            |  |
|          |        |        | Def. S.          | -83 36.5                         | S.W.                      | -52                | -35    | -85 04            |  |
|          |        |        | Mag. N.          | -83 07.6                         | S.W.                      | -52                | -35    | -84 35            |  |
|          |        |        | Direct.          | -84 56.8                         | w. by N. 1/2 N.           | +39                | -35    | -84 53            |  |
|          |        |        | Mag. N.S.        | -84 25.5                         | w. by N. 1/2 N.           | +39                | -35    | -84 22            |  |
| 27.      | -71 43 | 187 15 | Mag. S.          | -83 43.4                         | S.W.                      | -52                | -35    | -85 10            | -84 56 Swell from the eastward, motion slight. |
|          |        |        | Direct.          | -83 52.3                         | W.S.W.                    | -18                | -35    | -84 45            |  |
|          |        |        | Direct.          | -84 56.8                         | W.S.W.                    | -18                | -35    | -85 50            |  |
|          |        |        | Direct.          | -84 56.8                         | W.S.W.                    | -18                | -35    | -85 50            |  |

## Observations of Inclination. (Continued.)

| 1842.    | Lat.   | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks.                               |
|----------|--------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|--|
|          |        |        |                  |                                  |                           | Ship's attraction. | Index. |                   |  |
| Feb. 28. | -71 20 | 184 30 | Direct.          | -84 01.9                         | w. by s.                  | - 1                | -35    | -84 38            | Table steady.                          |
|          |        |        | Def. N.          | -82 59.6                         | w. by s.                  | - 1                | -81    | -84 22            |  |
|          |        |        | Def. S.          | -83 56.9                         | w. by s.                  | - 1                | -35    | -84 33            |  |
|          |        |        | Mag. N.          | -83 37.9                         | w. by s.                  | - 1                | -35    | -84 14            |  |
|          |        |        | Mag. N.S.        | -83 23.9                         | w. by s.                  | - 1                | -35    | -84 00            |  |
|          | -70 55 | 183 56 | Mag. S.          | -84 00.7                         | w. by s.                  | - 1                | -35    | -84 37            |  |
|          |        |        | Direct.          | -83 35.3                         | s.w. by w.                | - 36               | -35    | -84 46            |  |
|          |        |        | Direct.          | -84 32.0                         | w. 1/2 s.                 | + 8                | -35    | -84 59            |  |
|          |        |        | Direct.          | -84 36.8                         | w.                        | + 17               | -35    | -84 55            |  |
|          |        |        | Direct.          | -85 31.6                         | N.W. 1/2 W.               | + 64               | -35    | -85 03            |  |
| Mar. 1.  | -70 49 | 183 46 | Direct.          | -85 00.0                         | W.N.W.                    | + 54               | -35    | -84 41            | Swell from the eastward, table steady. |
|          |        |        | Def. N.          | -84 06.3                         | W.N.W.                    | + 54               | -81    | -84 33            |  |
|          |        |        | Def. S.          | -84 54.4                         | W.N.W.                    | + 54               | -35    | -84 35            |  |
|          |        |        | Mag. N.          | -84 44.4                         | W.N.W.                    | + 54               | -35    | -84 25            |  |
|          |        |        | Mag. N.S.        | -84 35.4                         | W.N.W.                    | + 54               | -35    | -84 16            |  |
|          | -69 54 | 179 55 | Mag. S.          | -84 44.7                         | W.N.W.                    | + 54               | -35    | -84 26            |  |
|          |        |        | Direct.          | -84 54.2                         | W.N.W.                    | + 54               | -35    | -84 35            |  |
|          |        |        | Direct.          | -84 28.0                         | w. by N.                  | + 37               | -35    | -84 26            |  |
|          |        |        | Direct.          | -83 45.8                         | N.N.E.                    | + 99               | -35    | -82 42            |  |
|          |        |        | Def. N.          | -82 29.8                         | N.N.E.                    | + 99               | -81    | -82 12            |  |
| 2.       | -68 09 | 183 10 | Def. S.          | -83 33.2                         | N.N.E.                    | + 99               | -35    | -82 29            | Table steady.                          |
|          |        |        | Mag. N.          | -83 31.2                         | N.N.E.                    | + 99               | -35    | -82 27            |  |
|          |        |        | Mag. N.S.        | -83 17.5                         | N.N.E.                    | + 99               | -35    | -82 14            |  |
|          |        |        | Mag. S.          | -83 26.9                         | N.N.E.                    | + 99               | -35    | -82 23            |  |
|          |        |        | Direct.          | -83 40.9                         | N.N.E.                    | + 99               | -35    | -82 37            |  |
|          | -67 35 | 185 18 | Direct.          | -82 27.4                         | N.E. by E.                | + 71               | -35    | -81 51            |  |
|          |        |        | Direct.          | -82 53.4                         | N.E.                      | + 83               | -35    | -82 05            |  |
|          |        |        | Direct.          | -82 21.8                         | N.E. by E.                | + 71               | -35    | -81 46            |  |
|          |        |        | Def. N.          | -81 31.3                         | N.E. by E.                | + 71               | -81    | -81 41            |  |
|          |        |        | Def. S.          | -82 16.9                         | N.E. by E.                | + 71               | -35    | -81 41            |  |
| 3.       | -67 35 | 185 18 | Mag. N.          | -82 04.0                         | N.E. by E.                | + 71               | -35    | -81 28            | Cross sea, unsteady.                   |
|          |        |        | Mag. N.S.        | -81 58.7                         | N.E. by E.                | + 71               | -35    | -81 23            |  |
|          |        |        | Mag. S.          | -82 02.7                         | N.E. by E.                | + 71               | -35    | -81 27            |  |
|          |        |        | Direct.          | -82 28.2                         | N.E. 1/2 E.               | + 76               | -35    | -81 52            |  |
|          |        |        | Direct.          | -82 12.6                         | w.                        | + 18               | -35    | -82 30            |  |
|          | -67 27 | 185 32 | Direct.          | -82 18.4                         | N. by w.                  | + 103              | -35    | -81 10            |  |
|          |        |        | Def. N.          | -81 14.9                         | N. by w.                  | + 103              | -81    | -80 53            |  |
|          |        |        | Def. S.          | -82 28.2                         | N. by w.                  | + 103              | -35    | -81 20            |  |
|          |        |        | Mag. N.          | -82 07.0                         | N. by w.                  | + 103              | -81    | -80 59            |  |
|          |        |        | Mag. S.          | -82 22.0                         | N. by w.                  | + 103              | -35    | -81 14            |  |
| 4.       | -67 40 | 187 40 | Direct.          | -82 13.3                         | N.                        | + 104              | -35    | -81 04            | Strong gale, heavy sea, very unsteady. |
|          |        |        | Def. N.          | -81 40.1                         | N.                        | + 104              | -81    | -81 17            |  |
|          |        |        | Def. S.          | -81 45.6                         | N.                        | + 104              | -35    | -80 37            |  |
|          |        |        | Mag. N.          | -82 19.7                         | N.                        | + 104              | -35    | -81 11            |  |
|          |        |        | Mag. N.S.        | -82 01.2                         | N.                        | + 104              | -35    | -80 52            |  |
|          | -67 27 | 185 32 | Mag. S.          | -82 16.6                         | N.                        | + 104              | -35    | -81 08            |  |
|          |        |        | Direct.          | -82 20.0                         | N.                        | + 104              | -35    | -81 11            |  |
|          |        |        | Direct.          | -81 09.3                         | N. by E.                  | + 102              | -35    | -80 02            |  |
|          |        |        | Def. N.          | -80 06.6                         | N. by E.                  | + 102              | -81    | -79 46            |  |
|          |        |        | Def. S.          | -80 50.1                         | N. by E.                  | + 102              | -35    | -79 43            |  |
| 5.       | -67 09 | 188 02 | Mag. N.          | -80 47.0                         | N. by E.                  | + 102              | -35    | -79 40            | South-westerly swell, unsteady.        |
|          |        |        | Mag. N.S.        | -80 34.9                         | N. by E.                  | + 102              | -35    | -79 28            |  |
|          |        |        | Mag. S.          | -81 00.6                         | N. by E.                  | + 102              | -35    | -79 54            |  |
|          |        |        | Direct.          | -81 03.5                         | N. by E.                  | + 102              | -35    | -79 57            |  |
|          |        |        | Direct.          | -80 44.2                         | N. by E.                  | + 102              | -35    | -79 37            |  |
|          | -65 04 | 192 00 | Direct.          | -80 28.9                         | N. by E. 1/2 E.           | + 99               | -35    | -79 25            |  |
|          |        |        | Direct.          | -80 30.4                         | N. by E. 1/2 E.           | + 99               | -35    | -79 26            |  |
|          |        |        | Direct.          | -80 30.4                         | N. by E. 1/2 E.           | + 99               | -35    | -79 26            |  |
|          |        |        | Direct.          | -80 30.4                         | N. by E. 1/2 E.           | + 99               | -35    | -79 26            |  |
|          |        |        | Direct.          | -80 30.4                         | N. by E. 1/2 E.           | + 99               | -35    | -79 26            |  |
| 6.       | -64 49 | 192 21 | Direct.          | -80 30.4                         | N. by E. 1/2 E.           | + 99               | -35    | -79 26            | South-westerly swell, unsteady.        |
|          |        |        | Direct.          | -80 30.4                         | N. by E. 1/2 E.           | + 99               | -35    | -79 26            |  |
|          |        |        | Direct.          | -80 30.4                         | N. by E. 1/2 E.           | + 99               | -35    | -79 26            |  |
|          |        |        | Direct.          | -80 30.4                         | N. by E. 1/2 E.           | + 99               | -35    | -79 26            |  |
|          |        |        | Direct.          | -80 30.4                         | N. by E. 1/2 E.           | + 99               | -35    | -79 26            |  |
|          | -65 04 | 192 00 | Direct.          | -80 30.4                         | N. by E. 1/2 E.           | + 99               | -35    | -79 26            |  |
|          |        |        | Direct.          | -80 30.4                         | N. by E. 1/2 E.           | + 99               | -35    | -79 26            |  |
|          |        |        | Direct.          | -80 30.4                         | N. by E. 1/2 E.           | + 99               | -35    | -79 26            |  |
|          |        |        | Direct.          | -80 30.4                         | N. by E. 1/2 E.           | + 99               | -35    | -79 26            |  |
|          |        |        | Direct.          | -80 30.4                         | N. by E. 1/2 E.           | + 99               | -35    | -79 26            |  |

| 1842.   | Lat.   | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks.   |
|---------|--------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|--|
|         |        |        |                  |                                  |                           | Ship's attraction. | Index. |                   |  |
| Mar. 7. | —63 30 | 194 15 | Direct.          | —79 46.4                         | N. by E.                  | +100               | —35    | —78 41            | Steady.  |
|         |        |        | Def. N.          | —78 34.4                         | N. by E.                  | +100               | —81    | —78 15            |  |
|         |        |        | Def. S.          | —79 29.2                         | N. by E.                  | +100               | —35    | —78 24            |  |
|         |        |        | Mag. N.          | —79 26.0                         | N. by E.                  | +100               | —35    | —78 21            |  |
|         |        |        | Mag. N.S.        | —79 24.0                         | N. by E.                  | +100               | —35    | —78 19            |  |
|         |        |        | Mag. S.          | —79 50.3                         | N. by E.                  | +100               | —35    | —78 45            |  |
| 8.      | —62 17 | 195 55 | Direct.          | —79 49.3                         | N. by E.                  | +100               | —35    | —78 44            | Steady.  |
|         |        |        | Direct.          | —78 44.7                         | N. by E.                  | +100               | —35    | —77 40            |  |
|         |        |        | Def. N.          | —77 54.4                         | N. by E.                  | +100               | —81    | —77 35            |  |
|         |        |        | Def. S.          | —78 25.8                         | N. by E.                  | +100               | —35    | —77 21            |  |
|         |        |        | Mag. N.          | —78 27.8                         | N. by E.                  | +100               | —35    | —77 23            |  |
|         |        |        | Mag. N.S.        | —78 20.3                         | N. by E.                  | +100               | —35    | —77 15            |  |
|         |        |        | Mag. S.          | —78 42.8                         | N. by E.                  | +100               | —35    | —77 38            | Steady.  |
|         |        |        | Direct.          | —78 40.3                         | N. by E.                  | +100               | —35    | —77 35            |  |
| 9.      | —61 06 | 198 08 | Direct.          | —77 41.6                         | N.E. ½ N.                 | + 85               | —35    | —76 52            |  |
|         |        |        | Def. N.          | —76 24.7                         | N.E. ½ N.                 | + 85               | —81    | —76 22            |  |
|         |        |        | Def. S.          | —77 25.9                         | N.E. ½ N.                 | + 85               | —35    | —76 36            |  |
|         |        |        | Mag. N.          | —77 16.4                         | N.E. by N.                | + 88               | —35    | —76 23            |  |
|         |        |        | Direct.          | —77 38.4                         | N.E. by N.                | + 88               | —35    | —76 45            | Steady.  |
|         |        |        | Mag. N.S.        | —77 11.9                         | N.E. by N.                | + 88               | —35    | —76 19            |  |
|         |        |        | Mag. S.          | —77 16.9                         | N.E. by N.                | + 88               | —35    | —76 24            |  |
|         |        |        | Direct.          | —77 28.6                         | N.E. by N.                | + 88               | —35    | —76 36            |  |
|         |        |        | Direct.          | —77 16.7                         | N.E.                      | + 81               | —35    | —76 31            |  |
| 10.     | —60 57 | 199 03 | Direct.          | —75 32.7                         | E.N.E.                    | + 53               | —35    | —75 15            |  |
|         |        |        | Def. N.          | —74 41.0                         | E.N.E.                    | + 53               | —81    | —75 19            |  |
|         |        |        | Def. S.          | —75 33.6                         | E.N.E.                    | + 53               | —35    | —75 16            |  |
|         |        |        | Mag. N.          | —75 14.2                         | E.N.E.                    | + 53               | —35    | —74 56            |  |
|         |        |        | Mag. N.S.        | —75 08.5                         | E.N.E.                    | + 53               | —35    | —74 51            |  |
|         |        |        | Mag. S.          | —75 27.1                         | E.N.E.                    | + 53               | —35    | —75 09            |  |
|         |        |        | Direct.          | —75 30.9                         | E.N.E.                    | + 53               | —35    | —75 13            | Strong gale, heavy sea, ship unsteady.                       |
| 11.     | —60 15 | 208 06 | Direct.          | —74 20.6                         | E. by N.                  | + 37               | —35    | —74 19            |  |
|         |        |        | Def. N.          | —73 57.2                         | E. by N.                  | + 37               | —81    | —74 41            |  |
|         |        |        | Def. S.          | —74 16.0                         | E. by N.                  | + 37               | —35    | —74 14            |  |
|         |        |        | Mag. N.          | —74 32.4                         | E. by N.                  | + 37               | —35    | —74 30            |  |
|         |        |        | Mag. N.S.        | —74 16.0                         | E. by N.                  | + 37               | —35    | —74 14            |  |
|         |        |        | Mag. S.          | —74 20.9                         | E. by N.                  | + 37               | —35    | —74 19            | Heavy swell, ship unsteady.                                  |
| 12.     | —60 16 | 211 45 | Direct.          | —74 28.5                         | E. by N.                  | + 37               | —35    | —74 27            |  |
|         |        |        | Direct.          | —74 07.4                         | E. by N.                  | + 37               | —35    | —74 05            |  |
|         |        |        | Def. N.          | —73 31.1                         | E. by N.                  | + 37               | —81    | —74 15            |  |
|         |        |        | Def. S.          | —74 20.5                         | E. by N.                  | + 37               | —35    | —74 18            |  |
|         |        |        | Mag. N.          | —74 08.9                         | E. by N.                  | + 37               | —35    | —74 07            |  |
|         |        |        | Mag. N.S.        | —74 28.0                         | E. by N.                  | + 37               | —35    | —74 26            | Heavy swell, steering very badly.                            |
|         |        |        | Mag. S.          | —74 33.4                         | E. by N.                  | + 37               | —35    | —74 31            |  |
|         |        |        | Direct.          | —74 11.5                         | E. by N.                  | + 37               | —35    | —74 09            |  |
|         | —60 18 | 212 39 | Direct.          | —73 59.8                         | E. by N.                  | + 37               | —35    | —73 58            |  |
| 13.     | —59 53 | 216 28 | Direct.          | —74 15.6                         | N.E. ½ E.                 | + 74               | —35    | —73 37            |  |
|         |        |        | Def. N.          | —73 29.3                         | N.E. ½ E.                 | + 74               | —81    | —73 36            |  |
|         |        |        | Def. S.          | —74 15.9                         | N.E. ½ E.                 | + 74               | —35    | —73 37            |  |
|         |        |        | Mag. N.          | —74 09.7                         | N.E. ½ E.                 | + 74               | —35    | —73 31            |  |
|         |        |        | Mag. N.S.        | —74 15.3                         | N.E. ½ E.                 | + 74               | —35    | —73 36            | Heavy swell from W.S.W., very unsteady, steering very badly. |
|         |        | </     |                  |                                  |                           |                    |        |                   |  |



## Observations of Inclination. (Continued.)

| 1842.    | Lat.   | Long.  | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks.   |
|----------|--------|--------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|--|
|          |        |        |                  |                                  |                           | Ship's attraction. | Index. |                   |  |
| Mar. 14. | —59 22 | 218 14 | Mag. N.S.        | —74 58.0                         | N.E. by E.                | +69                | —35    | —74 24            | Heavy swell from W.S.W., very unsteady, steering very badly. |
|          |        |        | Mag. S.          | —75 01.0                         | N.E. by E.                | +69                | —35    | —74 27            |  |
|          |        |        | Direct.          | —75 09.6                         | N.E. by E.                | +69                | —35    | —74 36            |  |
|          |        |        | Direct.          | —75 07.1                         | N.E. by E.                | +69                | —35    | —74 33            |  |
|          |        |        | Direct.          | —75 13.7                         | N.E. by E.                | +69                | —35    | —74 40            |  |
| 15.      | —58 49 | 221 25 | Direct.          | —73 06.6                         | E.N.E.                    | +53                | —35    | —72 49            | Heavy sea from W.S.W., very unsteady, steering very badly.   |
|          |        |        | Def. N.          | —72 15.7                         | E.N.E.                    | +53                | —81    | —72 44            |  |
|          |        |        | Def. S.          | —73 21.2                         | E.N.E.                    | +53                | —35    | —73 03            |  |
|          |        |        | Mag. N.          | —73 08.4                         | E.N.E.                    | +53                | —35    | —72 50            |  |
|          |        |        | Mag. N.S.        | —73 13.1                         | E.N.E.                    | +53                | —35    | —72 55            |  |
|          |        |        | Mag. S.          | —73 07.7                         | E.N.E.                    | +53                | —35    | —72 50            |  |
|          |        |        | Direct.          | —73 10.8                         | E.N.E.                    | +53                | —35    | —72 53            |  |
|          | —58 48 | 222 22 | Direct.          | —74 05.2                         | E. by N.                  | +37                | —35    | —74 03            |  |
| 16.      | —58 59 | 227 30 | Direct.          | —73 24.8                         | E.                        | +21                | —35    | —73 39            |  |
|          | —59 01 | 227 43 | Direct.          | —73 21.9                         | E.                        | +21                | —35    | —73 36            |  |
|          |        |        | Def. N.          | —72 33.3                         | E.                        | +21                | —81    | —73 30            | Heavy sea from W.S.W., very unsteady, steering very badly.   |
|          |        |        | Def. S.          | —73 14.1                         | E.                        | +21                | —35    | —73 28            |  |
|          |        |        | Mag. N.          | —73 00.4                         | E.                        | +21                | —35    | —73 14            |  |
|          |        |        | Mag. N.S.        | —73 09.6                         | E.                        | +21                | —35    | —73 24            |  |
|          |        |        | Mag. S.          | —73 07.0                         | E.                        | +21                | —35    | —73 21            |  |
|          |        |        | Direct.          | —73 26.6                         | E.                        | +21                | —35    | —73 41            |  |
| 17.      | —59 32 | 231 46 | Direct.          | —72 41.3                         | E.                        | +21                | —35    | —72 55            |  |
| 18.      | —60 05 | 235 56 | Direct.          | —72 19.5                         | E. by S.                  | +2                 | —35    | —72 53            |  |
|          |        |        | Def. N.          | —71 10.6                         | E. by S.                  | +2                 | —81    | —72 30            |  |
|          |        |        | Def. S.          | —72 24.0                         | E. by S.                  | +2                 | —35    | —72 57            | Heavy sea from W.S.W., very unsteady, steering very badly.   |
|          |        |        | Mag. N.          | —72 29.7                         | E. by S.                  | +2                 | —35    | —73 03            |  |
|          |        |        | Mag. N.S.        | —72 04.7                         | E. by S.                  | +2                 | —35    | —72 38            |  |
|          |        |        | Mag. S.          | —72 52.0                         | E. by S.                  | +2                 | —35    | —73 25            |  |
|          |        |        | Direct.          | —73 01.1                         | E. by N.                  | +37                | —35    | —72 59            |  |
|          | —60 17 | 236 38 | Direct.          | —72 59.1                         | E.                        | +21                | —35    | —73 13            |  |
|          |        |        | Def. N.          | —71 56.0                         | E.                        | +21                | —81    | —72 56            |  |
|          |        |        | Def. S.          | —73 02.3                         | E.                        | +21                | —35    | —73 16            |  |
|          |        |        | Mag. N.          | —73 09.9                         | E.                        | +21                | —35    | —73 24            |  |
|          |        |        | Mag. N.S.        | —72 59.8                         | E.                        | +21                | —35    | —73 14            | Table more steady, and steering very well.                   |
|          |        |        | Mag. S.          | —72 54.8                         | E.                        | +21                | —35    | —73 13            |  |
|          |        |        | Direct.          | —73 01.8                         | E.                        | +21                | —35    | —73 16            |  |
|          | —60 24 | 237 29 | Direct.          | —73 08.6                         | E. by N.                  | +37                | —35    | —73 06            |  |
|          |        |        | Def. N.          | —72 17.2                         | E. by N.                  | +37                | —81    | —73 01            |  |
|          |        |        | Def. S.          | —73 09.0                         | E. by N.                  | +37                | —35    | —73 07            |  |
|          |        |        | Mag. N.          | —73 09.7                         | E. by N.                  | +37                | —35    | —73 08            |  |
|          |        |        | Mag. N.S.        | —73 06.2                         | E. by N.                  | +37                | —35    | —73 04            |  |
|          |        |        | Mag. S.          | —73 07.2                         | E. by N.                  | +37                | —35    | —73 05            |  |
|          |        |        | Direct.          | —73 07.1                         | E. by N.                  | +37                | —35    | —73 05            | Strong gale, heavy sea, steering badly.                      |
| 19.      | —60 00 | 240 57 | Direct.          | —71 59.1                         | E.N.E.                    | +53                | —35    | —71 41            |  |
| 20.      | —59 18 | 245 29 | Direct.          | —72 17.9                         | N.E.                      | +78                | —35    | —71 35            |  |
| 21.      | —59 05 | 247 17 | Direct.          | —71 23.1                         | E. by N.                  | +37                | —35    | —71 21            |  |
|          |        |        | Def. N.          | —70 26.9                         | E. by N.                  | +37                | —81    | —71 11            |  |
|          |        |        | Def. S.          | —71 26.8                         | E. by N.                  | +37                | —35    | —71 25            |  |
|          |        |        | Mag. N.          | —71 32.0                         | E. by N.                  | +37                | —35    | —71 30            |  |
|          |        |        | Mag. N.S.        | —71 20.1                         | E. by N.                  | +37                | —35    | —71 18            |  |
|          |        |        | Mag. S.          | —71 22.7                         | E. by N.                  | +37                | —35    | —71 21            |  |
|          |        |        | Direct.          | —71 20.9                         | E. by N.                  | +37                | —35    | —71 19            | Cross sea, slight motion.                                    |
|          | —59 00 | 248 49 | Direct.          | —71 53.4                         | N.E. ½ E.                 | +73                | —35    | —71 15            |  |
|          |        |        |                  |                                  |                           |                    |        |                   | Head sea, table unsteady.                                    |

## Observations of Inclination. (Continued.)

| 1842.    | Lat.    | Long.    | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks.                                    |
|----------|---------|----------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|---|
|          |         |          |                  |                                  |                           | Ship's attraction. | Index. |                   |   |
| Mar. 22. | 58° 26' | 251° 42' | Direct.          | 71° 06.1                         | E. by N.                  | +37                | 35     | 71° 04'           | Cross sea, unsteady.                        |
|          |         |          | Def. N.          | 70° 01.3                         | E. by N.                  | +37                | 81     | 70° 45'           |   |
|          |         |          | Def. S.          | 70° 45.2                         | E. by N.                  | +37                | 35     | 70° 43'           |   |
|          |         |          | Mag. N.          | 71° 03.3                         | E. by N.                  | +37                | 35     | 71° 01'           |   |
|          |         |          | Mag. N.S.        | 70° 44.0                         | E. by N.                  | +37                | 35     | 70° 42'           |   |
|          |         |          | Mag. S.          | 71° 07.8                         | E. by N.                  | +37                | 35     | 71° 06'           |   |
|          |         |          | Direct.          | 71° 02.9                         | E. by N.                  | +37                | 35     | 71° 01'           |   |
| 23.      | 58° 33' | 254° 45' | Direct.          | 70° 24.7                         | E. 1/2 N.                 | +30                | 35     | 70° 30'           | Slight motion.                              |
|          |         |          | Def. N.          | 69° 05.4                         | E. 1/2 N.                 | +30                | 81     | 69° 56'           |   |
|          |         |          | Def. S.          | 69° 57.5                         | E. 1/2 N.                 | +30                | 35     | 70° 03'           |   |
|          |         |          | Mag. N.          | 70° 02.7                         | E. 1/2 N.                 | +30                | 35     | 70° 08'           |   |
|          |         |          | Mag. N.S.        | 70° 21.7                         | E. 1/2 N.                 | +30                | 35     | 70° 27'           |   |
|          |         |          | Mag. S.          | 70° 10.1                         | E. 1/2 N.                 | +30                | 35     | 70° 15'           |   |
|          |         |          | Direct.          | 70° 31.2                         | E. 1/2 N.                 | +30                | 35     | 70° 36'           |   |
| 24.      | 58° 40' | 257° 32' | Direct.          | 70° 01.8                         | E. by N.                  | +37                | 35     | 70° 00'           | Slight motion.                              |
|          |         |          | Def. N.          | 69° 09.1                         | E. by N.                  | +37                | 81     | 69° 53'           |   |
|          |         |          | Def. S.          | 69° 43.7                         | E. by N.                  | +37                | 35     | 69° 42'           |   |
|          |         |          | Mag. N.          | 69° 47.0                         | E. by N.                  | +37                | 35     | 69° 45'           |   |
|          |         |          | Mag. N.S.        | 69° 37.4                         | E. by N.                  | +37                | 35     | 69° 35'           |   |
|          |         |          | Mag. S.          | 70° 03.0                         | E. by N.                  | +37                | 35     | 70° 01'           |   |
|          |         |          | Direct.          | 70° 01.8                         | E. by N.                  | +37                | 35     | 70° 00'           |   |
|          |         |          | Direct.          | 69° 52.9                         | E.                        | +22                | 35     | 70° 06'           | Table steady, very slight motion.           |
|          | 58° 49' | 258° 13' | Direct.          | 69° 51.1                         | E. by N.                  | +37                | 35     | 69° 49'           |   |
|          | 58° 53' | 258° 55' | Direct.          | 69° 24.2                         | E. by N.                  | +37                | 35     | 69° 32'           |   |
| 25.      | 58° 54' | 263° 35' | Direct.          | 69° 17.9                         | E.N.E.                    | +53                | 35     | 69° 00'           | Heavy sea, steering badly, a little motion. |
| 26.      | 58° 59' | 267° 50' | Direct.          | 68° 19.8                         | E. by N. 1/2 N.           | +44                | 35     | 68° 11'           |   |
|          |         |          | Def. N.          | 67° 03.0                         | E. by N. 1/2 N.           | +44                | 81     | 67° 40'           |   |
|          |         |          | Def. S.          | 68° 05.4                         | E. by N. 1/2 N.           | +44                | 35     | 67° 56'           |   |
|          |         |          | Mag. N.          | 67° 44.2                         | E. by N. 1/2 N.           | +44                | 35     | 67° 35'           |   |
|          |         |          | Mag. N.S.        | 67° 52.6                         | E. by N. 1/2 N.           | +44                | 35     | 67° 44'           |   |
|          |         |          | Mag. S.          | 67° 52.5                         | E. by N. 1/2 N.           | +44                | 35     | 67° 44'           |   |
|          |         |          | Direct.          | 68° 15.6                         | E. by N. 1/2 N.           | +44                | 35     | 68° 07'           |   |
| 27.      | 59° 01' | 272° 06' | Direct.          | 67° 19.3                         | E.N.E.                    | +52                | 35     | 67° 02'           | A swell from the W.S.W., ship unsteady.     |
|          |         |          | Def. N.          | 66° 46.0                         | E.N.E.                    | +52                | 81     | 67° 15'           |   |
|          |         |          | Def. S.          | 67° 09.6                         | E.N.E.                    | +52                | 35     | 66° 53'           |   |
|          |         |          | Mag. N.          | 66° 53.0                         | E.N.E.                    | +52                | 35     | 66° 36'           |   |
|          |         |          | Mag. N.S.        | 66° 59.0                         | E.N.E.                    | +52                | 35     | 66° 42'           |   |
|          |         |          | Mag. S.          | 67° 05.8                         | E.N.E.                    | +52                | 35     | 66° 49'           |   |
|          |         |          | Direct.          | 67° 17.8                         | E.N.E.                    | +52                | 35     | 67° 01'           |   |
|          |         |          | Direct.          | 67° 04.7                         | E.N.E.                    | +52                | 35     | 66° 48'           |   |
| 28.      | 58° 54' | 276° 18' | Direct.          | 66° 51.5                         | N.E. by E.                | +64                | 35     | 66° 23'           | Swell from the W.S.W., ship unsteady.       |
|          |         |          | Def. N.          | 65° 48.2                         | N.E. by E.                | +64                | 81     | 66° 05'           |   |
|          |         |          | Def. S.          | 66° 53.4                         | N.E. by E.                | +64                | 35     | 66° 24'           |   |
|          |         |          | Mag. N.          | 66° 15.2                         | N.E. by E.                | +64                | 35     | 65° 46'           |   |
|          |         |          | Mag. N.S.        | 66° 18.7                         | N.E. by E.                | +64                | 35     | 65° 50'           |   |
|          |         |          | Mag. S.          | 66° 51.6                         | N.E. by E.                | +64                | 35     | 66° 23'           |   |
|          |         |          | Direct.          | 66° 51.8                         | N.E. by E.                | +64                | 35     | 66° 23'           |   |
|          |         |          | Direct.          | 65° 05.3                         | N.E. by E.                | +62                | 35     | 64° 38'           | Swell from S.W., slight motion.             |
| 29.      | 58° 25' | 279° 44' | Direct.          | 65° 27.9                         | N.E. by E.                | +62                | 35     | 65° 01'           |   |
|          |         |          | Def. N.          | 64° 13.0                         | N.E. by E.                | +62                | 81     | 64° 32'           |   |
|          |         |          | Def. S.          | 65° 20.9                         | N.E. by E.                | +62                | 35     | 64° 54'           |   |
|          |         |          | Mag. N.          | 65° 03.0                         | N.E. by E.                | +62                | 35     | 64° 36'           |   |
|          |         |          | Mag. N.S.        | 65° 01.6                         | N.E. by E.                | +62                | 35     | 64° 35'           |   |
|          |         |          | Mag. S.          | 65° 08.8                         | N.E. by E.                | +62                | 35     | 64° 42'           |   |
|          |         |          | Direct.          | 65° 22.6                         | N.E. by E.                | +62                | 35     | 64° 56'           |   |

## Observations of Inclination. (Continued.)

| 1842.    | Lat.                 | Long.            | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks.   |
|----------|----------------------|------------------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|--|
|          |                      |                  |                  |                                  |                           | Ship's attraction. | Index. |                   |  |
| Mar. 30. | —58 31               | 281 33           | Direct.          | —64 15.6                         | E.N.E.                    | +51                | —35    | —64 00            | —63 48 Swell from S.W., slight motion.           |
|          |                      |                  | Direct.          | —64 25.0                         | N.E. by E.                | +62                | —35    | —63 58            |  |
|          |                      |                  | Def. N.          | —63 11.3                         | N.E. by E.                | +62                | —81    | —63 30            |  |
|          |                      |                  | Def. S.          | —64 11.8                         | N.E. by E.                | +62                | —35    | —63 45            |  |
|          |                      |                  | Mag. N.          | —64 05.6                         | N.E. by E.                | +62                | —35    | —63 39            |  |
|          |                      |                  | Mag. N.S.        | —64 09.8                         | N.E. by E.                | +62                | —35    | —63 43            |  |
|          | —58 30<br>31. —58 36 | 282 07<br>285 33 | Mag. S.          | —64 27.0                         | N.E. by E.                | +62                | —35    | —64 00            | —63 00 Swell from S.W., slight motion.           |
|          |                      |                  | Direct.          | —64 17.7                         | N.E. by E.                | +62                | —35    | —63 51            |  |
|          |                      |                  | Direct.          | —64 14.9                         | N.E. by E.                | +62                | —35    | —63 48            |  |
|          |                      |                  | Direct.          | —63 42.0                         | N.E.                      | +69                | —35    | —63 08            |  |
|          |                      |                  | Def. N.          | —62 50.6                         | N.E.                      | +69                | —81    | —63 03            |  |
|          |                      |                  | Def. S.          | —63 49.8                         | N.E.                      | +69                | —35    | —63 16            |  |
| April 1. | —57 21               | 289 36           | Mag. N.          | —63 22.5                         | N.E.                      | +69                | —35    | —62 49            | —61 36 Ship unsteady, steering very wildly.      |
|          |                      |                  | Mag. N.S.        | —63 17.2                         | N.E.                      | +69                | —35    | —62 43            |  |
|          |                      |                  | Mag. S.          | —63 24.6                         | N.E.                      | +69                | —35    | —62 51            |  |
|          |                      |                  | Direct.          | —63 44.5                         | N.E.                      | +69                | —35    | —63 11            |  |
|          |                      |                  | Direct.          | —62 26.9                         | N.E. by N.                | +71                | —35    | —61 51            |  |
|          |                      |                  | Def. N.          | —61 16.8                         | N.E. by N.                | +71                | —81    | —61 27            |  |
|          | —57 26               | 291 32           | Def. S.          | —62 04.7                         | N.E. by N.                | +71                | —35    | —61 29            | —59 52 Heavy sea, ship unsteady.                 |
|          |                      |                  | Mag. N.          | —62 04.4                         | N.E. by N.                | +71                | —35    | —61 28            |  |
|          |                      |                  | Mag. N.S.        | —62 12.7                         | N.E. by N.                | +71                | —35    | —61 37            |  |
|          |                      |                  | Mag. S.          | —62 12.4                         | N.E. by N.                | +71                | —35    | —61 36            |  |
|          |                      |                  | Direct.          | —62 17.0                         | N.E. by N.                | +71                | —35    | —61 41            |  |
|          |                      |                  | Direct.          | —58 55.8                         | S.E.                      | —33                | —35    | —60 04            |  |
|          | —57 25<br>3. —56 37  | 292 02<br>294 34 | Def. N.          | —57 57.1                         | S.E.                      | —33                | —81    | —59 51            | —59 02 Steering badly.                           |
|          |                      |                  | Def. S.          | —58 43.2                         | S.E.                      | —33                | —35    | —59 51            |  |
|          |                      |                  | Mag. N.          | —58 49.5                         | S.E.                      | —33                | —35    | —59 58            |  |
|          |                      |                  | Mag. N.S.        | —58 29.2                         | S.E.                      | —33                | —35    | —59 37            |  |
|          |                      |                  | Mag. S.          | —58 23.7                         | S.E.                      | —33                | —35    | —59 32            |  |
|          |                      |                  | Direct.          | —58 59.8                         | S.E.                      | —33                | —35    | —60 08            |  |
|          | —57 25<br>3. —56 37  | 292 02<br>294 34 | Direct.          | —58 22.4                         | S.S.E.                    | —62                | —35    | —59 59            | —56 48 Heavy sea, strong breeze, steering badly. |
|          |                      |                  | Direct.          | —59 50.8                         | N.E.                      | +65                | —35    | —59 21            |  |
|          |                      |                  | Def. N.          | —58 33.4                         | N.E.                      | +65                | —81    | —58 49            |  |
|          |                      |                  | Def. S.          | —59 43.5                         | N.E.                      | +65                | —35    | —59 13            |  |
|          |                      |                  | Mag. N.          | —59 19.3                         | N.E.                      | +65                | —35    | —58 49            |  |
|          |                      |                  | Mag. N.S.        | —59 26.3                         | N.E.                      | +65                | —35    | —58 56            |  |
| April 1. | —59 21               | 297 21           | Mag. S.          | —59 21.8                         | N.E.                      | +65                | —35    | —58 52            | —53 25 Ship steady.                              |
|          |                      |                  | Direct.          | —59 45.5                         | N.E.                      | +65                | —35    | —59 16            |  |
|          |                      |                  | Direct.          | —57 27.0                         | N. by E.                  | +66                | —35    | —56 56            |  |
|          |                      |                  | Def. N.          | —56 43.5                         | N. by E.                  | +66                | —81    | —56 58            |  |
|          |                      |                  | Def. S.          | —57 23.2                         | N. by E.                  | +66                | —35    | —56 52            |  |
|          |                      |                  | Mag. N.          | —57 10.4                         | N. by E.                  | +66                | —35    | —56 39            |  |
|          | —54 48               | 299 52           | Mag. N.S.        | —57 13.4                         | N. by E.                  | +66                | —35    | —56 42            | —53 25 Ship steady.                              |
|          |                      |                  | Mag. S.          | —57 11.0                         | N. by E.                  | +66                | —35    | —56 40            |  |
|          |                      |                  | Direct.          | —57 19.0                         | N. by E.                  | +66                | —35    | —56 48            |  |
|          |                      |                  | Direct.          | —54 40.0                         | N.N.E.                    | +58                | —35    | —54 17            |  |
|          |                      |                  | Def. N.          | —53 51.3                         | N.N.E.                    | +58                | —81    | —54 14            |  |
|          |                      |                  | Def. S.          | —54 43.4                         | N.N.E.                    | +58                | —35    | —54 20            |  |
|          | —52 40               | 300 33<br>300 42 | Mag. N.          | —54 31.9                         | N.N.E.                    | +58                | —35    | —54 09            | —53 25 Ship steady.                              |
|          |                      |                  | Mag. N.S.        | —54 22.3                         | N.N.E.                    | +58                | —35    | —53 59            |  |
|          |                      |                  | Mag. S.          | —54 15.0                         | N.N.E.                    | +58                | —35    | —53 42            |  |
|          |                      |                  | Direct.          | —54 32.3                         | N.N.E.                    | +58                | —35    | —54 09            |  |
|          |                      |                  | Direct.          | —53 51.0                         | N.N.E.                    | +58                | —35    | —53 28            |  |
|          |                      |                  | Direct.          | —53 08.3                         | N. by E.                  | +57                | —35    | —52 46            |  |
|          | —52 35<br>—52 28     | 300 33<br>300 42 | Def. N.          | —52 26.4                         | N. by E.                  | +57                | —81    | —52 50            | —53 25 Ship steady.                              |
|          |                      |                  | Def. S.          | —53 07.9                         | N. by E.                  | +57                | —35    | —52 46            |  |

## Observations of Inclination. (Continued.)

| 1842.    | Lat.                          | Long.    | Method employed. | Observed Inclination. Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks.                      |
|----------|-------------------------------|----------|------------------|----------------------------------|---------------------------|--------------------|--------|-------------------|-------------------------------|
|          |                               |          |                  |                                  |                           | Ship's attraction. | Index. |                   |                               |
| April 5. | -52° 28'                      | 300° 42' | Mag. N.          | -52° 50.2                        | N. by E.                  | +57                | -35    | -52° 28'          | Ship steady.                  |
|          |                               |          | Mag. N.S.        | -53° 05.2                        | N. by E.                  | +57                | -35    | -52° 43'          |                               |
|          |                               |          | Mag. S.          | -53° 00.8                        | N. by E.                  | +57                | -35    | -52° 39'          |                               |
|          |                               |          | Direct.          | -53° 08.4                        | N. by E.                  | +57                | -35    | -52° 46'          |                               |
| 6.       | -51° 42'                      | 301° 36' | Direct.          | -52° 29.0                        | N.N.W. $\frac{1}{2}$ W.   | +54                | -35    | -52° 10'          | Strong breeze, slight motion. |
|          |                               |          | Def. N.          | -51° 20.0                        | N.N.W. $\frac{1}{2}$ W.   | +54                | -81    | -51° 47'          |                               |
|          |                               |          | Def. S.          | -52° 35.9                        | N.N.W. $\frac{1}{2}$ W.   | +54                | -35    | -52° 17'          |                               |
|          |                               |          | Mag. N.          | -52° 16.3                        | N.N.W. $\frac{1}{2}$ W.   | +54                | -35    | -51° 57'          |                               |
|          |                               |          | Mag. N.S.        | -52° 20.7                        | N.N.W. $\frac{1}{2}$ W.   | +54                | -35    | -52° 02'          |                               |
|          |                               |          | Mag. S.          | -52° 25.4                        | N.N.W. $\frac{1}{2}$ W.   | +54                | -35    | -52° 06'          |                               |
|          |                               |          | Direct.          | -52° 24.5                        | N.N.W. $\frac{1}{2}$ W.   | +54                | -35    | -52° 06'          |                               |
| 9.       | Port Louis, Falkland Islands. |          | Direct.          | -51° 32.8                        | W. $\frac{1}{2}$ N.       | +32                | -35    | -51° 36'          | Single anchor.                |
|          |                               |          | Def. N.          | -50° 51.4                        | W. $\frac{1}{2}$ N.       | +32                | -81    | -51° 40'          |                               |
|          |                               |          | Def. S.          | -52° 09.8                        | W. $\frac{1}{2}$ N.       | +32                | -35    | -52° 13'          |                               |
| 11.      | -51° 32'                      | 301° 53' | Direct.          | -51° 36.7*                       |                           |                    | -35    | -52° 12'          |                               |
| July 25. |                               |          | Def. N.          | -50° 33.0                        |                           |                    | -81    | -51° 54'          | Observed on shore.            |
|          |                               |          | Def. S.          | -52° 08.6                        |                           |                    | -35    | -52° 44'          |                               |
|          |                               |          | Mag. N.          | -51° 33.1                        |                           |                    | -35    | -52° 08'          |                               |
|          |                               |          | Mag. N.S.        | -51° 34.1                        |                           |                    | -35    | -52° 09'          |                               |
|          |                               |          | Mag. S.          | -51° 42.3                        |                           |                    | -35    | -52° 17'          |                               |
|          |                               |          | Direct.          | -51° 34.4†                       |                           |                    | -35    | -52° 09'          |                               |
|          |                               |          | Def. N.          | -51° 03.7                        |                           |                    | -81    | -52° 25'          |                               |
|          |                               |          | Def. S.          | -51° 58.7                        |                           |                    | -35    | -52° 34'          |                               |
|          |                               |          | Mag. N.          | -51° 32.8                        |                           |                    | -35    | -52° 08'          |                               |
|          |                               |          | Mag. N.S.        | -51° 33.8                        |                           |                    | -35    | -52° 09'          |                               |
|          |                               |          | Mag. S.          | -51° 43.3                        |                           |                    | -35    | -52° 18'          |                               |
|          |                               |          | Direct.          | -51° 31.6‡                       |                           |                    | -35    | -52° 07'          |                               |
|          |                               |          | Def. N.          | -51° 00.8                        |                           |                    | -81    | -52° 22'          |                               |
|          |                               |          | Def. S.          | -51° 58.3                        |                           |                    | -35    | -52° 33'          |                               |
|          |                               |          | Mag. N.          | -51° 31.7                        |                           |                    | -35    | -52° 07'          |                               |
|          |                               |          | Mag. N.S.        | -51° 31.4                        |                           |                    | -35    | -52° 06'          |                               |
|          |                               |          | Mag. S.          | -51° 37.5                        |                           |                    | -35    | -52° 13'          |                               |
|          |                               |          | Direct.          | -51° 31.5                        |                           |                    | -35    | -52° 07'          |                               |
|          |                               |          | Direct.          | -51° 32.2§                       |                           |                    | -35    | -52° 07'          |                               |
|          |                               |          | Def. N.          | -50° 59.9                        |                           |                    | -81    | -52° 21'          |                               |
|          |                               |          | Def. S.          | -51° 58.3                        |                           |                    | -35    | -52° 33'          |                               |
|          |                               |          | Mag. N.          | -51° 31.9                        |                           |                    | -35    | -52° 07'          |                               |
|          |                               |          | Mag. N.S.        | -51° 32.3                        |                           |                    | -35    | -52° 07'          |                               |
|          |                               |          | Mag. S.          | -51° 44.3                        |                           |                    | -35    | -52° 19'          |                               |

\* Observed on shore ;  
face west.

Direct. .. -52° 49.6  
Def. N. .. -53° 05.3  
Def. S. .. -52° 48.3  
Mag. N... -53° 00.8  
Mag. N.S. -53° 09.7  
Mag. S... -53° 12.1

† Observed on shore ;  
face west.

Direct. .. -52° 39.5  
Def. N. .. -53° 30.8  
Def. S. .. -52° 57.9  
Mag. N... -53° 05.7  
Mag. N.S. -53° 01.8  
Mag. S... -53° 12.7  
Direct. .. -52° 38.6

‡ Observed on shore ;  
face west.

Direct. .. -52° 48.7  
Def. N. .. -53° 42.2  
Def. S. .. -52° 48.4  
Mag. N... -53° 00.4  
Mag. N.S. -53° 06.2  
Mag. S... -53° 05.4

§ Observed on shore ;  
face west.

Direct. .. -52° 41.5  
Def. N. .. -53° 46.8  
Def. S. .. -52° 56.4  
Mag. N... -53° 04.0  
Mag. N.S. -53° 02.4  
Mag. S... -53° 07.6

## Observations of Inclination. (Continued.)

| 1842.    | Lat.                                 | Long. | Method employed. | Observed Inclination.<br>Face east. | Direction of ship's head. | Corrections.       |        | True Inclination. | Remarks. |
|----------|--------------------------------------|-------|------------------|-------------------------------------|---------------------------|--------------------|--------|-------------------|----------|
|          |                                      |       |                  |                                     |                           | Ship's attraction. | Index. |                   |          |
| Aug. 15. | Berkeley Sound,<br>Falkland Islands. |       | Direct.          | -51° 31' 4"                         | E. $\frac{1}{2}$ S.       | +22                | -35    | -51° 44'          |          |
|          |                                      |       | Def. N.          | -51 00' 8"                          | E. $\frac{1}{2}$ S.       | +22                | -81    | -52 00            |          |
|          |                                      |       | Direct.          | -51 45' 5"                          | E.                        | +28                | -35    | -51 52            |          |
|          |                                      |       | Def. N.          | -51 21' 2"                          | E.                        | +28                | -81    | -52 14            |          |
|          |                                      |       | Direct.          | -51 29' 1"                          | E.S.E.                    | +4                 | -35    | -52 00            |          |
|          |                                      |       | Def. N.          | -51 06' 2"                          | E.S.E.                    | +4                 | -81    | -52 23            |          |
|          |                                      |       | Direct.          | -50 44' 9"                          | S.E.                      | -22                | -35    | -51 58            |          |
|          |                                      |       | Def. N.          | -50 23' 4"                          | S.E.                      | -22                | -81    | -52 06            |          |
|          |                                      |       | Direct.          | -50 28' 8"                          | S.S.E.                    | -45                | -35    | -51 49            |          |
|          |                                      |       | Def. N.          | -49 52' 3"                          | S.S.E.                    | -45                | -81    | -51 58            |          |
|          |                                      |       | Direct.          | -50 11' 7"                          | S.                        | -52                | -35    | -51 39            |          |
|          |                                      |       | Def. N.          | -49 38' 9"                          | S.                        | -52                | -81    | -51 52            |          |
|          |                                      |       | Direct.          | -50 43' 1"                          | S.S.W.                    | -45                | -35    | -52 03            |          |
|          |                                      |       | Def. N.          | -50 03' 0"                          | S.S.W.                    | -45                | -81    | -52 09            |          |
|          |                                      |       | Direct.          | -50 48' 4"                          | S.W.                      | -22                | -35    | -51 45            |          |
|          |                                      |       | Def. N.          | -50 21' 3"                          | S.W.                      | -22                | -81    | -52 04            |          |
|          |                                      |       | Direct.          | -51 11' 2"                          | W.S.W.                    | +4                 | -35    | -51 42            |          |
|          |                                      |       | Def. N.          | -50 25' 0"                          | W.S.W.                    | +4                 | -81    | -51 42            |          |
|          |                                      |       | Direct.          | -51 31' 3"                          | W.                        | +28                | -35    | -51 38            |          |
|          |                                      |       | Def. N.          | -50 58' 3"                          | W.                        | +28                | -81    | -51 51            |          |
|          |                                      |       | Direct.          | -51 59' 2"                          | W.N.W.                    | +44                | -35    | -51 50            |          |
|          |                                      |       | Def. N.          | -51 22' 5"                          | W.N.W.                    | +44                | -81    | -52 00            |          |
|          |                                      |       | Direct.          | -52 05' 8"                          | N.W.                      | +52                | -35    | -51 49            |          |
|          |                                      |       | Def. N.          | -51 27' 5"                          | N.W.                      | +52                | -81    | -51 57            |          |
|          |                                      |       | Direct.          | -52 13' 7"                          | N.N.W.                    | +54                | -35    | -51 55            |          |
|          |                                      |       | Def. N.          | -51 14' 7"                          | N.N.W.                    | +54                | -81    | -51 42            |          |
|          |                                      |       | Direct.          | -52 25' 2"                          | N.                        | +54                | -35    | -52 06            |          |
|          |                                      |       | Def. N.          | -51 11' 7"                          | N.                        | +54                | -81    | -51 39            |          |
|          |                                      |       | Direct.          | -52 13' 6"                          | N.N.E.                    | +54                | -35    | -51 55            |          |
|          |                                      |       | Def. N.          | -51 33' 5"                          | N.N.E.                    | +54                | -81    | -52 01            |          |
|          |                                      |       | Direct.          | -52 13' 0"                          | N.E.                      | +52                | -35    | -51 56            |          |
|          |                                      |       | Def. N.          | -51 25' 6"                          | N.E.                      | +52                | -81    | -51 55            |          |
|          |                                      |       | Direct.          | -52 16' 5"                          | E.N.E.                    | +44                | -35    | -52 08            |          |
|          |                                      |       | Def. N.          | -51 29' 7"                          | E.N.E.                    | +44                | -81    | -52 07            |          |

Observations of the INTENSITY of the Magnetic Force made in Her Majesty's Ship  
Erebus, with Needle R. F. 5, between April 17, 1841, and August 23, 1842.

Observers Captain Sir JAMES CLARK ROSS and Lieutenant ALEXANDER SMITH, R.N.

| 1841.    | Lat.   | Long.  | Method employed. | Angle of deflection. Face east. | Temperature. | Ship's head.          | Intensity. | Correction for ship's attraction. | Corrected Intensity. | Remarks.   |  |
|----------|--|--------|------------------|---------------------------------|--------------|-----------------------|------------|-----------------------------------|----------------------|--|--|
| Apr. 19. | Magnetic Observatory, Hobarton.<br>—42 52 147 24 |        | Def. S.          | 56 28.6                         | 64           | Observed on shore.    | 1.820      | .....                             | ..... 1.820          | Deflector employed R. F. 4.                              |  |
|          |  |        | Def. N.          | 53 02.6                         | 63           |                       |            |                                   |                      |  |  |
|          |  |        | wt. 6 grs.       | 42 55.7                         | 61           |                       |            |                                   |                      |  |  |
|          |  |        | wt. 5 grs.       | 34 23.5                         | 60           |                       |            |                                   |                      |  |  |
|          |  |        | wt. 4 grs.       | 26 47.7                         | 60           |                       |            |                                   |                      |  |  |
|          |  |        | wt. 3 grs.       | 19 37.2                         | 60           |                       |            |                                   |                      |  |  |
| 20.      |  |        | wt. 2 grs.       | 13 02.8*                        | 60           |                       |            |                                   |                      |  |  |
| June 29. | At anchor in the river Derwent.                  |        | Def. S.          | 56 40.5                         | 44           | N.                    | 1.809      | +0.024                            | ..... 1.832          | To obtain corrections for the ship's attraction.         |  |
|          |  |        | Def. S.          | 56 44.8                         | 44           | N.N.E.                | 1.806      | +0.022                            | ..... 1.828          |  |  |
|          |  |        | Def. S.          | 56 34.3                         | 45           | N.E.                  | 1.815      | +0.018                            | ..... 1.833          |  |  |
|          |  |        | Def. S.          | 56 26.1                         | 45           | E.N.E.                | 1.820      | +0.013                            | ..... 1.833          |  |  |
|          |  |        | Def. S.          | 56 24.4                         | 47           | E.                    | 1.821      | +0.004                            | ..... 1.825          |  |  |
|          |  |        | Def. S.          | 56 17.8                         | 47           | E.S.E.                | 1.825      | —0.006                            | ..... 1.819          |  |  |
|          |  |        | Def. S.          | 55 52.9                         | 48           | S.E.                  | 1.846      | —0.016                            | ..... 1.830          |  |  |
|          |  |        | Def. S.          | 55 46.5                         | 50           | S.S.E.                | 1.851      | —0.023                            | ..... 1.828          |  |  |
|          |  |        | Def. S.          | 55 42.7                         | 48           | S                     | 1.854      | —0.026                            | ..... 1.822          |  |  |
|          |  |        | Def. S.          | 55 48.7                         | 48           | S.S.W.                | 1.849      | —0.023                            | ..... 1.826          |  |  |
|          |  |        | Def. S.          | 55 51.0                         | 48           | S.W.                  | 1.847      | —0.016                            | ..... 1.831          |  |  |
|          |  |        | Def. S.          | 56 10.3                         | 48           | W.S.W.                | 1.832      | —0.006                            | ..... 1.826          |  |  |
|          |  |        | Def. S.          | 56 17.8                         | 48           | W.                    | 1.825      | +0.004                            | ..... 1.829          |  |  |
|          |  |        | Def. S.          | 56 15.3                         | 48           | W.N.W.                | 1.830      | +0.013                            | ..... 1.843          |  |  |
|          |  |        | Def. S.          | 56 30.5                         | 49           | N.W.                  | 1.817      | +0.018                            | ..... 1.835          |  |  |
|          |  |        | Def. S.          | 56 29.0                         | 48           | N.N.W.                | 1.818      | +0.022                            | ..... 1.840          |  |  |
|          |  |        | Def. S.          | 56 32.8                         | 48           | N.                    | 1.815      | +0.024                            | ..... 1.839          |  |  |
| July 7.  | Running out of Storm Bay.                        |        | Def. S.          | 55 37.6                         | 49           | S.E. $\frac{1}{2}$ E. | 1.858      | —0.014                            | 1.842 1.842          |  |  |
|          |  |        | Def. N.          | 52 16.3                         | 47           | S.E. $\frac{1}{2}$ E. | 1.854      |                                   |                      |  |  |
| 8.       | —43 00   | 148 28 | Def. S.          | 56 20.7                         | 52           | N.N.E.                | 1.823      | +0.022                            | 1.837 1.837          | A heavy head swell.                                      |  |
|          |  |        | Def. N.          | 53 12.2                         | 52           | N.N.E.                | 1.807      |                                   |                      |  |  |
| 9.       | —42 13   | 149 25 | Def. S.          | 57 03.3                         | 56           | N.N.W.                | 1.790      | +0.022                            | 1.809 1.809          | A head swell.  |  |
|          |  |        | Def. N.          | 53 37.1                         | 56           | N.N.W.                | 1.785      |                                   |                      |  |  |
| 10.      | —40 54   | 149 13 | Def. S.          | 57 07.3                         | 54           | N. by w.              | 1.786      | +0.024                            | 1.804 1.804          |  |  |
|          |  |        | Def. N.          | 53 51.6                         | 60           | N. by w.              | 1.773      |                                   |                      |  |  |
| 11.      | —37 50   | 150 22 | Def. N.          | 54 45.9                         | 56           | N. by w.              | 1.732      | +0.024                            | 1.756 1.755          |  |  |
| 12.      | —37 21   | 151 33 | Def. S.          | 58 08.0                         | 61           | N.E.                  | 1.742      |                                   |                      |  |  |
|          |  |        | Def. N.          | 54 59.1                         | 61           | N.E.                  | 1.722      | +0.022                            | 1.754 1.720          | Much motion. Running along the land.                     |  |
| 13.      | —36 01   | 151 48 | Def. N.          | 55 08.5                         | 58           | N.W. by N.            | 1.715      |                                   |                      |  |  |
| 14.      | —33 52   | 151 21 | Def. S.          | 59 41.8                         | 60           | N.                    | 1.676      | +0.031                            | 1.708                |  |  |
|          |  |        | Def. N.          | 55 55.6                         | 60           | N.                    | 1.679      |                                   |                      |  |  |
| 15.      | Garden Island, Sydney.<br>—33 51 151 17          |        | Def. S.          | 59 09.0                         | 53           | Observed on shore.    | 1.698      | .....                             | 1.685 1.685          | The results with the face west are included in the mean. |  |
|          |  |        | Def. N.          | 55 35.9                         | 52           |                       | 1.694      |                                   |                      |  |  |
|          |  |        | wt. 6 grs.       | 46 51.7                         | 55           |                       | 1.698      |                                   |                      |  |  |
|          |  |        | wt. 5 grs.       | 37 43.3                         | 55           |                       | 1.680      |                                   |                      |  |  |
|          |  |        | wt. 4 grs.       | 29 09.2                         | 55           |                       | 1.683      |                                   |                      |  |  |
|          |  |        | wt. 3 grs.       | 21 13.7                         | 55           |                       | 1.687      |                                   |                      |  |  |
|          |  |        | wt. 2 grs.       | 13 57.4                         | 56           |                       | 1.703      |                                   |                      |  |  |
|          |  |        | Def. S.          | 59 11.4†                        | 52           |                       | 1.696      |                                   |                      |  |  |
|          |  |        | Def. N.          | 55 38.1                         | 52           |                       | 1.692      |                                   |                      |  |  |
|          |  |        |                  |                                 |              |                       |            |                                   |                      |  |  |

\* Observed on shore; face west.

|                        |          |
|------------------------|----------|
| wt. 6 grs. . . 43 07.5 | Ther. 58 |
| wt. 5 grs. . . 34 51.5 | Ther. 58 |
| wt. 4 grs. . . 27 02.7 | Ther. 58 |
| wt. 3 grs. . . 19 55.5 | Ther. 60 |
| wt. 2 grs. . . 13 14.5 | Ther. 60 |

† Observed on shore; face west.

|                        |          |                  |
|------------------------|----------|------------------|
| wt. 6 grs. . . 47 32.4 | Ther. 63 | Intensity. 1.688 |
| wt. 5 grs. . . 37 38.9 | Ther. 63 | 1.704            |
| wt. 4 grs. . . 29 32.1 | Ther. 64 | 1.680            |
| wt. 3 grs. . . 21 51.4 | Ther. 63 | 1.667            |
| wt. 2 grs. . . 14 32.6 | Ther. 64 | 1.662            |

## Observations of the Magnetic Force. (Continued.)

| 1841.    | Lat.                         | Long.  | Method employed. | Angle of deflection. Face east. | Temperature. | Ship's head.          | Intensity. | Correction for ship's attraction. | Corrected Intensity. | Remarks.   |
|----------|------------------------------|--------|------------------|---------------------------------|--------------|-----------------------|------------|-----------------------------------|----------------------|--|
| July 15. | —33° 51'                     | 151 17 | Def. S.          | 59° 11' 5                       | 64           | W.                    | 1.696      | +0.007                            | 1.703                | 1.705  |
| Aug. 1.  | At anchor.                   |        | Def. S.          | 58 21.4                         | 61           | S.                    | 1.733      | —0.032                            | 1.701                |  |
|          |                              |        | Def. S.          | 58 15.6                         | 61           | S.S.W.                | 1.737      | —0.028                            | 1.709                |  |
| 3.       |                              |        | Def. S.          | 59 29.0                         | 63           | N.E.                  | 1.684      | +0.025                            | 1.709                |  |
| 5.       | Running out of harbour.      |        | Def. S.          | 59 09.4                         | 63           | E. by N.              | 1.698      | +0.011                            | 1.709                | 1.694  |
|          |                              |        | Def. N.          | 55 46.8                         | 63           | E. by N.              | 1.686      | +0.011                            | 1.697                |  |
| 6.       | —32 52                       | 154 07 | Def. S.          | 59 25.6                         | 63           | E. by N.              | 1.686      | +0.011                            | 1.694                |  |
|          |                              |        | Def. N.          | 55 52.6                         | 63           | E. by N.              | 1.681      | +0.011                            | 1.667                |  |
| 7.       | —33 51                       | 157 18 | Def. S.          | 60 05.3                         | 60           | E. by N.              | 1.660      | +0.011                            | 1.667                | Much motion.   |
|          |                              |        | Def. N.          | 56 30.2                         | 61           | E. by N.              | 1.652      | +0.011                            | 1.655                |  |
| 8.       | —33 27                       | 160 43 | Def. S.          | 60 18.0                         | 63           | E. by N.              | 1.651      | +0.011                            | 1.655                |  |
|          |                              |        | Def. N.          | 56 53.1                         | 64           | E. by N.              | 1.638      | +0.011                            | 1.642                |  |
| 9.       | —33 38                       | 163 42 | Def. S.          | 60 24.0                         | 60           | E.                    | 1.647      | +0.007                            | 1.642                | 1.625  |
|          |                              |        | Def. N.          | 57 14.4                         | 61           | E.                    | 1.623      | +0.025                            | 1.625                |  |
| 10.      | —33 41                       | 166 23 | Def. S.          | 61 22.7                         | 63           | N.E.                  | 1.609      | +0.025                            | 1.625                |  |
|          |                              |        | Def. N.          | 58 01.2                         | 61           | N.E.                  | 1.591      | +0.012                            | 1.617                |  |
| 11.      | —33 22                       | 167 40 | Def. S.          | 61 19.8                         | 65           | E. by N.              | 1.611      | +0.012                            | 1.617                | 1.607  |
|          |                              |        | Def. N.          | 57 49.4                         | 67           | E. by N.              | 1.599      | +0.017                            | 1.607                |  |
| 12.      | —32 58                       | 169 20 | Def. S.          | 61 40.0                         | 56           | E.N.E.                | 1.598      | +0.017                            | 1.607                |  |
|          |                              |        | Def. N.          | 58 14.8                         | 56           | E.N.E.                | 1.582      | —0.012                            | 1.562                |  |
| 13.      | —32 12                       | 170 27 | Def. S.          | 62 24.2                         | 56           | S.E. by E.            | 1.572      | —0.012                            | 1.562                | Much motion.   |
|          |                              |        | Def. N.          | 58 24.4                         | 55           | S.E. by E.            | 1.576      | +0.004                            | 1.593                |  |
| 15.      | —33 55                       | 171 54 | Def. S.          | 61 35.7                         | 60           | E. $\frac{1}{2}$ S.   | 1.590      | +0.004                            | 1.593                |  |
|          |                              |        | Def. N.          | 53 05.6                         | 60           | E. $\frac{1}{2}$ S.   | 1.588      | —0.006                            | 1.594                |  |
| 17.      | —34 29                       | 173 36 | Def. S.          | 61 20.0                         | 62           | E.S.E.                | 1.611      | —0.006                            | 1.594                | Much motion.   |
|          |                              |        | Def. N.          | 58 02.7                         | 62           | E.S.E.                | 1.590      | +0.025                            | 1.612                |  |
| 20.      | At anchor.                   |        | Def. S.          | 61 57.7                         | 66           | N.W. $\frac{1}{2}$ N. | 1.587      | +0.025                            | 1.612                |  |
|          |                              |        | Def. S.          | 60 42.9                         | 63           | S.                    | 1.634      | —0.032                            | 1.602                |  |
| 23.      | Bay of Islands, New Zealand. |        | Def. S.          | 61 41.1                         | 58           |                       | 1.599      |                                   |                      | The results with the face west are included in the mean. |
|          |                              |        | Def. N.          | 58 00.0                         | 56           |                       | 1.592      |                                   |                      |  |
|          | —35 16                       | 174 00 | wt. 6 grs.       | 50 38.1                         | 58           |                       | 1.604      |                                   |                      |  |
|          |                              |        | wt. 5 grs.       | 40 10.5                         | 58           |                       | 1.594      |                                   |                      |  |
|          |                              |        | wt. 4 grs.       | 30 55.0                         | 59           |                       | 1.597      |                                   |                      |  |
|          |                              |        | wt. 3 grs.       | 22 47.5                         | 59           |                       | 1.578      |                                   |                      |  |
|          |                              |        | wt. 2 grs.       | 14 59.3*                        | 59           |                       | 1.590      |                                   |                      |  |
| Oct. 27. | —35 16                       | 174 00 | Def. S.          | 61 45.2                         | 67           | Observed on shore.    | 1.595      | .....                             | 1.594                |  |
|          |                              |        | Def. N.          | 57 47.1                         | 70           |                       | 1.600      |                                   |                      |  |
|          |                              |        | wt. 6 grs.       | 50 35.0                         | 71           |                       | 1.608      |                                   |                      |  |
|          |                              |        | wt. 5 grs.       | 39 59.3                         | 70           |                       | 1.603      |                                   |                      |  |
|          |                              |        | wt. 4 grs.       | 30 30.6                         | 70           |                       | 1.619      |                                   |                      |  |
|          |                              |        | wt. 3 grs.       | 22 45.0                         | 70           |                       | 1.583      |                                   |                      |  |
|          |                              |        | wt. 2 grs.       | 14 43.2                         | 68           |                       | 1.620      |                                   |                      |  |
|          |                              |        | Def. S.          | 61 54.4                         | 65           |                       | 1.590      |                                   |                      |  |
|          |                              |        | Def. N.          | 58 09.1†                        | 65           |                       | 1.586      |                                   |                      |  |
| Nov. 23. | —35 15                       | 174 39 | Def. S.          | 61 00.9                         | 63           | E.S.E.                | 1.623      | —0.006                            | 1.611                | 1.612  |
|          |                              |        | Def. N.          | 57 29.1                         | 63           | E.S.E.                | 1.611      | —0.006                            | 1.612                |  |
| 24.      | —36 27                       | 177 34 | Def. S.          | 61 26.7                         | 65           | E.S.E.                | 1.607      | —0.006                            | 1.612                |  |
|          |                              |        | Def. N.          | 57 12.7                         | 64           | E.S.E.                | 1.625      | —0.006                            | 1.612                |  |

|                                 |             |         |          |                  |                                 |             |         |          |                  |
|---------------------------------|-------------|---------|----------|------------------|---------------------------------|-------------|---------|----------|------------------|
| * Observed on shore; face west. | wt. 6 grs.. | 51 26.0 | Ther. 61 | Intensity. 1.591 | † Observed on shore; face west. | wt. 6 grs.. | 51 38.7 | Ther. 65 | Intensity. 1.588 |
|                                 | wt. 5 grs.. | 40 52.0 | Ther. 60 | 1.590            |                                 | wt. 5 grs.. | 40 51.0 | Ther. 65 | 1.591            |
|                                 | wt. 4 grs.. | 30 26.9 | Ther. 59 | 1.633            |                                 | wt. 4 grs.. | 31 29.2 | Ther. 65 | 1.586            |
|                                 | wt. 3 grs.. | 23 17.9 | Ther. 59 | 1.568            |                                 | wt. 3 grs.. | 23 17.2 | Ther. 64 | 1.570            |
|                                 | wt. 2 grs.. | 15 23.3 | Ther. 60 | 1.571            |                                 | wt. 2 grs.. | 15 11.1 | Ther. 64 | 1.593            |

## Observations of the Magnetic Force. (Continued.)

| 1841.    | Lat.   | Long.  | Method employed. | Angle of deflection. Face east. | Temperature. | Ship's head.                | Intensity. | Correction for ship's attraction. | Corrected Intensity. | Remarks.            |             |
|----------|--------|--------|------------------|---------------------------------|--------------|-----------------------------|------------|-----------------------------------|----------------------|---------------------|-------------|
| Nov. 25. | —38 17 | 179 31 | Def. S           | 60 44.4                         | 62           | S.E. by S.                  | 1.633      | —020                              | 1.614 1.614          | Very much motion.   |             |
|          |        |        | Def. N.          | 56 57.2                         | 62           | S.E. by S.                  | 1.634      |                                   |                      |                     |             |
| 26.      | —39 01 | 182 12 | Def. S.          | 62 02.7                         | 59           | E. by S.                    | 1.585      | —000                              | 1.605                |                     | 1.615       |
|          |        |        | Def. N.          | 57 12.9                         | 57           | E. by S.                    | 1.625      |                                   |                      |                     |             |
| 27.      | —39 18 | 182 58 | Def. S.          | 60 16.0                         | 64           | S.                          | 1.652      | —028                              | 1.625                |                     | 1.659       |
|          |        |        | Def. N.          | 56 29.9                         | 62           | S.                          | 1.654      |                                   |                      |                     |             |
| 28.      | —40 47 | 183 03 | Def. S.          | 59 58.5                         | 62           | S.E. by E.                  | 1.664      | —010                              | 1.659 1.659          |                     | 1.671       |
|          |        |        | Def. N.          | 56 03.4                         | 65           | S.E. by E.                  | 1.674      |                                   |                      |                     |             |
| 29.      | —41 49 | 183 41 | Def. S.          | 59 05.1                         | 65           | S. by E.                    | 1.701      | —026                              | 1.671 1.671          |                     | 1.701       |
|          |        |        | Def. N.          | 55 37.2                         | 65           | S. by E.                    | 1.693      |                                   |                      |                     |             |
| 30.      | —43 32 | 183 03 | Def. S.          | 58 24.9                         | 60           | S. $\frac{1}{2}$ W.         | 1.732      | —027                              | 1.701 1.701          |                     | A head sea. |
|          |        |        | Def. N.          | 54 54.9                         | 59           | S. $\frac{1}{2}$ W.         | 1.724      |                                   |                      |                     |             |
| Dec. 1.  | —45 40 | 183 20 | Def. S.          | 58 32.2                         | 63           | S.E. by E.                  | 1.725      | —010                              | 1.715                | A heavy swell.      |             |
|          |        |        | Def. N.          | 54 58.7                         | 63           | S.E. by E.                  | 1.722      |                                   |                      |                     |             |
| 2.       | —47 19 | 184 40 | Def. S.          | 57 40.9                         | 57           | S.E. by E. $\frac{1}{2}$ E. | 1.762      | —008                              | 1.745                | 1.752               |             |
|          |        |        | Def. N.          | 54 30.5                         | 57           | S.E. by E. $\frac{1}{2}$ E. | 1.744      |                                   |                      |                     |             |
| 3.       | —48 43 | 186 30 | Def. S.          | 57 41.3                         | 51           | S.E. by E.                  | 1.762      | —009                              | 1.752                | 1.760               |             |
|          |        |        | Def. N.          | 54 10.1                         | 51           | S.E. by E.                  | 1.760      |                                   |                      |                     |             |
|          |        |        | wt. 2 grs.       | 13 28.0                         | 51           | E.S.E.                      | 1.765      | —005                              | 1.760                | 1.753               |             |
| 4.       | —49 20 | 187 41 | Def. S.          | 57 45.8                         | 55           | E. by S.                    | 1.757      |                                   |                      |                     |             |
|          |        |        | Def. N.          | 54 13.1                         | 55           | E. by S.                    | 1.758      | —000                              | 1.752                | 1.759               |             |
|          |        |        | wt. 3 grs.       | 20 30.2                         | 53           | E. by S.                    | 1.745      |                                   |                      |                     |             |
|          |        |        | wt. 4 grs.       | 27 58.0                         | 53           | E. by S.                    | 1.750      | —000                              | 1.759 1.759          | 1.766               |             |
| 5.       | —49 27 | 189 13 | Def. S.          | 57 32.7                         | 55           | E. by S.                    | 1.770      |                                   |                      |                     |             |
|          |        |        | Def. N.          | 54 16.0                         | 55           | E. by S.                    | 1.757      | —000                              | 1.759 1.759          | 1.766               |             |
|          |        |        | wt. 3 grs.       | 20 18.0                         | 56           | E. by S.                    | 1.762      |                                   |                      |                     |             |
|          |        |        | wt. 4 grs.       | 27 32.0                         | 56           | E. by S.                    | 1.775      | —000                              | 1.763                | 1.766               |             |
|          |        |        | wt. 5 grs.       | 36 30.1                         | 56           | E. by S.                    | 1.729      |                                   |                      |                     |             |
| 6.       | —50 00 | 191 00 | Def. S.          | 57 30.2                         | 51           | E. by S.                    | 1.771      | —000                              | 1.763                | 1.774               |             |
|          |        |        | Def. N.          | 54 13.5                         | 51           | E. by S.                    | 1.758      |                                   |                      |                     |             |
|          |        |        | wt. 3 grs.       | 20 22.2                         | 51           | E. by S.                    | 1.754      | —009                              | 1.774                | 1.792               |             |
|          |        |        | wt. 4 grs.       | 27 16.5                         | 51           | E. by S.                    | 1.789      |                                   |                      |                     |             |
|          |        |        | wt. 5 grs.       | 36 07.2                         | 51           | E. by S.                    | 1.742      | —000                              | 1.792 1.792          | Weight 5, unsteady. |             |
| 7.       | —50 48 | 192 20 | Def. S.          | 57 07.9                         | 51           | S.E. by E.                  | 1.787      |                                   |                      |                     |             |
|          |        |        | Def. N.          | 53 45.7                         | 51           | S.E. by E.                  | 1.779      | —009                              | 1.774                | 1.801               |             |
| 8.       | —51 34 | 194 29 | Def. S.          | 57 06.4                         | 52           | E. by S.                    | 1.789      |                                   |                      |                     |             |
|          |        |        | Def. N.          | 53 15.7                         | 50           | E. by S.                    | 1.804      | —000                              | 1.792 1.792          | Much motion.        |             |
|          |        |        | wt. 3 grs.       | 20 09.1                         | 48           | E. by S.                    | 1.771      |                                   |                      |                     |             |
|          |        |        | wt. 4 grs.       | 26 59.7                         | 48           | E. by S.                    | 1.804      | —000                              | 1.801                | A head swell.       |             |
|          |        |        | wt. 5 grs.       | 34 58.0                         | 47           | E. by S.                    | 1.791      |                                   |                      |                     |             |
| 9.       | —52 21 | 197 53 | Def. S.          | 56 44.5                         | 45           | E. by S.                    | 1.805      | —000                              | 1.801                | 1.808               |             |
|          |        |        | Def. N.          | 53 25.1                         | 44           | E. by S.                    | 1.797      |                                   |                      |                     |             |
| 10.      | —53 01 | 202 11 | Def. S.          | 56 21.2                         | 48           | E. $\frac{1}{2}$ N.         | 1.824      | +006                              | 1.815                | 1.808               |             |
|          |        |        | Def. N.          | 53 27.0                         | 47           | E. $\frac{1}{2}$ N.         | 1.794      |                                   |                      |                     |             |
| 11.      | —52 48 | 203 50 | Def. N.          | 53 13.3                         | 45           | E.                          | 1.807      | +003                              | 1.809                | A head swell.       |             |
|          |        |        | Def. S.          | 56 45.0                         | 46           | E.                          | 1.805      |                                   |                      |                     |             |
|          |        |        | wt. 3 grs.       | 19 57.7                         | 46           | E.                          | 1.797      | —004                              | 1.810 1.810          | 1.831               |             |
| 12.      | —53 01 | 205 08 | Def. S.          | 56 37.4                         | 45           | E.S.E.                      | 1.811      |                                   |                      |                     |             |
|          |        |        | Def. N.          | 52 57.3                         | 44           | E.S.E.                      | 1.818      | —004                              | 1.810 1.810          | 1.831               |             |
|          |        |        | wt. 3 grs.       | 19 46.7                         | 45           | E.S.E.                      | 1.802      |                                   |                      |                     |             |
|          |        |        | wt. 4 grs.       | 26 41.5                         | 45           | E.S.E.                      | 1.823      | —007                              | 1.831 1.831          | 1.836               |             |
|          |        |        | wt. 5 grs.       | 34 25.7                         | 45           | E.S.E.                      | 1.815      |                                   |                      |                     |             |
| 13.      | —54 55 | 209 30 | Def. S.          | 56 08.7                         | 52           | S.E. by E. $\frac{1}{2}$ E. | 1.833      | —007                              | 1.831 1.831          | 1.836               |             |
|          |        |        | Def. N.          | 52 26.0                         | 51           | S.E. by E. $\frac{1}{2}$ E. | 1.846      |                                   |                      |                     |             |
|          | —55 08 | 210 04 | Def. S.          | 56 02.2                         | 49           | S.E. by E. $\frac{1}{2}$ E. | 1.839      | —007                              | 1.831 1.831          | 1.836               |             |
|          |        |        | Def. N.          | 52 30.7                         | 48           | S.E. by E. $\frac{1}{2}$ E. | 1.842      |                                   |                      |                     |             |
|          | —55 20 | 210 28 | Def. S.          | 56 10.0                         | 45           | S.E. by E. $\frac{1}{2}$ E. | 1.832      | —007                              | 1.831 1.831          | 1.836               |             |
|          |        |        | Def. N.          | 52 38.2                         | 44           | S.E. by E. $\frac{1}{2}$ E. | 1.836      |                                   |                      |                     |             |



## Observations of the Magnetic Force. (Continued.)

| 1841.    | Lat.     | Long.    | Method employed. | Angle of deflection. Face east. | Temperature. | Ship's head.        | Intensity. | Correction for ship's attraction. | Corrected Intensity. | Remarks.                      |  |
|----------|----------|----------|------------------|---------------------------------|--------------|---------------------|------------|-----------------------------------|----------------------|-------------------------------|--|
| Dec. 14. | —56° 20' | 211° 52' | Def. S.          | 55° 38'·9                       | 51           | S.E. by S.          | 1·857      | —016                              | 1·836                | 1·836                         |  |
|          |          |          | Def. N.          | 52° 01'·3                       | 51           | S.E. by S.          | 1·868      |                                   |                      |                               |  |
|          |          |          | wt. 3 grs.       | 19° 37'·5                       | 53           | S.E. by S.          | 1·818      |                                   |                      |                               |  |
|          |          |          | wt. 4 grs.       | 26° 08'·7                       | 52           | S.E. by S.          | 1·860      |                                   |                      |                               |  |
|          |          |          | wt. 5 grs.       | 33° 36'·0                       | 52           | S.E. by S.          | 1·856      |                                   |                      |                               |  |
|          |          |          | wt. 6 grs.       | 42° 36'·0                       | 52           | S.E. by S.          | 1·830      |                                   |                      |                               |  |
|          | —56 55   | 211 38   | Def. S.          | 55° 33'·2                       | 43           | S.E. by S.          | 1·863      | —017                              | 1·843                | 1·850                         |  |
|          |          |          | Def. N.          | 51° 59'·7                       | 43           | S.E. by S.          | 1·868      |                                   |                      |                               |  |
| 15.      | —56 55   | 212 34   | Def. S.          | 55° 28'·0                       | 41           | S.S.E.              | 1·865      |                                   |                      |                               |  |
|          |          |          | Def. N.          | 52° 17'·0                       | 40           | S.S.E.              | 1·856      | —004                              | 1·858                | 1·850                         |  |
|          | —57 21   | 212 46   | Def. S.          | 55° 29'·8                       | 42           | E.S.E.              | 1·864      |                                   |                      |                               |  |
|          |          |          | Def. N.          | 52° 10'·0                       | 41           | E.S.E.              | 1·860      |                                   |                      |                               |  |
| 16.      | —58 29   | 213 11   | Def. S.          | 55° 19'·7                       | 42           | S.S.E.              | 1·872      | —017                              | 1·873                | 1·873                         |  |
|          |          |          | Def. N.          | 51° 52'·9                       | 42           | S.S.E.              | 1·874      |                                   |                      |                               |  |
|          | —58 52   | 213 22   | Def. S.          | 54° 57'·6                       | 41           | S.S.E.              | 1·889      |                                   |                      |                               |  |
|          |          |          | Def. N.          | 52° 04'·5                       | 41           | S.S.E.              | 1·865      |                                   |                      |                               |  |
|          |          |          | wt. 3 grs.       | 18° 32'·2                       | 38           | S.S.E.              | 1·916      |                                   |                      |                               |  |
|          |          |          | wt. 4 grs.       | 25° 25'·0                       | 38           | S.S.E.              | 1·906      |                                   |                      |                               |  |
|          |          |          | wt. 5 grs.       | 32° 31'·2                       | 38           | S.S.E.              | 1·907      | —017                              | 1·903                | 1·908                         |  |
| 17.      | —61 03   | 213 57   | Def. S.          | 54° 19'·2                       | 39           | S.S.E.              | 1·923      |                                   |                      |                               |  |
|          |          |          | Def. N.          | 51° 06'·0                       | 36           | S.S.E.              | 1·918      |                                   |                      |                               |  |
|          | —61 37   | 213 57   | Def. S.          | 54° 02'·4                       | 34           | S. by E.            | 1·939      | —018                              | 1·913                | 1·908                         |  |
|          |          |          | Def. N.          | 51° 01'·2                       | 32           | S. by E.            | 1·922      |                                   |                      |                               |  |
| 18.      | —62 40   | 212 53   | Def. S.          | 53° 43'·6                       | 34           | S.                  | 1·953      | —019                              | 1·922                | 1·922                         |  |
|          |          |          | Def. N.          | 50° 50'·0                       | 32           | S.                  | 1·931      |                                   |                      |                               |  |
| 19.      | —63 23   | 210 02   | Def. S.          | 53° 39'·8                       | 39           | S.S.W.              | 1·958      | —017                              | 1·939                | 1·939                         |  |
|          |          |          | Def. N.          | 50° 26'·0                       | 38           | S.S.W.              | 1·954      |                                   |                      |                               |  |
|          |          |          | Def. S.          | 54° 33'·8                       | 42           | Observed on ice.    | 1·910      | .....                             | 1·923                | 1·923                         |  |
|          |          |          | Def. N.          | 50° 44'·7                       | 45           |                     | 1·936      |                                   |                      |                               |  |
| 20.      | —63 47   | 208 26   | Def. S.          | 53° 58'·3                       | 35           | S. by W.            | 1·941      | —018                              | 1·924                | 1·930                         |  |
|          |          |          | Def. N.          | 50° 36'·8                       | 34           | S. by W.            | 1·944      |                                   |                      |                               |  |
|          |          |          | wt. 3 grs.       | 18° 22'·9                       | 35           | S.W. by S.          | 1·938      | —012                              | 1·934                | 1·930                         |  |
|          |          |          | wt. 4 grs.       | 25° 05'·6                       | 34           | S.W. by S.          | 1·935      |                                   |                      |                               |  |
|          |          |          | wt. 5 grs.       | 32° 11'·8                       | 34           | S.W. by S.          | 1·926      |                                   |                      |                               |  |
|          |          |          | wt. 6 grs.       | 40° 03'·5                       | 34           | S.W. by S.          | 1·926      |                                   |                      |                               |  |
| 21.      | —64 38   | 206 53   | Def. S.          | 54° 00'·1                       | 32           | S.                  | 1·940      | —016                              | 1·926                | 1·933                         |  |
|          |          |          | Def. N.          | 50° 35'·6                       | 31           | S.                  | 1·944      |                                   |                      |                               |  |
|          | —64 53   | 206 30   | Def. S.          | 53° 34'·4                       | 44           | S. by W.            | 1·963      | —015                              | 1·934                |                               |  |
|          |          |          | Def. N.          | 50° 23'·4                       | 39           | S. by W.            | 1·956      |                                   |                      |                               |  |
|          |          |          | wt. 3 grs.       | 18° 15'·6                       | 33           | S. $\frac{1}{2}$ E. | 1·942      | —016                              | 1·934                |                               |  |
|          |          |          | wt. 4 grs.       | 24° 39'·8                       | 33           | S.                  | 1·959      |                                   |                      |                               |  |
|          |          |          | wt. 5 grs.       | 31° 35'·1                       | 33           | S. by E.            | 1·955      | —015                              | 1·939                |                               |  |
|          |          |          | wt. 6 grs.       | 39° 11'·3                       | 33           | S. by E.            | 1·954      |                                   |                      |                               |  |
| 22.      | —65 36   | 205 32   | Def. S.          | 53° 33'·1                       | 37           | S.                  | 1·964      | —016                              | 1·954                | 1·955 Fast to a piece of ice. |  |
|          |          |          | Def. N.          | 50° 00'·6                       | 36           | S.                  | 1·977      |                                   |                      |                               |  |
| 23.      | —65 59   | 204 16   | Def. S.          | 53° 51'·4                       | 44           | E.N.E.              | 1·948      | +006                              | 1·954                |                               |  |
|          |          |          | Def. S.          | 53° 38'·5                       | 37           | S. by W.            | 1·959      | —013                              | 1·964                |                               |  |
|          |          |          | Def. N.          | 49° 48'·2                       | 36           | S. by W.            | 1·996      |                                   |                      |                               |  |
|          | —65 59   | 204 14   | Def. S.          | 53° 31'·5                       | 39           | S.                  | 1·965      | —014                              | 1·956                |                               |  |
|          |          |          | Def. N.          | 50° 05'·6                       | 35           | S.                  | 1·973      |                                   |                      |                               |  |
| 24.      | —65 58   | 203 51   | Def. S.          | 53° 21'·6                       | 43           | S.W. by S.          | 1·976      | —010                              | 1·957                |                               |  |
|          |          |          | Def. N.          | 50° 19'·8                       | 43           | S.W. by S.          | 1·959      |                                   |                      |                               |  |
| 25.      | —66 00   | 203 46   | Def. S.          | 53° 56'·5                       | 34           | E.                  | 1·943      | +002                              | 1·953                |                               |  |
|          |          |          | Def. N.          | 50° 19'·4                       | 35           | E.                  | 1·959      |                                   |                      |                               |  |
| 26.      | —66 11   | 203 36   | Def. S.          | 53° 43'·3                       | 30           | S.E. by E.          | 1·955      | —005                              | 1·954                |                               |  |
|          |          |          | Def. N.          | 50° 16'·2                       | 30           | S.E. by E.          | 1·963      |                                   |                      |                               |  |
|          |          |          | Def. S.          | 54° 01'·9                       | 30           | N.W.                | 1·939      | +010                              | 1·953                |                               |  |
| 29       | —66 24   | 203 51   | Def. S.          | 53° 51'·7                       | 42           | N.E.                | 1·947      |                                   |                      |                               |  |

## Observations of the Magnetic Force. (Continued.)

| 1842.   | Lat.   | Long.  | Method employed. | Angle of deflection. Face east. | Temperature. | Ship's head.              | Intensity. | Correction for ship's attraction. | Corrected Intensity. | Remarks.   |                            |
|---------|--------|--------|------------------|---------------------------------|--------------|---------------------------|------------|-----------------------------------|----------------------|--|----------------------------|
| Jan. 1. | —66 32 | 203 32 | Def. S.          | 53 23.8                         | 44           | S.S.E.                    | 1.972      | —012                              | 1.966                | Fast to a piece of ice, the Terror distant 25 fathoms. (This result is not employed in the Map.) |                            |
|         |        |        | Def. N.          | 49 53.5                         | 44           | S.S.E.                    | 1.984      |                                   |                      |  |                            |
| 3.      | —66 35 | 203 25 | Def. S.          | 53 48.9                         | 39           | N. by W. $\frac{1}{2}$ W. | 1.950      | +012                              | 1.965                |  | Sailing through loose ice. |
|         |        |        | Def. N.          | 50 21.7                         | 37           | N. by W. $\frac{1}{2}$ W. | 1.957      |                                   |                      |  |                            |
| 6.      | —66 06 | 204 24 | Def. S.          | 53 28.7                         | 41           | S.                        | 1.967      | —014                              | 1.955                |  |                            |
|         |        |        | Def. N.          | 50 01.7                         | 38           | S.                        | 1.976      |                                   |                      |  |                            |
|         |        |        | wt. 3 grs.       | 18 01.8                         | 37           | S.                        | 1.964      |                                   |                      |  |                            |
|         |        |        | wt. 4 grs.       | 24 44.9                         | 37           | S.                        | 1.953      |                                   |                      |  |                            |
|         |        |        | wt. 5 grs.       | 30 55.2                         | 36           | S.                        | 1.994      |                                   |                      |  |                            |
|         |        |        | wt. 6 grs.       | 38 50.1                         | 36           | S.                        | 1.970      |                                   |                      |  |                            |
| 7.      | —66 13 | 204 25 | Def. S.          | 53 38.9                         | 33           | S.                        | 1.958      | +010                              | 1.958                |  |                            |
|         |        |        | Def. N.          | 50 07.5                         | 32           | S.                        | 1.971      |                                   |                      |  |                            |
| 8.      | —66 12 | 204 33 | Def. S.          | 53 50.4                         | 35           | N.W.                      | 1.948      | —012                              | 1.939                |  |                            |
|         |        |        | Def. N.          | 50 32.2                         | 35           | N.W.                      | 1.948      |                                   |                      |  |                            |
|         |        |        | Def. S.          | 53 47.9                         | 34           | S.S.E.                    | 1.951      | —005                              | 1.947                |  |                            |
| 10.     | —65 59 | 204 12 | Def. S.          | 53 49.5                         | 36           | S.W. by W.                | 1.949      |                                   |                      |  |                            |
|         |        |        | Def. N.          | 50 25.4                         | 30           | S.W. by W.                | 1.955      | +002                              | 1.966                |  |                            |
|         |        |        | Def. N.          | 50 15.4                         | 30           | E.                        | 1.964      |                                   |                      |  |                            |
|         |        |        | wt. 3 grs.       | 18 09.9                         | 30           | E.                        | 1.951      | —008                              | 1.955                |  |                            |
|         |        |        | wt. 4 grs.       | 24 37.5                         | 30           | E.                        | 1.960      |                                   |                      |  |                            |
|         |        |        | wt. 5 grs.       | 31 12.1                         | 30           | E.                        | 1.975      | +012                              | 1.946                |  |                            |
|         |        |        | wt. 6 grs.       | 38 45.9                         | 30           | E.                        | 1.971      |                                   |                      |  |                            |
| 12.     | —65 54 | 203 32 | Def. S.          | 53 33.4                         | 32           | S.W.                      | 1.963      | —012                              | 1.949                |  |                            |
| 13.     | —66 12 | 203 05 | Def. S.          | 53 41.3                         | 40           | S.S.E.                    | 1.957      |                                   |                      |  |                            |
|         |        |        | Def. N.          | 50 13.9                         | 36           | S.S.E.                    | 1.965      | +012                              | 1.946                |  |                            |
|         |        |        | Def. S.          | 54 11.3                         | 30           | N.N.E.                    | 1.932      |                                   |                      |  |                            |
|         |        |        | Def. N.          | 50 46.1                         | 30           | N.N.E.                    | 1.935      | —013                              | 1.961                |  |                            |
| 16.     | —65 49 | 202 02 | Def. S.          | 54 03.1                         | 45           |                           | 1.938      |                                   |                      |  |                            |
|         |        |        | Def. N.          | 50 35.0                         | 45           |                           | 1.945      | —009                              | 1.959                |  |                            |
|         |        |        | wt. 2 grs.       | 12 13.0                         | 50           |                           | 1.940      |                                   |                      |  |                            |
|         |        |        | wt. 3 grs.       | 18 32.4                         | 54           | Observed on ice.          | 1.992      | —008                              | 1.943                | 1.943  |                            |
|         |        |        | wt. 4 grs.       | 24 49.3                         | 54           |                           | 1.952      |                                   |                      |  |                            |
|         |        |        | wt. 5 grs.       | 32 02.4                         | 54           |                           | 1.936      | —010                              | 1.981                |  |                            |
|         |        |        | wt. 6 grs.       | 39 31.4                         | 55           |                           | 1.946      |                                   |                      |  |                            |
| 21.     | —66 49 | 202 40 | Def. S.          | 53 19.1                         | 37           | S. by E.                  | 1.975      | —012                              | 1.957                |  |                            |
|         |        |        | Def. N.          | 50 05.6                         | 36           | S. by E.                  | 1.973      |                                   |                      |  |                            |
| 28.     | —67 33 | 204 01 | Def. N.          | 50 24.8                         | 34           | N.                        | 1.955      | —012                              | 1.967                |  |                            |
| 29.     | —67 32 | 203 59 | Def. S.          | 53 28.8                         | 31           | S.S.W.                    | 1.967      |                                   |                      |  |                            |
|         |        |        | Def. N.          | 50 08.2                         | 30           | S.S.W.                    | 1.971      | —009                              | 1.959                |  |                            |
| 30.     | —67 18 | 203 39 | Def. S.          | 53 35.7                         | 38           | S.W. $\frac{1}{2}$ S.     | 1.961      |                                   |                      |  |                            |
|         |        |        | Def. N.          | 50 06.7                         | 36           | S.W. $\frac{1}{2}$ S.     | 1.972      | —014                              | 1.974                |  |                            |
|         |        |        | wt. 3 grs.       | 18 00.0                         | 34           | S.W. $\frac{1}{2}$ S.     | 1.970      |                                   |                      |  |                            |
| 31.     | —67 21 | 202 15 | Def. S.          | 53 36.7                         | 35           | S.W.                      | 1.961      | —011                              | 1.971                |  |                            |
|         |        |        | Def. N.          | 50 08.2                         | 32           | S.W.                      | 1.971      |                                   |                      |  |                            |
|         |        |        | wt. 3 grs.       | 18 19.6                         | 33           | S.W.                      | 1.936      | —008                              | 1.951                | 1.951  |                            |
|         |        |        | wt. 4 grs.       | 24 44.5                         | 33           | S.W.                      | 1.953      |                                   |                      |  |                            |
|         |        |        | wt. 5 grs.       | 31 23.7                         | 35           | S.W.                      | 1.965      | —011                              | 1.971                |  |                            |
|         |        |        | wt. 6 grs.       | 38 52.0                         | 35           | S.W.                      | 1.968      |                                   |                      |  |                            |
| Feb. 2. | —68 07 | 200 15 | Def. S.          | 53 23.2                         | 31           | S.S.E. $\frac{1}{2}$ E.   | 1.972      | —010                              | 1.981                |  | Much motion.               |
|         |        |        | Def. N.          | 49 46.2                         | 31           | S.S.E. $\frac{1}{2}$ E.   | 1.992      |                                   |                      |  |                            |
| 3.      | —68 21 | 200 03 | Def. S.          | 52 54.7                         | 32           | S.E. by S.                | 1.997      | —014                              | 1.974                |  |                            |
|         |        |        | Def. N.          | 49 52.6                         | 31           | S.E. by S.                | 1.985      |                                   |                      |  |                            |
| 4.      | —68 42 | 199 44 | Def. S.          | 52 57.1                         | 33           | S. $\frac{1}{2}$ E.       | 1.995      | —014                              | 1.974                |  |                            |
|         |        |        | Def. N.          | 49 51.4                         | 30           | S. $\frac{1}{2}$ E.       | 1.987      |                                   |                      |  |                            |
|         |        |        | wt. 3 grs.       | 18 05.7                         | 30           | S. $\frac{1}{2}$ E.       | 1.961      | —014                              | 1.974                |  |                            |
|         |        |        | wt. 4 grs.       | 23 55.7                         | 29           | S. $\frac{1}{2}$ E.       | 2.014      |                                   |                      |  |                            |
|         |        |        | wt. 5 grs.       | 31 02.0                         | 30           | S. $\frac{1}{2}$ E.       | 1.985      | —014                              | 1.974                |  |                            |
|         |        |        |                  |                                 |              |                           |            |                                   |                      |  |                            |

## Observations of the Magnetic Force. (Continued.)

| 1842.   | Lat.   | Long.  | Method employed. | Angle of deflection. Face east. | Temperature. | Ship's head. | Intensity. | Correction for ship's attraction. | Corrected Intensity. | Remarks.                |                         |                         |                         |                         |
|---------|--------|--------|------------------|---------------------------------|--------------|--------------|------------|-----------------------------------|----------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Feb. 5. | -68 59 | 195 51 | Def. S.          | 53 13.7                         | 33           | s.w. by s.   | 1.981      | -004                              | 1.972                | A great deal of motion. |                         |                         |                         |                         |
|         |        |        | Def. N.          | 50 07.0                         | 32           | s.w. by s.   | 1.972      |                                   |                      |                         |                         |                         |                         |                         |
| 6.      | -69 48 | 192 25 | Def. S.          | 52 42.1                         | 36           | s. by w.     | 2.010      | -008                              | 1.991                |                         | A great deal of motion. |                         |                         |                         |
|         |        |        | Def. N.          | 49 49.0                         | 34           | s. by w.     | 1.989      |                                   |                      |                         |                         |                         |                         |                         |
| 7.      | -70 05 | 191 10 | Def. S.          | 52 46.1                         | 29           | s.w.         | 2.006      | -005                              | 2.008                |                         |                         | A great deal of motion. |                         |                         |
|         |        |        | Def. N.          | 49 18.3                         | 29           | s.w.         | 2.020      |                                   |                      |                         |                         |                         |                         |                         |
|         |        |        | Def. S.          | 53 21.7                         | 33           | s.s.w.       | 1.973      | -007                              | 1.972                |                         |                         |                         | A great deal of motion. |                         |
|         |        |        | Def. N.          | 49 52.7                         | 30           | s.s.w.       | 1.985      |                                   |                      |                         |                         |                         |                         |                         |
| 8.      | -70 18 | 186 01 | Def. S.          | 53 05.0                         | 37           | s.           | 1.989      |                                   |                      |                         |                         |                         |                         | A great deal of motion. |
|         |        |        | Def. N.          | 49 46.8                         | 33           | s.           | 1.991      |                                   |                      |                         |                         |                         |                         |                         |
|         |        |        | wt. 3 grs.       | 18 21.8                         | 31           | s.           | 1.931      | -009                              | 1.977                | 1.980                   |                         |                         |                         |                         |
|         |        |        | wt. 4 grs.       | 24 06.1                         | 31           | s.           | 2.001      |                                   |                      |                         |                         |                         |                         |                         |
|         |        |        | wt. 5 grs.       | 30 40.6                         | 31           | s.           | 2.006      |                                   |                      |                         | 1.980                   |                         |                         |                         |
|         |        |        | wt. 6 grs.       | 38 05.3                         | 30           | s.           | 2.001      |                                   |                      |                         |                         |                         |                         |                         |
| 9.      | -70 39 | 185 31 | Def. S.          | 52 56.5                         | 32           | s.e. by s.   | 1.996      | -006                              | 1.987                |                         |                         | A head swell.           |                         |                         |
|         |        |        | Def. N.          | 49 47.4                         | 29           | s.e. by s.   | 1.991      |                                   |                      |                         |                         |                         |                         |                         |
| 10.     | -70 06 | 181 50 | Def. S.          | 53 09.0                         | 33           | w. by s.     | 1.985      | +000                              | 1.981                | A head swell.           |                         |                         |                         |                         |
|         |        |        | Def. N.          | 50 00.2                         | 31           | w. by s.     | 1.978      |                                   |                      |                         |                         |                         |                         |                         |
| 11.     | -70 10 | 181 34 | Def. N.          | 50 03.7                         | 33           | s.w.         | 1.975      | -005                              | 1.972                |                         | Much motion.            |                         |                         |                         |
| 12.     | -71 00 | 180 44 | Def. S.          | 52 49.2                         | 33           | s.e. by s.   | 2.003      |                                   |                      |                         |                         |                         |                         |                         |
|         |        |        | Def. N.          | 49 45.7                         | 32           | s.e. by s.   | 1.992      | -005                              | 1.992                |                         |                         |                         | A heavy cross sea.      |                         |
| 13.     | -72 46 | 181 46 | Def. S.          | 52 55.6                         | 34           | s.e. by s.   | 1.997      |                                   |                      |                         |                         |                         |                         |                         |
|         |        |        | Def. N.          | 49 45.5                         | 32           | s.e. by s.   | 1.992      | -003                              | 1.973                |                         |                         |                         |                         | 1.973                   |
|         |        |        | wt. 3 grs.       | 18 17.2                         | 31           | s.e. by s.   | 1.940      |                                   |                      |                         |                         |                         |                         |                         |
|         |        |        | wt. 4 grs.       | 24 23.0                         | 31           | s.e. by s.   | 1.975      |                                   |                      |                         |                         | 1.973                   |                         |                         |
| 16.     | -74 56 | 173 36 | Def. S.          | 53 16.1                         | 26           | s.s.e.       | 1.979      |                                   |                      |                         |                         |                         |                         |                         |
|         |        |        | Def. N.          | 49 49.5                         | 26           | s.s.e.       | 1.988      | -003                              | 1.998                | Very unsteady.          |                         |                         |                         |                         |
|         |        |        | wt. 3 grs.       | 17 23.0                         | 26           | s.s.e.       | 2.036      |                                   |                      |                         |                         |                         |                         |                         |
|         | -75 10 | 173 08 | Def. S.          | 52 39.5                         | 36           | E.           | 2.017      |                                   |                      |                         | 2.008                   |                         |                         |                         |
|         |        |        | Def. N.          | 49 45.9                         | 30           | E.           | 1.992      |                                   |                      |                         |                         |                         |                         |                         |
|         |        |        | wt. 3 grs.       | 17 20.9                         | 27           | E.           | 2.039      | +001                              | 2.009                |                         |                         | 2.008                   |                         |                         |
|         |        |        | wt. 4 grs.       | 23 58.7                         | 27           | E.           | 2.009      |                                   |                      |                         |                         |                         |                         |                         |
|         |        |        | wt. 5 grs.       | 30 59.1                         | 28           | E.           | 1.987      |                                   |                      |                         |                         |                         | 2.009                   |                         |
|         |        |        | wt. 6 grs.       | 38 02.3                         | 27           | E.           | 2.002      |                                   |                      |                         |                         |                         |                         |                         |
| 17.     | -76 00 | 175 15 | Def. S.          | 52 38.3                         | 33           | E.N.E.       | 2.014      | +002                              | 2.010                |                         | Ship pitching.          |                         |                         |                         |
|         |        |        | Def. N.          | 49 33.5                         | 31           | E.N.E.       | 2.004      |                                   |                      |                         |                         |                         |                         |                         |
| 18.     | -76 58 | 181 03 | Def. S.          | 53 00.7                         | 28           | E.N.E.       | 1.993      | +002                              | 2.003                | Ship pitching.          |                         |                         |                         |                         |
|         |        |        | Def. N.          | 49 29.3                         | 27           | E.N.E.       | 2.009      |                                   |                      |                         |                         |                         |                         |                         |
| 19.     | -76 42 | 184 09 | Def. S.          | 53 06.2                         | 25           | N. by E.     | 1.988      | +004                              | 2.001                |                         |                         | Ship pitching.          |                         |                         |
|         |        |        | Def. N.          | 49 31.3                         | 25           | N. by E.     | 2.007      |                                   |                      |                         |                         |                         |                         |                         |
| 22.     | -76 42 | 194 48 | Def. S.          | 52 59.0                         | 30           | N. by E.     | 1.993      | +004                              | 1.999                |                         |                         |                         | A swell from the south. |                         |
|         |        |        | Def. N.          | 49 41.0                         | 28           | N. by E.     | 1.997      |                                   |                      |                         |                         |                         |                         |                         |
|         | -77 05 | 194 38 | Def. S.          | 53 10.6                         | 36           | E. by s.     | 1.984      |                                   |                      |                         |                         |                         |                         | 1.993                   |
|         |        |        | Def. N.          | 49 57.5                         | 33           | E. by s.     | 1.981      |                                   |                      |                         |                         |                         |                         |                         |
|         |        |        | wt. 3 grs.       | 18 06.5                         | 29           | E. by s.     | 1.960      | +001                              | 1.991                |                         | 1.993                   |                         |                         |                         |
|         |        |        | wt. 4 grs.       | 23 18.7                         | 29           | E. by s.     | 2.063      |                                   |                      |                         |                         |                         |                         |                         |
|         |        |        | wt. 5 grs.       | 31 25.7                         | 29           | E. by s.     | 1.961      |                                   |                      | A swell from the south. |                         |                         |                         |                         |
|         |        |        | wt. 6 grs.       | 38 04.1                         | 29           | E. by s.     | 2.000      |                                   |                      |                         |                         |                         |                         |                         |
| 25.     | -74 50 | 193 45 | Def. S.          | 53 14.8                         | 30           | w.           | 1.980      | +001                              | 1.983                |                         |                         | A swell from the south. |                         |                         |
|         |        |        | Def. N.          | 49 54.3                         | 29           | w.           | 1.984      |                                   |                      |                         |                         |                         |                         |                         |
| 26.     | -72 46 | 189 59 | Def. S.          | 53 30.5                         | 37           | N.W. by W.   | 1.966      | +002                              | 1.972                |                         | 1.974                   |                         |                         |                         |
|         |        |        | Def. N.          | 50 04.5                         | 31           | N.W. by W.   | 1.974      |                                   |                      |                         |                         |                         |                         |                         |
| 27.     | -72 01 | 187 35 | Def. S.          | 53 32.7                         | 26           | w. by s.     | 1.964      | +000                              | 1.976                | 1.974                   |                         |                         |                         |                         |
|         |        |        | Def. N.          | 49 49.1                         | 25           | w. by s.     | 1.989      |                                   |                      |                         |                         |                         |                         |                         |
| 28.     | -71 08 | 184 59 | Def. S.          | 53 27.6                         | 31           | w.           | 1.968      | +001                              | 1.975                |                         | 1.993                   |                         |                         |                         |
|         |        |        | Def. N.          | 49 57.0                         | 26           | w.           | 1.981      |                                   |                      |                         |                         |                         |                         |                         |
|         |        |        | wt. 3 grs.       | 17 39.5                         | 25           | w.s.w.       | 2.004      | -000                              | 2.012                | 1.993                   |                         |                         |                         |                         |
|         |        |        | wt. 4 grs.       | 23 52.0                         | 25           | w.s.w.       | 2.020      |                                   |                      |                         |                         |                         |                         |                         |

## Observations of the Magnetic Force. (Continued.)

| 1842.   | Lat.   | Long.  | Method employed. | Angle of deflection. Face east. | Temperature. | Ship's head.              | Intensity. | Correction for ship's attraction. | Corrected Intensity. | Remarks.   |  |
|---------|--------|--------|------------------|---------------------------------|--------------|---------------------------|------------|-----------------------------------|----------------------|--|--|
| Mar. 1. | -69 52 | 180 00 | Def. S.          | 53 10.7                         | 33           | w. by N.                  | 1.983      | +0.003                            | 1.980                | A swell from the northward.                                    |  |
|         |        |        | Def. N.          | 50 06.0                         | 31           | w. by N.                  | 1.972      |                                   |                      |  |  |
|         | -69 44 | 179 53 | Def. S.          | 53 28.1                         | 32           | N. by E.                  | 1.968      | +0.007                            | 1.976                |  |  |
|         |        |        | Def. N.          | 50 09.7                         | 29           | N. by E.                  | 1.969      |                                   |                      |  |  |
| 2.      | -68 04 | 183 25 | Def. S.          | 54 05.0                         | 33           | N.N.E.                    | 1.936      | +0.008                            | 1.962                |  |  |
|         |        |        | Def. N.          | 50 06.7                         | 32           | N.N.E.                    | 1.972      |                                   |                      |  |  |
|         |        |        | Def. S.          | 53 46.5                         | 34           | N.E. by N.                | 1.951      | +0.008                            | 1.969                |  |  |
|         |        |        | Def. N.          | 50 09.3                         | 32           | N.E. by N.                | 1.970      |                                   |                      |  |  |
| 3.      | -67 32 | 185 09 | Def. S.          | 53 24.5                         | 30           | E.N.E.                    | 1.971      | +0.005                            | 1.976                |  |  |
|         |        |        | Def. N.          | 50 08.8                         | 31           | E.N.E.                    | 1.971      |                                   |                      |  |  |
| 5.      | -67 16 | 188 10 | Def. N.          | 50 40.2                         | 35           | N. by E.                  | 1.941      | +0.010                            | 1.952                | A very heavy swell from westward, observations very uncertain. |  |
| 6.      | -65 25 | 191 48 | Def. N.          | 50 38.3                         | 34           | N. by E.                  | 1.943      |                                   |                      |  |  |
| 7.      | -63 30 | 194 52 | Def. S.          | 54 11.9                         | 40           | N. by E.                  | 1.930      | +0.010                            | 1.936                |  |  |
|         |        |        | Def. N.          | 50 54.2                         | 35           | N. by E.                  | 1.927      |                                   |                      |  |  |
|         |        |        | wt. 3 grs.       | 18 26.2                         | 33           | N. by E.                  | 1.925      | +0.010                            | 1.925                |  |  |
|         |        |        | wt. 4 grs.       | 25 10.3                         | 33           | N. by E.                  | 1.922      |                                   |                      |  |  |
| 8.      | -62 16 | 196 10 | Def. S.          | 54 52.7                         | 35           | N. by E.                  | 1.893      | +0.010                            | 1.903                |  |  |
|         |        |        | Def. N.          | 51 32.2                         | 35           | N. by E.                  | 1.893      |                                   |                      |  |  |
| 9.      | -61 14 | 198 38 | Def. S.          | 54 38.4                         | 43           | N.E. by N.                | 1.907      | +0.013                            | 1.914                |  |  |
|         |        |        | Def. N.          | 51 23.2                         | 35           | N.E. by N.                | 1.902      |                                   |                      |  |  |
|         |        |        | wt. 3 grs.       | 19 06.9                         | 33           | N.E. by N.                | 1.859      | +0.013                            | 1.914                |  |  |
|         |        |        | wt. 4 grs.       | 25 25.5                         | 35           | N.E. by N.                | 1.905      |                                   |                      |  |  |
|         |        |        | wt. 5 grs.       | 32 00.5                         | 34           | N.E. by N.                | 1.933      | +0.007                            | 1.895                |  |  |
|         |        |        | Def. S.          | 55 00.4                         | 38           | E.N.E.                    | 1.888      |                                   |                      |  |  |
|         |        |        | Def. N.          | 51 37.2                         | 35           | E.N.E.                    | 1.888      | +0.005                            | 1.869                | Cross sea, ship very unsteady.                                 |  |
| 10.     | -60 18 | 204 11 | Def. S.          | 55 52.5                         | 35           | E. by N.                  | 1.844      |                                   |                      |  |  |
|         |        |        | Def. N.          | 51 56.5                         | 34           | E. by N.                  | 1.871      | +0.005                            | 1.869                | A heavy swell, very unsteady.                                  |  |
| 12.     | -60 13 | 211 34 | Def. S.          | 55 28.0                         | 35           | E. by N.                  | 1.862      |                                   |                      |  |  |
|         |        |        | Def. N.          | 51 47.5                         | 35           | E. by N.                  | 1.879      | +0.011                            | 1.863                | A heavy swell, very unsteady.                                  |  |
| 14.     | -59 24 | 218 58 | Def. S.          | 55 52.2                         | 37           | N.E. by E.                | 1.846      |                                   |                      |  |  |
|         |        |        | Def. N.          | 52 20.0                         | 37           | N.E. by E.                | 1.851      | +0.011                            | 1.863                |  |  |
|         | -59 16 | 219 30 | Def. S.          | 55 37.4                         | 37           | N.E. by E.                | 1.859      |                                   |                      |  |  |
|         |        |        | Def. N.          | 52 18.2                         | 37           | N.E. by E.                | 1.853      | +0.009                            | 1.864                |  |  |
| 15.     | -58 04 | 222 04 | Def. S.          | 55 54.2                         | 37           | E.N.E.                    | 1.844      |                                   |                      |  |  |
|         |        |        | Def. N.          | 52 16.4                         | 37           | E.N.E.                    | 1.844      | +0.002                            | 1.869                |  |  |
|         |        |        | wt. 3 grs.       | 18 57.0                         | 38           | E.N.E.                    | 1.876      |                                   |                      |  |  |
| 16.     | -59 04 | 228 57 | Def. S.          | 55 28.7                         | 39           | E.                        | 1.864      | +0.002                            | 1.869                |  |  |
|         |        |        | Def. N.          | 51 57.5                         | 39           | E.                        | 1.870      |                                   |                      |  |  |
| 17.     | -59 39 | 232 48 | Def. S.          | 55 21.3                         | 39           | E. $\frac{1}{2}$ S.       | 1.872      | +0.001                            | 1.878                | A great deal of motion.  |  |
|         |        |        | Def. N.          | 51 57.5                         | 39           | E. $\frac{1}{2}$ S.       | 1.870      |                                   |                      |  |  |
|         | -59 45 | 233 53 | Def. S.          | 55 12.0                         | 40           | E. $\frac{1}{2}$ S.       | 1.879      | +0.001                            | 1.878                |  |  |
|         |        |        | Def. N.          | 51 41.2                         | 38           | E. $\frac{1}{2}$ S.       | 1.885      |                                   |                      |  |  |
| 18.     | -60 16 | 236 11 | Def. S.          | 54 40.7                         | 36           | E. by S.                  | 1.901      | +0.000                            | 1.897                | Very unsteady.   |  |
|         |        |        | Def. N.          | 51 33.2                         | 35           | E. by S.                  | 1.893      |                                   |                      |  |  |
|         |        |        | Def. S.          | 55 00.2                         | 37           | E.                        | 1.888      | +0.003                            | 1.892                | Ship rolling, very unsteady.                                   |  |
|         | -60 21 | 237 02 | Def. S.          | 55 12.5                         | 39           | E.                        | 1.879      |                                   |                      |  |  |
|         |        |        | Def. N.          | 51 25.6                         | 39           | E.                        | 1.899      | +0.009                            | 1.890                |  |  |
|         | -60 20 | 237 50 | Def. S.          | 55 33.4                         | 39           | E. by N.                  | 1.862      |                                   |                      |  |  |
|         |        |        | Def. N.          | 51 25.5                         | 39           | E. by N.                  | 1.899      | +0.010                            | 1.894                |  |  |
|         | -60 19 | 238 00 | Def. S.          | 55 10.2                         | 40           | E. by N. $\frac{1}{2}$ N. | 1.880      |                                   |                      |  |  |
|         |        |        | Def. N.          | 51 37.9                         | 39           | E. by N. $\frac{1}{2}$ N. | 1.887      | +0.015                            | 1.841                |  |  |
| 19.     | -60 01 | 241 38 | Def. S.          | 55 58.9                         | 39           | E.N.E.                    | 1.841      |                                   |                      |  |  |
|         |        |        | Def. N.          | 52 25.0                         | 37           | E.N.E.                    | 1.846      | +0.011                            | 1.851                |  |  |
|         |        |        | Def. S.          | 56 13.5                         | 42           | F.N.E.                    | 1.829      |                                   |                      |  |  |
|         |        |        | Def. N.          | 52 30.0                         | 40           | E.N.E.                    | 1.842      | +0.009                            | 1.839                | 1.846  |  |
| 21.     | -59 15 | 248 12 | Def. S.          | 56 07.0                         | 39           | E. by N.                  | 1.836      |                                   |                      |  |  |
|         |        |        | Def. N.          | 52 51.5                         | 38           | E. by N.                  | 1.824      | +0.015                            | 1.841                |  |  |
|         | -58 58 | 249 24 | Def. S.          | 56 11.2                         | 39           | N.E. by E.                | 1.831      |                                   |                      |  |  |
|         |        |        | Def. N.          | 52 56.0                         | 38           | N.E. by E.                | 1.820      |                                   |                      |  |  |

## Observations of the Magnetic Force. (Continued.)

| 1842.    | Lat.                          | Long.  | Method employed. | Angle of deflection. Face east. | Temperature. | Ship's head.                | Intensity. | Correction for ship's attraction. | Corrected Intensity. | Remarks.   |
|----------|-------------------------------|--------|------------------|---------------------------------|--------------|-----------------------------|------------|-----------------------------------|----------------------|--|
| Mar. 22. | -58 29                        | 252 22 | Def. S.          | 56 30.5                         | 38           | E. $\frac{1}{2}$ S.         | 1.816      | +002                              | 1.816                | A head sea.  |
|          |                               |        | Def. N.          | 53 05.6                         | 38           | E. $\frac{1}{2}$ S.         | 1.812      |                                   |                      |  |
| 23.      | -58 35                        | 255 10 | Def. S.          | 56 36.0                         | 34           | E. $\frac{1}{2}$ N.         | 1.812      |                                   |                      |  |
|          |                               |        | Def. N.          | 53 13.2                         | 33           | E. $\frac{1}{2}$ N.         | 1.807      | +006                              | 1.804                |  |
| 25.      | -58 44                        | 257 49 | Def. S.          | 56 35.8                         | 36           | E. $\frac{1}{2}$ N.         | 1.812      |                                   |                      |  |
|          |                               |        | Def. N.          | 53 16.7                         | 35           | E. $\frac{1}{2}$ N.         | 1.803      |                                   |                      |  |
|          |                               |        | wt. 3 grs.       | 20 17.0                         | 34           | E. $\frac{1}{2}$ N.         | 1.756      | +012                              | 1.783                | Ship unsteady.   |
| 26.      | -59 02                        | 268 30 | Def. S.          | 57 19.2                         | 47           | E. by N. $\frac{1}{2}$ N.   | 1.778      |                                   |                      |  |
|          |                               |        | Def. N.          | 54 05.2                         | 45           | E. by N. $\frac{1}{2}$ N.   | 1.763      |                                   |                      |  |
| 27.      | -59 02                        | 272 02 | Def. S.          | 58 55.6                         | 37           | E.N.E.                      | 1.707      | +014                              | 1.722                |  |
|          |                               |        | Def. N.          | 55 17.7                         | 35           | E.N.E.                      | 1.708      |                                   |                      |  |
| 28.      | -58 50                        | 277 12 | Def. S.          | 59 34.0                         | 40           | N.E. by E.                  | 1.681      |                                   |                      |  |
|          |                               |        | Def. N.          | 56 07.7                         | 39           | N.E. by E.                  | 1.671      | +018                              | 1.694                |  |
| 29.      | -58 23                        | 280 03 | Def. S.          | 60 45.2                         | 44           | N.E. $\frac{1}{2}$ E.       | 1.633      |                                   |                      |  |
|          |                               |        | Def. N.          | 57 03.0                         | 45           | N.E. $\frac{1}{2}$ E.       | 1.631      |                                   |                      |  |
| 30.      | -58 29                        | 282 04 | Def. S.          | 60 30.3                         | 40           | N.E. by E. $\frac{1}{2}$ E. | 1.643      | +016                              | 1.651                | A heavy swell from the southward.                          |
|          |                               |        | Def. N.          | 57 08.2                         | 40           | N.E. by E. $\frac{1}{2}$ E. | 1.627      |                                   |                      |  |
| 31.      | -58 29                        | 286 04 | Def. N.          | 58 34.2                         | 45           | N.E. by N.                  | 1.570      |                                   |                      |  |
| Apr. 1.  | -57 22                        | 289 50 | Def. S.          | 63 22.7                         | 47           | N.E. by N.                  | 1.539      | +025                              | 1.554                |  |
|          |                               |        | Def. N.          | 60 00.8                         | 47           | N.E. by N.                  | 1.519      |                                   |                      |  |
| 2.       | -57 10                        | 292 11 | Def. S.          | 63 27.2                         | 44           | S.E.                        | 1.535      |                                   |                      |  |
|          |                               |        | Def. N.          | 59 57.5                         | 44           | S.E.                        | 1.520      | -017                              | 1.510                |  |
| 3.       | -56 40                        | 294 46 | Def. S.          | 65 38.2                         | 46           | N.E.                        | 1.465      |                                   |                      |  |
|          |                               |        | Def. N.          | 61 36.2                         | 45           | N.E.                        | 1.469      |                                   |                      |  |
| 4.       | -54 50                        | 298 10 | Def. N.          | 64 10.7                         | 44           | N.E.                        | 1.395      | +023                              | 1.466                | 1.466  |
| 5.       | -52 54                        | 300 57 | Def. S.          | 70 13.4                         | 48           | N.N.E.                      | 1.342      |                                   |                      |  |
|          |                               |        | Def. N.          | 66 55.7                         | 45           | N.N.E.                      | 1.327      |                                   |                      |  |
|          |                               |        | wt. 3 grs.       | 27 57.7                         | 43           | N.N.E.                      | 1.300      | +025                              | 1.355                | 1.355  |
|          |                               |        | wt. 4 grs.       | 37 33.2                         | 44           | N.N.E.                      | 1.340      |                                   |                      |  |
|          |                               |        | wt. 5 grs.       | 49 40.7                         | 44           | N.N.E.                      | 1.343      |                                   |                      |  |
| 11.      | Port Louis, Falkland Islands. |        | Def. S.          | 70 51.3                         | 47           |                             | 1.328      |                                   |                      |  |
|          | -51 32                        | 301 53 | Def. N.          | 67 08.1                         | 47           |                             | 1.322      |                                   |                      |  |
|          |                               |        | wt. 2 grs.       | 18 31.1                         | 45           |                             | 1.291      |                                   |                      |  |
|          |                               |        | wt. 3 grs.       | 27 42.7                         | 45           |                             | 1.311      |                                   |                      |  |
|          |                               |        | wt. 4 grs.       | 37 58.5                         | 43           |                             | 1.331      |                                   |                      |  |
|          |                               |        | wt. 5 grs.       | 48 55.9                         | 43           |                             | 1.361      |                                   |                      |  |
|          |                               |        | wt. 6 grs.       | 66 49.8*                        | 43           | Observed on shore.          | 1.345      |                                   | 1.322                | The results with the "face west" are included in the mean. |
| Aug. 19. |                               |        | wt. 2 grs.       | 17 57.1                         | 37           |                             | 1.330      |                                   |                      |  |
|          |                               |        | wt. 3 grs.       | 27 43.3                         | 37           |                             | 1.310      |                                   |                      |  |
|          |                               |        | wt. 4 grs.       | 37 40.4                         | 37           |                             | 1.339      |                                   |                      |  |
|          |                               |        | wt. 5 grs.       | 49 31.4                         | 38           |                             | 1.347      |                                   |                      |  |
|          |                               |        | wt. 6 grs.       | 67 23.4*                        | 38           |                             | 1.339      |                                   |                      |  |
|          |                               |        | Def. S.          | 71 32.4                         | 34           |                             | 1.311      |                                   |                      |  |
|          |                               |        | Def. N.          | 67 12.6                         | 35           |                             | 1.320      |                                   |                      |  |

\* Observed on shore ;  
face west.

|                    | Temp. | Intensity. |
|--------------------|-------|------------|
| wt. 2 grs. 18 50.4 | 42    | 1.287      |
| wt. 3 grs. 28 30.0 | 42    | 1.296      |
| wt. 4 grs. 38 51.0 | 41    | 1.315      |
| wt. 5 grs. 51 27.9 | 41    | 1.326      |
| wt. 6 grs. 68 40.3 | 41    | 1.332      |
| wt. 2 grs. 18 32.9 | 39    | 1.306      |
| wt. 3 grs. 28 26.6 | 40    | 1.299      |
| wt. 4 grs. 39 05.3 | 40    | 1.309      |
| wt. 5 grs. 51 19.2 | 40    | 1.329      |
| wt. 6 grs. 69 35.7 | 40    | 1.324      |

Observations of the INTENSITY of the Magnetic Force made in Her Majesty's Ship Terror, with Needle F. C. B., between April 16, 1841, and August 15, 1842.

Observers Captain FRANCIS RAWDON CROZIER, and Mr. THOMAS MOORE, Mate, R.N.

| 1841.    | Lat.  | Long.  | Method employed. | Angle of deflection. Face east. | Temperature. | Ship's head.  | Intensity.   | Correction for ship's attraction.                            | Corrected Intensity.                               | Remarks.   |
|----------|---|--------|------------------|---------------------------------|--------------|---|--|--|--|--|
| Apr. 17. | Hobarton Magnetic Observatory.<br>—42 52 147 24 |        | Def. S.          | 33 20.4                         | 60           | Observed on shore.  | 1.820  | .....  | 1.820  | A spare needle marked C. was used as a deflector, and the observations with it are those registered as "Deflector S." and "Deflector N." The deflecting magnets belonging to the apparatus were also employed, N alone, and N. and S. conjointly. The observations with these are distinguished as "Mag. N." and "Mag. N.S." The temperatures are taken from the register in the Erebus. |
|          |   |        | Mag. N.S.        | 39 59.2                         | 60           |   |  |  |  |  |
|          |   |        | Mag. N.          | 30 04.0                         | 60           |   |  |  |  |  |
|          |   |        | Def. S.          | 21 03.1                         | 60           |   |  |  |  |  |
| 19.      |   |        | wt. 1 gr.*       | 12 11.9                         | 60           |   |  |  |  |  |
|          |   |        | wt. 1½ gr.       | 18 29.4                         | 60           |   |  |  |  |  |
|          |   |        | wt. 2 grs.       | 25 13.7                         | 60           |   |  |  |  |  |
|          |   |        | wt. 2½ grs.      | 31 43.0                         | 60           |   |  |  |  |  |
|          |   |        | wt. 3 grs.       | 39 02.3                         | 60           |   |  |  |  |  |
|          |   |        | wt. 3½ grs.      | 46 51.3                         | 60           |   |  |  |  |  |
| 20.      |   |        | Def. N.          | 36 00.6                         | 60           | W.<br>W.S.W.<br>S.W.<br>S.S.W.<br>S.<br>S.S.E.<br>S.E.<br>E.S.E.<br>E.<br>E.N.E.<br>N.E.<br>N.N.E.<br>N.<br>N.N.W.<br>N.W.<br>W.N.W.<br>S.E. ¾ E.<br>S.E. ¾ E.<br>W. ½ N.<br>W. ½ N.<br>N.N.W.<br>N.N.W.<br>N. by W.<br>N. by W.<br>N. by E.<br>N. by E.<br>N.E. ½ N.<br>N.E. ½ N.<br>N.N.W. ½ W.<br>N.<br>N. | 1.821<br>1.831<br>1.844<br>1.868<br>1.868<br>1.879<br>1.877<br>1.877<br>1.871<br>1.863<br>1.859<br>1.857<br>1.855<br>1.854<br>1.816<br>1.857<br>1.880<br>1.864<br>1.854<br>1.832<br>1.816<br>1.785<br>1.787<br>1.792<br>1.775<br>1.741<br>1.752<br>1.718<br>1.747<br>1.697<br>1.681<br>1.697 | .....  | 1.820  |  |
|          |   |        | Def. S.          | 33 25.6                         | 60           |   |  |  |  |  |
|          |   |        | Mag. N.S.        | 40 11.6                         | 60           |   |  |  |  |  |
|          |   |        | Mag. N.          | 30 24.1                         | 60           |   |  |  |  |  |
| June 22. | At anchor in the river Derwent.                 |        | Def. N.          | 35 58.5                         | 48           |   |  |  |  |  |
|          |   |        | Def. N.          | 35 49.1                         | 48           |   |  |  |  |  |
|          |   |        | Def. N.          | 35 34.5                         | 48           |   |  |  |  |  |
|          |   |        | Def. N.          | 35 09.6                         | 48           |   |  |  |  |  |
|          |   |        | Def. N.          | 35 09.3                         | 48           |   |  |  |  |  |
|          |   |        | Def. N.          | 34 58.0                         | 48           |   |  |  |  |  |
|          |   |        | Def. N.          | 35 00.0                         | 48           |   |  |  |  |  |
|          |   |        | Def. N.          | 34 59.9                         | 48           |   |  |  |  |  |
|          |   |        | Def. N.          | 35 06.4                         | 48           |   |  |  |  |  |
|          |   |        | Def. N.          | 35 13.9                         | 48           |   |  |  |  |  |
|          |   |        | Def. N.          | 35 18.4                         | 48           |   |  |  |  |  |
|          |   |        | Def. N.          | 35 21.6                         | 48           |   |  |  |  |  |
|          |   |        | Def. N.          | 35 23.0                         | 48           |   |  |  |  |  |
|          |   |        | Def. N.          | 35 23.7                         | 48           |   |  |  |  |  |
|          |   |        | Def. N.          | 36 04.1                         | 48           |   |  |  |  |  |
|          |   |        | Def. N.          | 35 21.4                         | 48           |   |  |  |  |  |
| July 7.  | Storm Bay.                                      |        | Def. N.          | 34 57.0                         | 48           |   |  | -012<br>+006<br>+022<br>+025<br>+027<br>+023<br>+026<br>+031 | 1.860<br>1.849<br>1.822<br>1.814<br>1.758<br>1.738 | Very steady.<br>Very steady.<br>Very steady.<br>Very steady.<br>Very steady.<br>Slight motion.<br>Steering very steady.<br>Heavy cross sea, unsteady.<br>A slight motion.<br>Steering steady.  |
|          |   |        | Def. S.          | 32 40.0                         | 48           |   |  |  |  |  |
| 8.       | —43 03  | 148 20 | Def. N.          | 35 23.6                         | 52           |   |  |  |  |  |
|          |   |        | Def. S.          | 33 11.5                         | 52           |   |  |  |  |  |
| 9.       | —42 24  | 149 30 | Def. N.          | 36 03.7                         | 56           |   |  |  |  |  |
|          |   |        | Def. S.          | 33 57.6                         | 56           |   |  |  |  |  |
| 10.      | —40 51  | 149 28 | Def. N.          | 36 33.8                         | 56           |   |  |  |  |  |
|          |   |        | Def. S.          | 33 51.3                         | 56           |   |  |  |  |  |
| 11.      | —38 17  | 150 22 | Def. N.          | 36 46.1                         | 56           |   |  |  |  |  |
|          |   |        | Def. S.          | 34 43.3                         | 56           |   |  |  |  |  |
| 12.      | —37 28  | 151 30 | Def. N.          | 37 09.4                         | 61           |   |  |  |  |  |
|          |   |        | Def. S.          | 35 06.4                         | 61           |   |  |  |  |  |
| 13.      | —36 21  | 151 39 | Def. N.          | 37 15.1                         | 58           |   |  |  |  |  |
| 14.      | —34 06  | 151 19 | Def. N.          | 38 06.6                         | 60           |   |  |  |  |  |
|          |   |        | Def. S.          | 35 42.8                         | 60           |   |  |  |  |  |
| 19.      | Garden Island, Port Jackson.<br>—33 51 151 17   |        | Def. N.          | 38 05.9                         | 60           | Observed on shore.  | 1.708  |  |  |  |
|          |   |        | Def. S.          | 35 15.7                         | 60           |   |  |  |  |  |

\* Observed on shore; face west.

|             |         |
|-------------|---------|
| wt. 1 gr.   | 11 42.0 |
| wt. 1½ gr.  | 17 52.6 |
| wt. 2 grs.  | 24 15.6 |
| wt. 2½ grs. | 31 00.7 |
| wt. 3 grs.  | 38 42.3 |
| wt. 3½ grs. | 46 06.3 |

Intensity 1.820

## Observations of the Magnetic Force. (Continued.)

| 1841.    | Lat.                            | Long.  | Method employed. | Angle of deflection. Face east. | Temperature. | Ship's head.          | Intensity. | Correction for ship's attraction. | Corrected Intensity. | Remarks.   |
|----------|---------------------------------|--------|------------------|---------------------------------|--------------|-----------------------|------------|-----------------------------------|----------------------|--|
| July 19. | Garden Island,<br>Port Jackson. |        | Mag. N.S.        | 41 45.3                         | 60           | Observed<br>on shore. | 1.705      | .....                             | 1.699                | Including the results<br>with the "face<br>west."                  |
|          |                                 |        | Mag. N.          | 31 47.2                         | 60           |                       | 1.696      |                                   |                      |  |
|          |                                 |        | Mag. S.          | 22 06.6                         | 60           |                       |            |                                   |                      |  |
|          |                                 |        | wt. 1 gr.*       | 13 08.8                         | 60           |                       | 1.691      |                                   |                      |  |
|          |                                 |        | wt. 1½ grs.      | 20 02.0                         | 60           |                       | 1.685      |                                   |                      |  |
|          |                                 |        | wt. 2 grs.       | 27 00.7                         | 60           |                       | 1.708      |                                   |                      |  |
|          |                                 |        | wt. 2½ grs.      | 34 25.2                         | 60           |                       | 1.692      |                                   |                      |  |
|          |                                 |        | wt. 3 grs.       | 42 06.9                         | 60           |                       | 1.709      |                                   |                      |  |
| Aug. 5.  | Running out of<br>harbour.      |        | wt. 3½ grs.      | 51 13.5                         | 60           | E. by N. ½ N.         | 1.703      | +014                              | 1.719                | A head swell.  |
|          |                                 |        | Def. N.          | 37 45.1                         | 63           |                       | 1.718      |                                   |                      |  |
|          |                                 |        | Def. S.          | 35 36.2                         | 63           |                       | 1.688      |                                   |                      |  |
|          |                                 |        | Def. N.          | 37 36.2                         | 63           |                       | 1.726      |                                   |                      |  |
|          |                                 |        | Def. S.          | 35 34.5                         | 63           |                       | 1.690      |                                   |                      |  |
|          |                                 |        | Def. N.          | 38 06.3                         | 63           |                       | 1.698      |                                   |                      |  |
|          |                                 |        | Def. S.          | 36 11.3                         | 63           |                       | 1.654      |                                   |                      |  |
|          |                                 |        | Def. N.          | 37 32.3                         | 63           |                       | 1.731      |                                   |                      |  |
|          |                                 |        | Def. S.          | 35 38.8                         | 63           |                       | 1.685      |                                   |                      |  |
|          |                                 |        | Def. N.          | 38 16.4                         | 61           |                       | 1.688      |                                   |                      |  |
|          |                                 |        | Def. S.          | 36 19.2                         | 61           |                       | 1.647      |                                   |                      |  |
|          |                                 |        | Def. N.          | 38 36.0                         | 63           |                       | 1.669      |                                   |                      |  |
|          |                                 |        | Def. S.          | 36 13.2                         | 63           |                       | 1.652      |                                   |                      |  |
|          |                                 |        | Def. N.          | 38 58.3                         | 61           |                       | 1.648      |                                   |                      |  |
|          |                                 |        | Def. S.          | 36 16.0                         | 61           |                       | 1.650      |                                   |                      |  |
|          |                                 |        | Def. N.          | 38 46.2                         | 61           |                       | 1.659      |                                   |                      |  |
|          |                                 |        | Def. S.          | 36 18.3                         | 61           |                       | 1.648      |                                   |                      |  |
|          |                                 |        | Def. N.          | 38 57.3                         | 62           |                       | 1.648      |                                   |                      |  |
|          |                                 |        | Def. S.          | 37 01.9                         | 62           |                       | 1.604      |                                   |                      |  |
|          |                                 |        | Def. N.          | 39 30.7                         | 62           |                       | 1.616      |                                   |                      |  |
|          |                                 |        | Def. S.          | 36 57.2                         | 62           |                       | 1.609      |                                   |                      |  |
|          |                                 |        | Mag. N.          | 32 50.1                         | 62           |                       | 1.609      |                                   |                      |  |
|          |                                 |        | Mag. S.          | 23 37.2                         | 62           |                       |            |                                   |                      |  |
|          |                                 |        | Def. N.          | 40 07.5                         | 66           |                       | 1.579      |                                   |                      |  |
|          |                                 |        | Def. S.          | 37 58.5                         | 66           |                       | 1.549      |                                   |                      |  |
|          |                                 |        | Mag. N.          | 33 03.0                         | 66           |                       | 1.592      |                                   |                      |  |
|          |                                 |        | Mag. S.          | 23 12.0                         | 66           |                       |            |                                   |                      |  |
|          |                                 |        | Mag. N.S.        | 43 13.0                         | 66           |                       | 1.590      |                                   |                      |  |
|          |                                 |        | Def. N.          | 39 46.4                         | 66           |                       | 1.600      |                                   |                      |  |
|          |                                 |        | Def. N.          | 40 10.5                         | 56           |                       | 1.576      |                                   |                      |  |
|          |                                 |        | Def. S.          | 37 19.5                         | 56           |                       | 1.586      |                                   |                      |  |
|          |                                 |        | Mag. N.          | 32 56.3                         | 56           |                       | 1.601      |                                   |                      |  |
|          |                                 |        | Mag. S.          | 24 07.8                         | 56           |                       |            |                                   |                      |  |
|          |                                 |        | Mag. N.S.        | 43 17.9                         | 56           |                       | 1.585      |                                   |                      |  |
| 12.      | -32 58                          | 169 20 | Def. N.          | 40 10.5                         | 56           | E.N.E.                | 1.576      | +018                              | 1.607                | Wind fresh, motion<br>quick, steering<br>badly.                    |
|          |                                 |        | Def. S.          | 37 19.5                         | 56           |                       | 1.586      |                                   |                      |  |
| 13.      | -32 12                          | 170 27 | Mag. N.          | 32 56.3                         | 56           | E.N.E.                | 1.601      | +026                              | 1.589                | A head sea, steer-<br>ing steadily.                                |
|          |                                 |        | Mag. S.          | 24 07.8                         | 56           |                       |            |                                   |                      |  |
| 14.      | -32 11                          | 171 20 | Def. N.          | 38 55.5                         | 55           | S.E. by E.            | 1.650      | -012                              | 1.589                | Strong wind, heavy<br>sea, motion<br>quick, ship<br>steering well. |
|          |                                 |        | Def. S.          | 36 58.7                         | 55           |                       | 1.607      |                                   |                      |  |
|          |                                 |        | Mag. N.          | 33 30.8                         | 55           |                       | 1.554      |                                   |                      |  |
|          |                                 |        | Mag. N.S.        | 43 09.9                         | 55           |                       | 1.595      |                                   |                      |  |
|          |                                 |        | Mag. S.          | 23 34.3                         | 55           |                       |            |                                   |                      |  |

\* Observed on shore;  
face west.

|             |         |                     |
|-------------|---------|---------------------|
| wt. 1 gr.   | 12 44.1 | Intensity.<br>1.674 |
| wt. 1½ gr.  | 19 03.3 | 1.712               |
| wt. 2 grs.  | 26 01.2 | 1.705               |
| wt. 2½ grs. | 33 17.7 | 1.709               |
| wt. 3 grs.  | 41 35.2 | 1.715               |
| wt. 3½ grs. | 51 02.1 | 1.687               |

## Observations of the Magnetic Force. (Continued.)

| 1841.    | Lat.            | Long.                           | Method employed. | Angle of deflection. Face east. | Temperature. | Ship's head.       | Intensity. | Correction for ship's attraction. | Corrected Intensity. | Remarks.  |                                       |
|----------|-----------------|---------------------------------|------------------|---------------------------------|--------------|--------------------|------------|-----------------------------------|----------------------|---|---------------------------------------|
| Aug. 15. | —33 55          | 171 59                          | Def. N.          | 39 35.3                         | 60           | E. by S.           | 1.611      | .000                              | 1.601                | A head sea, table very unsteady.  |                                       |
|          |                 |                                 | Def. N.          | 39 46.2                         | 60           | E. ½ N.            | 1.600      | + .010                            |                      |   |                                       |
|          | —33 58          | 172 06                          | Def. N.          | 39 09.4                         | 60           | E.S.E.             | 1.637      | — .006                            |                      |   |                                       |
|          |                 |                                 | Def. S.          | 37 06.3                         | 60           | E.S.E.             | 1.600      |                                   |                      |   |                                       |
|          |                 |                                 | Mag. N.          | 33 20.9                         | 60           | E.S.E.             | 1.566      |                                   |                      |   |                                       |
|          |                 |                                 | Mag. N.S.        | 43 00.2                         | 60           | E.S.E.             | 1.609      |                                   |                      |   |                                       |
|          |                 |                                 | Mag. S.          | 23 21.3                         | 60           | E.S.E.             |            |                                   |                      |   |                                       |
| 16.      | —34 15          | 172 50                          | Def. N.          | 39 43.1                         | 61           | N.W. by N.         | 1.603      | + .029                            | 1.597                | A head sea, wind strong, steering well.<br>Heavy swell, steering well.                |                                       |
|          |                 |                                 | Def. S.          | 37 44.5                         | 61           | N.W. by N.         | 1.562      |                                   |                      |   |                                       |
|          |                 |                                 | Mag. N.          | 33 10.3                         | 61           | N.W. by N.         | 1.583      |                                   |                      |   |                                       |
|          |                 |                                 | Mag. N.S.        | 43 25.9                         | 61           | N.W. by N.         | 1.573      |                                   |                      |   |                                       |
|          |                 |                                 | Mag. S.          | 23 38.1                         | 61           | N.W. by N.         |            | — .004                            |                      |   |                                       |
|          |                 |                                 | Mag. N.S.        | 43 40.5                         | 61           | E. by S. ½ S.      | 1.554      |                                   |                      |   |                                       |
| 17.      | —34 24          | 173 43                          | Def. N.          | 38 52.7                         | 62           | E. by S. ½ S.      | 1.653      | — .004                            | 1.619                | Strong wind, good deal of motion,<br><br>A heavy sea, steering wild.                  |                                       |
|          |                 |                                 | Def. S.          | 36 57.2                         | 62           | E. by S. ½ S.      | 1.609      |                                   |                      |   |                                       |
|          |                 |                                 | Mag. N.          | 32 46.0                         | 62           | E. by S. ½ S.      | 1.616      |                                   |                      |   |                                       |
|          |                 |                                 | Mag. N.S.        | 42 50.3                         | 62           | E. by S. ½ S.      | 1.622      |                                   |                      |   |                                       |
|          |                 |                                 | Mag. S.          | 23 06.2                         | 62           | E. by S. ½ S.      |            | — .018                            |                      |   |                                       |
|          |                 |                                 | Def. N.          | 38 54.8                         | 64           | S.W.               | 1.631      |                                   |                      |   |                                       |
| 18.      | ?               | ?                               | Def. N.          | 39 40.9                         | 59           |                    | 1.606      |                                   | 1.608                | At the Magnetic Observatory, (The results with "face west" are included in the mean.) |                                       |
| 21.      | Bay of Islands, |                                 | Def. S.          | 36 59.8                         | 59           |                    | 1.606      |                                   |                      |   |                                       |
|          | New Zealand.    |                                 | Mag. N.          | 32 50.2                         | 59           |                    | 1.610      |                                   |                      |   |                                       |
|          |                 |                                 | Mag. N.S.        | 43 01.9                         | 59           |                    | 1.606      |                                   |                      |   |                                       |
|          | —35 16          | 174 00                          | Mag. S.          | 23 37.6                         | 59           |                    |            | Observed on shore.                |                      |   |                                       |
|          |                 |                                 | wt. 1 gr.*       | 14 03.2                         | 59           |                    | 1.584      |                                   |                      |   |                                       |
|          |                 |                                 | wt. 1½ gr.       | 21 17.9                         | 59           |                    | 1.601      |                                   |                      |   |                                       |
|          |                 |                                 | wt. 2 grs.       | 28 22.1                         | 59           |                    | 1.633      |                                   |                      |   |                                       |
|          |                 |                                 | wt. 2½ grs.      | 36 50.7                         | 59           |                    | 1.596      |                                   |                      |   |                                       |
|          |                 |                                 | wt. 3 grs.       | 44 58.3                         | 59           |                    | 1.622      |                                   |                      |   |                                       |
|          |                 |                                 | wt. 3½ grs.      | 55 09.9                         | 59           |                    | 1.618      |                                   |                      |   |                                       |
|          |                 |                                 | Def. N.          | 39 32.8                         | 64           |                    | 1.613      |                                   |                      |   |                                       |
|          |                 |                                 | Def. S.          | 36 57.6                         | 64           |                    | 1.608      |                                   |                      |   |                                       |
|          |                 |                                 | Mag. N.          | 32 51.5                         | 64           |                    | 1.608      |                                   |                      |   |                                       |
|          |                 |                                 | Mag. N.S.        | 42 54.9                         | 64           |                    | 1.616      |                                   |                      |   |                                       |
|          |                 |                                 | Mag. S.          | 23 37.6                         | 64           |                    |            |                                   |                      |   |                                       |
|          |                 |                                 | wt. 1 gr.†       | 13 51.7                         | 64           |                    | 1.606      |                                   |                      |   |                                       |
|          |                 |                                 | wt. 1½ gr.       | 20 53.0                         | 64           |                    | 1.620      |                                   |                      |   |                                       |
|          |                 |                                 | wt. 2 grs.       | 28 22.4                         | 64           |                    | 1.633      |                                   |                      |   |                                       |
|          |                 |                                 | wt. 2½ grs.      | 37 05.6                         | 64           |                    | 1.587      |                                   |                      |   |                                       |
|          |                 |                                 | wt. 3 grs.       | 45 02.2                         | 64           |                    | 1.621      |                                   |                      |   |                                       |
|          |                 |                                 | wt. 3½ grs.      | 55 19.1                         | 64           |                    | 1.616      |                                   |                      |   |                                       |
| Oct. 29. |                 |                                 | Def. N.          | 39 32.8                         | 64           | Observed on shore. | 1.618      | .....                             | 1.608                | At the Magnetic Observatory, (The results with "face west" are included in the mean.) |                                       |
|          |                 |                                 | Def. S.          | 36 57.6                         | 64           |                    | 1.613      |                                   |                      |   |                                       |
|          |                 |                                 | Def. S.          | 36 57.6                         | 64           |                    | 1.608      |                                   |                      |   |                                       |
|          |                 |                                 | Mag. N.          | 32 51.5                         | 64           |                    | 1.608      |                                   |                      |   |                                       |
|          |                 |                                 | Mag. N.S.        | 42 54.9                         | 64           |                    | 1.616      |                                   |                      |   |                                       |
|          |                 |                                 | Mag. S.          | 23 37.6                         | 64           |                    |            |                                   |                      |   |                                       |
|          |                 |                                 | wt. 1 gr.†       | 13 51.7                         | 64           |                    | 1.606      |                                   |                      |   |                                       |
|          |                 |                                 | wt. 1½ gr.       | 20 53.0                         | 64           |                    | 1.620      |                                   |                      |   |                                       |
|          |                 |                                 | wt. 2 grs.       | 28 22.4                         | 64           |                    | 1.633      |                                   |                      |   |                                       |
|          |                 |                                 | wt. 2½ grs.      | 37 05.6                         | 64           |                    | 1.587      |                                   |                      |   |                                       |
|          |                 |                                 | wt. 3 grs.       | 45 02.2                         | 64           |                    | 1.621      |                                   |                      |   |                                       |
|          |                 |                                 | wt. 3½ grs.      | 55 19.1                         | 64           |                    | 1.616      |                                   |                      |   |                                       |
| Nov. 23. | Running out of  | Bay of Islands, off Arch Point. | Def. N.          | 39 41.1                         |              | E. by S.           | 1.605      | + .004                            | 1.610                | Ship steady, about one mile off shore,  |                                       |
|          |                 |                                 | Def. S.          | 36 59.1                         |              | E. by S.           | 1.607      |                                   |                      |   |                                       |
| 24.      | —36 20          |                                 | 177 27           | Def. N.                         | 39 11.0      |                    | E.S.E.     | 1.635                             | + .001               | 1.616   | Ship not very steady, a sea from S.W. |
|          |                 |                                 |                  | Def. S.                         | 36 24.1      |                    | E.S.E.     | 1.642                             |                      |   |                                       |
|          |                 |                                 | Mag. N.          | 33 07.5                         |              | E.S.E.             | 1.586      |                                   |                      |   |                                       |
|          |                 |                                 | Mag. N.S.        | 43 07.0                         |              | E.S.E.             | 1.599      |                                   |                      |   |                                       |
|          |                 |                                 | Mag. S.          | 23 09.3                         |              | E.S.E.             |            |                                   |                      |   |                                       |

\* Observed on shore; face west.

|             |         |                  |
|-------------|---------|------------------|
| wt. 1 gr.   | 13 24.3 | Intensity. 1.592 |
| wt. 1½ gr.  | 20 30.5 | 1.595            |
| wt. 2 grs.  | 27 46.9 | 1.605            |
| wt. 2½ grs. | 35 43.0 | 1.607            |
| wt. 3 grs.  | 44 38.7 | 1.619            |
| wt. 3½ grs. | 55 23.7 | 1.594            |

† Observed on shore; face west.

|             |         |                  |
|-------------|---------|------------------|
| wt. 1 gr.   | 13 26.8 | Intensity. 1.588 |
| wt. 1½ gr.  | 20 16.4 | 1.616            |
| wt. 2 grs.  | 27 38.8 | 1.613            |
| wt. 2½ grs. | 35 45.1 | 1.606            |
| wt. 3 grs.  | 44 47.7 | 1.616            |
| wt. 3½ grs. | 55 26.4 | 1.594            |



## Observations of the Magnetic Force. (Continued.)

| 1841.      | Lat.       | Long.     | Method employed.        | Angle of deflection. Face east. | Temperature.            | Ship's head.                | Intensity. | Correction for ship's attraction. | Corrected Intensity.                | Remarks.                            |                                  |
|------------|------------|-----------|-------------------------|---------------------------------|-------------------------|-----------------------------|------------|-----------------------------------|-------------------------------------|-------------------------------------|----------------------------------|
| Nov. 25.   | -38 00     | 179 34    | Def. N.                 | 39 01.2                         | °                       | S.E. by S.                  | 1.645      | -018                              | 1.634                               | A head sea, table not very steady.  |                                  |
|            |            |           | Def. S.                 | 36 28.2                         |                         | S.E. by S.                  | 1.638      |                                   |                                     |                                     |                                  |
|            |            |           | Mag. N.                 | 32 25.3                         |                         | S.E. by S.                  | 1.645      |                                   |                                     |                                     |                                  |
|            |            |           | Mag. N.S.               | 42 31.1                         |                         | S.E. by S.                  | 1.647      |                                   |                                     |                                     |                                  |
|            |            |           | Mag. S.                 | 23 06.8                         |                         | S.E. by S.                  |            |                                   |                                     |                                     |                                  |
|            |            |           |                         |                                 |                         | S.E. by E. $\frac{1}{2}$ E. | 1.654      |                                   |                                     |                                     |                                  |
|            | -38 27     | 179 59    | Def. N.                 | 38 52.4                         |                         | S.E. by E. $\frac{1}{2}$ E. | 1.637      | -002                              |                                     | A sea from the S.W., ship unsteady. |                                  |
|            |            |           | Def. S.                 | 36 29.4                         |                         | S.E. by E. $\frac{1}{2}$ E. | 1.643      |                                   |                                     |                                     |                                  |
|            |            |           | Mag. N.                 | 32 22.4                         |                         | S.E. by E. $\frac{1}{2}$ E. | 1.648      |                                   |                                     |                                     |                                  |
|            |            |           | Mag. N.S.               | 42 30.0                         |                         | S.E. by E. $\frac{1}{2}$ E. |            |                                   |                                     |                                     |                                  |
|            |            |           | Mag. S.                 | 22 37.9                         |                         | S.E. by E. $\frac{1}{2}$ E. |            |                                   |                                     |                                     |                                  |
|            |            |           |                         |                                 |                         | E.S.E.                      | 1.633      |                                   |                                     |                                     |                                  |
|            | 26. -38 48 | 182 05    | Def. N.                 | 39 12.6                         |                         | E.S.E.                      | 1.629      | +001                              |                                     | 1.640                               | Ship very steady, steering well. |
|            |            |           | Def. S.                 | 36 36.7                         |                         | S.E.                        | 1.639      |                                   |                                     |                                     |                                  |
|            |            |           | Def. N.                 | 39 06.7                         |                         | S.E.                        | 1.633      |                                   |                                     |                                     |                                  |
|            |            |           | Def. S.                 | 36 32.6                         |                         | S.E.                        | 1.648      | -013                              |                                     |                                     |                                  |
|            |            |           | Mag. N.                 | 32 23.2                         |                         | S.E.                        | 1.662      |                                   |                                     |                                     |                                  |
|            |            |           | Mag. N.S.               | 42 20.3                         |                         | S.E.                        |            |                                   |                                     |                                     |                                  |
|            | -39 02     | 182 05    | Mag. S.                 | 22 23.4                         |                         | S.E.                        |            | +001                              | Head sea, much motion.              |                                     |                                  |
|            |            |           | Def. N.                 | 38 54.4                         |                         | E.S.E.                      | 1.653      |                                   |                                     |                                     |                                  |
|            |            |           | Def. S.                 | 36 15.2                         |                         | E.S.E.                      | 1.650      |                                   |                                     |                                     |                                  |
|            |            |           | Mag. N.                 | 32 30.5                         |                         | E.S.E.                      | 1.638      |                                   |                                     |                                     |                                  |
|            |            |           | Mag. N.S.               | 42 19.3                         |                         | E.S.E.                      | 1.663      |                                   |                                     |                                     |                                  |
|            |            |           | Mag. S.                 | 22 25.8                         |                         | E.S.E.                      |            |                                   |                                     |                                     |                                  |
| 27. -39 14 | 182 54     | Def. N.   | 38 52.7                 | 63                              | S.E. by E.              | 1.653                       | -006       | 1.652                             | A swell from the S.E., ship steady. |                                     |                                  |
|            |            | Def. S.   | 36 27.2                 | 63                              | S.E. by E.              | 1.639                       |            |                                   |                                     |                                     |                                  |
|            |            | Mag. N.   | 32 35.6                 | 63                              | S.E. by E.              | 1.631                       |            |                                   |                                     |                                     |                                  |
|            |            | Mag. N.S. | 42 34.9                 | 63                              | S.E. by E.              | 1.641                       |            |                                   |                                     |                                     |                                  |
|            |            | Mag. S.   | 22 45.9                 | 63                              | S.E. by E.              |                             |            |                                   |                                     |                                     |                                  |
|            |            |           |                         | s. by E.                        | 1.666                   |                             |            |                                   |                                     |                                     |                                  |
|            | -39 31     | 183 00    | Def. N.                 | 38 39.5                         | 63                      | s. by E.                    | 1.665      |                                   | -024                                | Steering well, ship steady.         |                                  |
|            |            |           | Def. S.                 | 35 59.9                         | 63                      | s. by E.                    | 1.663      |                                   |                                     |                                     |                                  |
|            |            |           | Mag. N.                 | 32 11.1                         | 63                      | s. by E.                    | 1.666      |                                   |                                     |                                     |                                  |
|            |            |           | Mag. N.S.               | 42 13.5                         | 63                      | s. by E.                    |            |                                   |                                     |                                     |                                  |
|            |            |           | Mag. S.                 | 22 43.5                         | 63                      | s. by E.                    |            |                                   |                                     |                                     |                                  |
|            |            |           |                         |                                 | E.S.E.                  | 1.673                       |            |                                   |                                     |                                     |                                  |
| 28. -40 35 | 183 00     | Def. N.   | 38 32.3                 | 64                              | E.S.E.                  | 1.672                       | 000        | Very steady.                      |                                     |                                     |                                  |
|            |            | Def. S.   | 35 52.8                 | 64                              | E.S.E.                  | 1.662                       |            |                                   |                                     |                                     |                                  |
|            |            | Mag. N.   | 32 12.2                 | 64                              | E.S.E.                  | 1.686                       |            |                                   |                                     |                                     |                                  |
|            |            | Mag. N.S. | 41 59.7                 | 64                              | E.S.E.                  |                             |            |                                   |                                     |                                     |                                  |
|            |            | Mag. S.   | 22 29.6                 | 64                              | S.S.E. $\frac{1}{2}$ E. | 1.678                       |            |                                   |                                     |                                     |                                  |
|            |            |           |                         | S.S.E. $\frac{1}{2}$ E.         | 1.689                   |                             |            |                                   |                                     |                                     |                                  |
| -40 50     | 183 11     | Def. N.   | 38 27.2                 | 64                              | S.S.E. $\frac{1}{2}$ E. | 1.675                       | -019       | 1.682                             | Very steady.                        |                                     |                                  |
|            |            | Def. S.   | 35 35.2                 | 64                              | S.S.E. $\frac{1}{2}$ E. | 1.706                       |            |                                   |                                     |                                     |                                  |
|            |            | Mag. N.   | 32 02.5                 | 64                              | S.S.E. $\frac{1}{2}$ E. |                             |            |                                   |                                     |                                     |                                  |
|            |            | Mag. N.S. | 41 46.1                 | 64                              | S.S.E. $\frac{1}{2}$ E. |                             |            |                                   |                                     |                                     |                                  |
|            |            | Mag. S.   | 22 29.8                 | 64                              | s. by E.                | 1.689                       |            |                                   |                                     |                                     |                                  |
|            |            |           |                         | s. by E.                        | 1.695                   |                             |            |                                   |                                     |                                     |                                  |
| 29. -41 34 | 183 40     | Def. N.   | 38 16.1                 | 65                              | s. by E.                | 1.686                       | -023       | 1.666                             | Very steady.                        |                                     |                                  |
|            |            | Def. S.   | 35 28.7                 | 65                              | s. by E.                | 1.720                       |            |                                   |                                     |                                     |                                  |
|            |            | Mag. N.   | 31 55.0                 | 65                              | s. by E.                |                             |            |                                   |                                     |                                     |                                  |
|            |            | Mag. N.S. | 41 32.6                 | 65                              | s. by E.                | 1.660                       |            |                                   |                                     |                                     |                                  |
|            |            | Mag. S.   | 22 14.3                 | 65                              | s. by E.                | 1.678                       |            |                                   |                                     |                                     |                                  |
|            |            | wt. 1 gr. | 13 24.0                 | 65                              | s. by E.                | 1.729                       |            |                                   |                                     |                                     |                                  |
|            | -42 40     | 183 46    | wt. $1\frac{1}{2}$ gr.  | 20 07.1                         | 65                      | s. by E.                    | 1.663      |                                   | -025                                | 1.682                               | Very steady.                     |
|            |            |           | wt. 2 grs.              | 26 39.6                         | 65                      | s. by E.                    | 1.692      |                                   |                                     |                                     |                                  |
|            |            |           | wt. $2\frac{1}{2}$ grs. | 35 07.5                         | 65                      | s. by E.                    | 1.680      |                                   |                                     |                                     |                                  |
|            |            |           | wt. 3 grs.              | 42 38.1                         | 65                      | s.                          | 1.700      |                                   |                                     |                                     |                                  |
|            |            |           | wt. $3\frac{1}{2}$ grs. | 52 14.9                         | 65                      | s.                          | 1.702      |                                   |                                     |                                     |                                  |
|            |            |           | Def. N.                 | 38 04.4                         | 65                      | s.                          | 1.708      |                                   |                                     |                                     |                                  |
| -42 40     | 183 46     | Def. S.   | 35 21.7                 | 65                              | s.                      | 1.717                       | -025       | 1.682                             | Very steady.                        |                                     |                                  |
|            |            | Mag. N.   | 31 38.8                 | 65                              | s.                      |                             |            |                                   |                                     |                                     |                                  |
|            |            | Mag. N.S. | 41 34.5                 | 65                              | s.                      |                             |            |                                   |                                     |                                     |                                  |
|            |            | Mag. S.   | 22 01.6                 | 65                              | s.                      |                             |            |                                   |                                     |                                     |                                  |

## Observations of the Magnetic Force. (Continued.)

| 1841.     | Lat.   | Long.          | Method employed. | Angle of deflection. Face east. | Temperature.      | Ship's head. | Intensity. | Correction for ship's attraction. | Corrected Intensity.                        | Remarks.  |       |              |                                   |
|-----------|--------|----------------|------------------|---------------------------------|-------------------|--------------|------------|-----------------------------------|---|---|-------|--------------|-----------------------------------|
| Nov. 30.  | -43 33 | 183 10         | Def. N.          | 37 47.0                         | 59                | S. 1/2 W.    | 1.717      | -0.024                            | 1.707                                       | Very steady.  |       |              |                                   |
|           |        |                | Def. S.          | 35 15.2                         | 59                | S. 1/2 W.    | 1.709      |                                   |   |   |       |              |                                   |
|           |        |                | Mag. N.          | 31 33.3                         | 59                | S. 1/2 W.    | 1.716      |                                   |   |   |       |              |                                   |
|           |        |                | Mag. N.S.        | 41 28.2                         | 59                | S. 1/2 W.    | 1.727      |                                   |   |   |       |              |                                   |
|           |        |                | Mag. S.          | 21 58.1                         | 59                | S. 1/2 W.    |            |                                   |   |   |       |              |                                   |
|           | -44 15 | 183 02         | Def. N.          | 37 29.0                         | 59                | S. by W.     | 1.734      | -0.023                            |   | A cross swell, motion slight.                       |       |              |                                   |
|           |        |                | Def. S.          | 34 31.6                         | 59                | S. by W.     | 1.752      |                                   |   |   |       |              |                                   |
|           |        |                | Mag. N.          | 31 18.9                         | 59                | S. by W.     | 1.737      |                                   |   |   |       |              |                                   |
|           |        |                | Mag. N.S.        | 41 10.5                         | 59                | S. by W.     | 1.747      |                                   |   |   |       |              |                                   |
|           |        |                | Mag. S.          | 21 59.4                         | 59                | S. by W.     |            |                                   |   |   |       |              |                                   |
| Dec. 1.   | -45 30 | 183 12         | Def. N.          | 37 08.5                         | 63                | S.E. by E.   | 1.753      | -0.007                            | 1.733                                       | Ship pitching considerably, steering very steadily. |       |              |                                   |
|           |        |                | Def. S.          | 34 49.3                         | 63                | S.E. by E.   | 1.735      |                                   |   |   |       |              |                                   |
|           |        |                | Mag. N.          | 31 29.9                         | 63                | S.E. by E.   | 1.721      |                                   |   |   |       |              |                                   |
|           |        |                | Mag. N.S.        | 41 29.2                         | 63                | S.E. by E.   | 1.725      |                                   |   |   |       |              |                                   |
|           |        |                | Mag. S.          | 21 42.2                         | 63                | S.E. by E.   |            |                                   |   |   |       |              |                                   |
|           | -45 48 | 183 25         | Def. N.          | 37 11.4                         | 63                | S.E. 1/2 E.  | 1.750      | -0.010                            |   | A head sea, table unsteady, ship steering well.     |       |              |                                   |
|           |        |                | Def. S.          | 34 52.1                         | 63                | S.E. 1/2 E.  | 1.732      |                                   |   |   |       |              |                                   |
|           |        |                | Mag. N.          | 31 06.0                         | 63                | S.E. 1/2 E.  | 1.753      |                                   |   |   |       |              |                                   |
|           |        |                | Mag. N.S.        | 40 59.4                         | 63                | S.E. 1/2 E.  | 1.762      |                                   |   |   |       |              |                                   |
|           |        |                | Mag. S.          | 21 43.6                         | 63                | S.E. 1/2 E.  |            |                                   |   |   |       |              |                                   |
| 2. -47 13 | 184 30 | Def. N.        | 37 11.8          | 56                              | S.E. by E. 1/2 E. | 1.750        | -0.002     | 1.753                             | Head sea, ship pitching, steering steadily. |   |       |              |                                   |
|           |        | Def. S.        | 34 31.8          | 56                              | S.E. by E. 1/2 E. | 1.752        |            |                                   |   |   |       |              |                                   |
|           |        | Mag. N.        | 31 15.8          | 56                              | S.E. by E. 1/2 E. | 1.741        |            |                                   |   |   |       |              |                                   |
|           |        | Mag. N.S.      | 41 12.7          | 56                              | S.E. by E. 1/2 E. | 1.744        |            |                                   |   |   |       |              |                                   |
|           |        | Mag. S.        | 21 07.2          | 56                              | S.E. by E. 1/2 E. |              |            |                                   |   |   |       |              |                                   |
| -47 39    | 184 55 | Def. N.        | 36 53.8          | 56                              | S.E. by E.        | 1.767        | -0.007     |                                   |   |   |       |              |                                   |
|           |        | Def. S.        | 34 24.0          | 56                              | S.E. by E.        | 1.760        |            |                                   |   |   |       |              |                                   |
|           |        | Mag. N.        | 30 55.2          | 56                              | S.E. by E.        | 1.768        |            |                                   |   |   |       |              |                                   |
|           |        | Mag. N.S.      | 40 53.0          | 56                              | S.E. by E.        | 1.772        |            |                                   |   |   |       |              |                                   |
|           |        | Mag. S.        | 21 09.8          | 56                              | S.E. by E.        |              |            |                                   |   |   |       |              |                                   |
| 3. -48 18 | 185 54 | Def. N.        | 36 55.9          | 51                              | S.E. by E.        | 1.765        | -0.007     | 1.772                             | Very steady.                                |   |       |              |                                   |
|           |        | Def. S.        | 34 06.7          | 51                              | S.E. by E.        | 1.776        |            |                                   |   |   |       |              |                                   |
|           |        | Mag. N.        | 30 44.1          | 51                              | S.E. by E.        | 1.782        |            |                                   |   |   |       |              |                                   |
|           |        | Mag. N.S.      | 40 52.8          | 51                              | S.E. by E.        | 1.772        |            |                                   |   |   |       |              |                                   |
|           |        | Mag. S.        | 21 15.0          | 51                              | S.E. by E.        |              |            |                                   |   |   |       |              |                                   |
|           |        | wt. 1 gr.      | 12 01.0          | 51                              | S.E. by E.        | 1.844        |            |                                   |   |   |       |              |                                   |
|           |        | wt. 1 1/2 gr.  | 18 51.1          | 51                              | S.E. by E.        | 1.784        |            |                                   |   |   |       |              |                                   |
|           |        | wt. 2 grs.     | 25 50.7          | 51                              | S.E. by E.        | 1.777        |            |                                   |   |   |       |              |                                   |
|           |        | wt. 2 1/2 grs. | 32 51.6          | 51                              | S.E. by E.        | 1.760        |            |                                   |   |   |       |              |                                   |
|           |        | wt. 3 grs.     | 40 23.1          | 51                              | S.E. by E.        | 1.766        |            |                                   |   |   |       |              |                                   |
|           |        | wt. 3 1/2 grs. | 48 41.0          | 51                              | S.E. by E.        | 1.765        |            |                                   |   |   |       |              |                                   |
| -49 05    | 186 54 | Def. N.        | 36 51.6          | 51                              | S.E. by E. 1/2 E. | 1.769        |            |                                   |   | -0.005  | 1.772 | Very steady. |                                   |
|           |        | Def. S.        | 34 06.3          | 51                              | S.E. by E. 1/2 E. | 1.777        |            |                                   |   |   |       |              |                                   |
|           |        | Mag. N.        | 30 46.1          | 51                              | S.E. by E. 1/2 E. | 1.780        |            |                                   |   |   |       |              |                                   |
|           |        | Mag. N.S.      | 40 45.8          | 51                              | S.E. by E. 1/2 E. | 1.781        |            |                                   |   |   |       |              |                                   |
|           |        | Mag. S.        | 21 11.2          | 51                              | S.E. by E. 1/2 E. |              |            |                                   |   |   |       |              |                                   |
| 4. -49 24 | 187 23 | wt. 1 gr.      | 12 23.7          | 51                              | S.E. by E. 1/2 E. | 1.790        |            | -0.000                            | 1.772                                       |   |       |              | Swell from the northward, steady. |
|           |        | wt. 1 1/2 gr.  | 18 37.4          | 51                              | S.E. by E. 1/2 E. | 1.804        |            |                                   |   |   |       |              |                                   |
|           |        | wt. 2 grs.     | 25 50.1          | 51                              | S.E. by E. 1/2 E. | 1.778        |            |                                   |   |   |       |              |                                   |
|           |        | wt. 2 1/2 grs. | 32 30.9          | 51                              | S.E. by E. 1/2 E. | 1.777        |            |                                   |   |   |       |              |                                   |
|           |        | wt. 3 grs.     | 40 32.8          | 51                              | S.E. by E. 1/2 E. | 1.760        |            |                                   |   |   |       |              |                                   |
|           |        | wt. 3 1/2 grs. | 48 59.5          | 51                              | S.E. by E. 1/2 E. | 1.757        |            |                                   |   |   |       |              |                                   |
|           |        | Def. N.        | 36 41.8          | 54                              | E.                | 1.779        | +0.004     |                                   |   |   |       |              |                                   |
|           |        | Def. N.        | 36 44.7          | 54                              | E. by S.          | 1.776        |            |                                   |   |   |       |              |                                   |
|           |        | Def. S.        | 34 22.0          | 54                              | E. by S.          | 1.762        |            |                                   |   |   |       |              |                                   |
|           |        | Mag. N.        | 30 48.7          | 54                              | E. by S.          | 1.776        |            |                                   |   |   |       |              |                                   |
|           |        | Mag. N.S.      | 40 56.3          | 54                              | E. by S.          | 1.768        |            |                                   |   |   |       |              |                                   |

## Observations of the Magnetic Force. (Continued.)

| 1841.   | Lat.   | Long.  | Method employed. | Angle of deflection. Face east. | Temperature. | Ship's head. | Intensity. | Correction for ship's attraction. | Corrected Intensity. | Remarks.                          |
|---------|--------|--------|------------------|---------------------------------|--------------|--------------|------------|-----------------------------------|----------------------|-----------------------------------|
| Dec. 4. | —49 24 | 187 23 | Mag. S.          | 21 25.6                         | 54           | E. by S.     |            | .000                              | 1.772                | Swell from the northward. Steady. |
|         |        |        | wt. 1 gr.        | 12 24.3                         | 54           | E. by S.     | 1.789      |                                   |                      |                                   |
| 5.      | —49 23 | 188 54 | wt. 1½ gr.       | 18 55.0                         | 54           | E. by S.     | 1.778      | .000                              | 1.775                | Very steady.                      |
|         |        |        | wt. 2 grs.       | 25 46.4                         | 54           | E. by S.     | 1.782      |                                   |                      |                                   |
|         |        |        | wt. 2½ grs.      | 32 36.7                         | 54           | E. by S.     | 1.774      |                                   |                      |                                   |
|         |        |        | wt. 3 grs.       | 40 48.6                         | 54           | E. by S.     | 1.753      |                                   |                      |                                   |
|         |        |        | wt. 3½ grs.      | 48 56.7                         | 54           | E. by S.     | 1.759      |                                   |                      |                                   |
|         |        |        | Def. N.          | 36 18.3                         | 55           | E. by S.     | 1.803      |                                   |                      |                                   |
|         |        |        | Def. S.          | 34 29.5                         | 55           | E. by S.     | 1.754      |                                   |                      |                                   |
|         |        |        | Mag. N.          | 30 46.1                         | 55           | E. by S.     | 1.780      |                                   |                      |                                   |
|         |        |        | Mag. N.S.        | 40 54.9                         | 55           | E. by S.     | 1.770      |                                   |                      |                                   |
|         |        |        | Mag. S.          | 21 34.1                         | 55           | E. by S.     | 1.762      |                                   |                      |                                   |
| 6.      | —49 38 | 189 44 | wt. 1 gr.        | 12 35.7                         | 55           | E. by S.     | 1.831      | .000                              | 1.775                | Very steady.                      |
|         |        |        | wt. 1½ gr.       | 18 20.9                         | 55           | E. by S.     | 1.794      |                                   |                      |                                   |
|         |        |        | wt. 2 grs.       | 25 35.5                         | 55           | E. by S.     | 1.762      |                                   |                      |                                   |
|         |        |        | wt. 2½ grs.      | 32 51.2                         | 55           | E. by S.     | 1.762      |                                   |                      |                                   |
|         |        |        | wt. 3 grs.       | 40 31.3                         | 55           | E. by S.     | 1.762      |                                   |                      |                                   |
|         |        |        | wt. 3½ grs.      | 48 46.6                         | 55           | E. by S.     | 1.764      |                                   |                      |                                   |
|         |        |        | Def. N.          | 36 34.4                         | 55           | E. by S.     | 1.787      |                                   |                      |                                   |
|         |        |        | Def. S.          | 34 28.8                         | 55           | E. by S.     | 1.755      |                                   |                      |                                   |
|         |        |        | Mag. N.          | 30 54.8                         | 55           | E. by S.     | 1.766      |                                   |                      |                                   |
|         |        |        | Mag. N.S.        | 41 01.8                         | 55           | E. by S.     | 1.759      |                                   |                      |                                   |
| 7.      | —49 50 | 190 46 | Mag. S.          | 21 46.8                         | 55           | E. by S.     | 1.784      | .000                              | 1.766                | Very steady.                      |
|         |        |        | Def. N.          | 36 37.1                         | 51           | E. by S.     | 1.781      |                                   |                      |                                   |
|         |        |        | Def. S.          | 34 02.5                         | 51           | E. by S.     | 1.775      |                                   |                      |                                   |
|         |        |        | Mag. N.          | 30 49.4                         | 51           | E. by S.     | 1.756      |                                   |                      |                                   |
|         |        |        | Mag. N.S.        | 41 04.2                         | 51           | E. by S.     | 1.753      |                                   |                      |                                   |
|         |        |        | Mag. S.          | 21 41.3                         | 51           | E. by S.     | 1.785      |                                   |                      |                                   |
|         |        |        | wt. 1 gr.        | 12 38.8                         | 51           | E. by S.     | 1.788      |                                   |                      |                                   |
|         |        |        | wt. 1½ gr.       | 18 49.6                         | 51           | E. by S.     | 1.725      |                                   |                      |                                   |
|         |        |        | wt. 2 grs.       | 25 40.4                         | 51           | E. by S.     | 1.758      |                                   |                      |                                   |
|         |        |        | wt. 2½ grs.      | 33 28.2                         | 51           | E. by S.     | 1.753      |                                   |                      |                                   |
| 8.      | —50 08 | 191 39 | wt. 3 grs.       | 40 37.3                         | 51           | E. by S.     | 1.781      | .000                              | 1.771                | Ship steady.                      |
|         |        |        | wt. 3½ grs.      | 49 09.5                         | 51           | E. by S.     | 1.768      |                                   |                      |                                   |
|         |        |        | Def. N.          | 36 40.0                         | 51           | E. by S.     | 1.774      |                                   |                      |                                   |
|         |        |        | Def. S.          | 34 16.4                         | 51           | E. by S.     | 1.759      |                                   |                      |                                   |
|         |        |        | Mag. N.          | 30 51.3                         | 51           | E. by S.     | 1.761      |                                   |                      |                                   |
|         |        |        | Mag. N.S.        | 41 02.2                         | 51           | E. by S.     | 1.785      |                                   |                      |                                   |
|         |        |        | Mag. S.          | 21 42.4                         | 51           | E. by S.     | 1.828      |                                   |                      |                                   |
|         |        |        | wt. 1 gr.        | 12 35.7                         | 51           | E. by S.     | 1.796      |                                   |                      |                                   |
|         |        |        | wt. 1½ gr.       | 18 50.0                         | 51           | E. by S.     | 1.778      |                                   |                      |                                   |
|         |        |        | Def. N.          | 35 51.7                         | 51           | S.E. by E.   | 1.780      |                                   |                      |                                   |
| 9.      | —50 32 | 191 52 | Def. S.          | 33 46.7                         | 51           | S.E. by E.   | 1.818      | .007                              | 1.777                | Ship steady.                      |
|         |        |        | Mag. N.          | 30 48.4                         | 51           | S.E. by E.   | 1.776      |                                   |                      |                                   |
|         |        |        | Mag. N.S.        | 40 47.4                         | 51           | S.E. by E.   | 1.785      |                                   |                      |                                   |
|         |        |        | Mag. S.          | 21 27.7                         | 51           | S.E. by E.   | 1.782      |                                   |                      |                                   |
|         |        |        | Def. N.          | 36 01.8                         | 51           | S.E. ½ E.    | 1.743      |                                   |                      |                                   |
|         |        |        | Def. S.          | 34 06.7                         | 51           | S.E. ½ E.    | 1.776      |                                   |                      |                                   |
|         |        |        | Mag. N.          | 30 40.7                         | 51           | S.E. ½ E.    | 1.769      |                                   |                      |                                   |
|         |        |        | Mag. N.S.        | 40 45.7                         | 51           | S.E. ½ E.    | 1.772      |                                   |                      |                                   |
|         |        |        | Mag. S.          | 21 32.3                         | 51           | S.E. ½ E.    | 1.759      |                                   |                      |                                   |
|         |        |        | wt. 1 gr.        | 12 43.0                         | 51           | S.E. ½ E.    | 1.784      |                                   |                      |                                   |
| 10.     | —50 45 | 192 19 | wt. 1½ gr.       | 18 56.2                         | 51           | S.E. ½ E.    | 1.743      | .008                              | 1.777                | Ship steady.                      |
|         |        |        | wt. 2 grs.       | 25 58.6                         | 51           | S.E. ½ E.    | 1.776      |                                   |                      |                                   |
|         |        |        | wt. 2½ grs.      | 32 37.7                         | 51           | S.E. ½ E.    | 1.769      |                                   |                      |                                   |
|         |        |        | wt. 3 grs.       | 40 35.6                         | 51           | S.E. ½ E.    | 1.772      |                                   |                      |                                   |
|         |        |        | wt. 3½ grs.      | 48 00.8                         | 51           | S.E. ½ E.    | 1.759      |                                   |                      |                                   |
|         |        |        |                  |                                 | 51           | S.E. ½ E.    | 1.784      |                                   |                      |                                   |

## Observations of the Magnetic Force. (Continued.)

| 1841.   | Lat.         | Long.    | Method employed. | Angle of deflection. Face east. | Temperature. | Ship's head. | Intensity. | Correction for ship's attraction. | Corrected Intensity. | Remarks.  |
|---------|--------------|----------|------------------|---------------------------------|--------------|--------------|------------|-----------------------------------|----------------------|---|
| Dec. 8. | -51° 37'     | 194° 00' | Def. N.          | 35° 49.9                        | 49           | E. by S.     | 1.830      | .000                              | 1.794                | Ship steady.  |
|         |              |          | Def. S.          | 33 50.1                         | 49           | E. by S.     | 1.793      |                                   |                      |   |
|         |              |          | Mag. N.          | 30 42.2                         | 49           | E. by S.     | 1.784      |                                   |                      |   |
|         |              |          | Mag. N.S.        | 40 31.4                         | 49           | E. by S.     | 1.796      |                                   |                      |   |
|         |              |          | Mag. S.          | 21 29.1                         | 49           | E. by S.     |            |                                   |                      |   |
|         |              |          | wt. 1 gr.        | 12 35.5                         | 49           | E. by S.     | 1.760      |                                   |                      |   |
|         |              |          | wt. 1½ gr.       | 18 34.6                         | 49           | E. by S.     | 1.806      |                                   |                      |   |
|         |              |          | wt. 2 grs.       | 25 16.9                         | 49           | E. by S.     | 1.813      |                                   |                      |   |
|         | -52° 00'     | 195° 00' | wt. 2½ grs.      | 32 08.9                         | 49           | E. by S.     | 1.794      | .000                              | 1.799                | Strong breeze, table steady, steering wildly.                 |
|         |              |          | wt. 3 grs.       | 40 00.3                         | 49           | E. by S.     | 1.780      |                                   |                      |   |
|         |              |          | wt. 3½ grs.      | 48 01.8                         | 49           | E. by S.     | 1.782      |                                   |                      |   |
|         |              |          | Def. N.          | 36 01.2                         | 49           | E. by S.     | 1.819      |                                   |                      |   |
|         |              |          | Def. S.          | 33 59.6                         | 49           | E. by S.     | 1.783      |                                   |                      |   |
|         |              |          | Mag. N.          | 30 36.5                         | 49           | E. by S.     | 1.792      |                                   |                      |   |
|         |              |          | Mag. N.S.        | 40 38.6                         | 49           | E. by S.     | 1.786      |                                   |                      |   |
|         |              |          | Mag. S.          | 20 59.5                         | 49           | E. by S.     |            |                                   |                      |   |
|         | 9. -52° 14'  | 197° 49' | Def. N.          | 35 53.6                         | 45           | E. by S.     | 1.826      | .000                              | 1.799                | Ship unsteady, steering wild.                                 |
|         |              |          | Def. S.          | 33 44.6                         | 45           | E. by S.     | 1.798      |                                   |                      |   |
|         |              |          | Mag. N.          | 30 21.9                         | 45           | E. by S.     | 1.812      |                                   |                      |   |
|         |              |          | Mag. N.S.        | 40 47.0                         | 45           | E. by S.     | 1.781      |                                   |                      |   |
|         |              |          | Mag. S.          | 20 38.5                         | 45           | E. by S.     |            |                                   |                      |   |
|         |              |          | Mag. N.S.        | 40 36.2                         | 45           | E. by S.     | 1.791      |                                   |                      |   |
|         |              |          | Def. N.          | 36 14.8                         | 46           | E. ½ N.      | 1.805      |                                   |                      |   |
|         |              |          | Def. S.          | 33 54.6                         | 46           | E. ½ N.      | 1.788      |                                   |                      |   |
|         | 10. -53° 01' | 202° 16' | Mag. N.          | 30 26.7                         | 46           | E. ½ N.      | 1.806      | +.008                             | 1.820                | Violent motion, steering well, head sea, table pretty steady. |
|         |              |          | Mag. N.S.        | 40 30.9                         | 46           | E. ½ N.      | 1.798      |                                   |                      |   |
|         |              |          | Mag. S.          | 21 26.5                         | 46           | E. ½ N.      |            |                                   |                      |   |
|         |              |          | wt. 1 gr.        | 11 50.3                         | 46           | E. ½ N.      | 1.871      |                                   |                      |   |
|         |              |          | wt. 1½ gr.       | 17 43.9                         | 46           | E. ½ N.      | 1.891      |                                   |                      |   |
|         |              |          | wt. 2 grs.       | 24 29.7                         | 46           | E. ½ N.      | 1.867      |                                   |                      |   |
|         |              |          | wt. 2½ grs.      | 31 19.3                         | 46           | E. ½ N.      | 1.837      |                                   |                      |   |
|         |              |          | wt. 3 grs.       | 39 46.3                         | 46           | E. ½ N.      | 1.788      |                                   |                      |   |
|         | 11. -52° 51' | 203° 56' | wt. 3½ grs.      | 47 43.1                         | 46           | E. ½ N.      | 1.791      | .003                              | 1.834                | Head swell, little motion, steering well.                     |
|         |              |          | Def. N.          | 36 41.3                         | 45           | E.S.E.       | 1.780      |                                   |                      |   |
|         |              |          | Def. S.          | 33 40.8                         | 45           | E.S.E.       | 1.802      |                                   |                      |   |
|         |              |          | Mag. N.          | 30 30.2                         | 45           | E.S.E.       | 1.801      |                                   |                      |   |
|         |              |          | Mag. N.S.        | 40 20.2                         | 45           | E.S.E.       | 1.813      |                                   |                      |   |
|         |              |          | Mag. S.          | 21 23.0                         | 45           | E.S.E.       |            |                                   |                      |   |
|         |              |          | wt. 1 gr.        | 12 30.8                         | 45           | E.S.E.       | 1.771      |                                   |                      |   |
|         |              |          | wt. 1½ gr.       | 18 07.9                         | 45           | E.S.E.       | 1.851      |                                   |                      |   |
|         | 12. -52° 53' | 205° 07' | wt. 2 grs.       | 24 38.0                         | 45           | E.S.E.       | 1.857      | .003                              | 1.834                | A slight motion, steering very well.                          |
|         |              |          | wt. 2½ grs.      | 31 44.7                         | 45           | E.S.E.       | 1.815      |                                   |                      |   |
|         |              |          | wt. 3 grs.       | 39 30.1                         | 45           | E.S.E.       | 1.798      |                                   |                      |   |
|         |              |          | wt. 3½ grs.      | 48 07.9                         | 45           | E.S.E.       | 1.779      |                                   |                      |   |
|         |              |          | Def. N.          | 36 09.5                         | 45           | E.S.E.       | 1.811      |                                   |                      |   |
|         |              |          | Def. S.          | 33 22.8                         | 45           | E.S.E.       | 1.820      |                                   |                      |   |
|         |              |          | Mag. N.          | 30 11.3                         | 45           | E.S.E.       | 1.828      |                                   |                      |   |
|         |              |          | Mag. N.S.        | 39 57.5                         | 45           | E.S.E.       | 1.841      |                                   |                      |   |
|         | -53° 31'     | 206° 14' | Mag. S.          | 21 07.1                         | 45           | E.S.E.       |            | .003                              | 1.834                | A slight motion, steering very well.                          |
|         |              |          | wt. 1 gr.        | 12 08.9                         | 45           | E.S.E.       | 1.823      |                                   |                      |   |
|         |              |          | wt. 1½ gr.       | 18 00.7                         | 45           | E.S.E.       | 1.863      |                                   |                      |   |
|         |              |          | wt. 2 grs.       | 24 39.1                         | 45           | E.S.E.       | 1.856      |                                   |                      |   |
|         |              |          | wt. 2½ grs.      | 31 15.2                         | 45           | E.S.E.       | 1.840      |                                   |                      |   |
|         |              |          | wt. 3 grs.       | 38 03.7                         | 45           | E.S.E.       | 1.855      |                                   |                      |   |
|         |              |          | wt. 3½ grs.      | 47 41.3                         | 45           | E.S.E.       | 1.834      |                                   |                      |   |

## Observations of the Magnetic Force. (Continued.)

| 1841.     | Lat.        | Long.   | Method employed. | Angle of deflection. Face east. | Temperature. | Ship's head. | Intensity. | Correction for ship's attraction. | Corrected Intensity. | Remarks.                      |
|-----------|-------------|---------|------------------|---------------------------------|--------------|--------------|------------|-----------------------------------|----------------------|-------------------------------|
| Dec. 13.  | -54 19      | 208 24  | Def. N.          | 36 02.0                         | 51           | E.S.E.       | 1.818      | -003                              | 1.814                | Table steady, steering badly. |
|           |             |         | Def. S.          | 33 17.8                         | 51           | E.S.E.       | 1.825      |                                   |                      |                               |
|           |             |         | Mag. N.          | 30 23.2                         | 51           | E.S.E.       | 1.811      |                                   |                      |                               |
|           |             |         | Mag. N.S.        | 40 28.8                         | 51           | E.S.E.       | 1.801      |                                   |                      |                               |
|           |             |         | Mag. S.          | 20 27.6                         | 51           | E.S.E.       |            |                                   |                      |                               |
|           |             |         | Def. N.          | 36 03.0                         | 51           | E.S.E.       | 1.817      |                                   |                      |                               |
|           | -54 53      | 209 24  | Def. S.          | 33 14.6                         | 51           | E.S.E.       | 1.828      |                                   |                      |                               |
|           |             |         | Mag. N.          | 30 10.5                         | 51           | E.S.E.       | 1.829      |                                   |                      |                               |
|           |             |         | Mag. N.S.        | 39 59.5                         | 51           | E.S.E.       | 1.837      |                                   |                      |                               |
|           |             |         | Mag. S.          | 20 52.6                         | 51           | E.S.E.       |            |                                   |                      |                               |
|           |             |         | Def. N.          | 36 18.6                         | 51           | E.S.E.       | 1.802      |                                   |                      |                               |
|           |             |         | Def. N.          | 36 11.8                         | 48           | S.E. by S.   | 1.808      |                                   |                      |                               |
|           | -54 48      | 209 25  | Def. S.          | 32 54.1                         | 48           | S.E. by S.   | 1.849      |                                   |                      |                               |
|           |             |         | Mag. N.          | 30 18.1                         | 48           | S.E. by S.   | 1.818      |                                   |                      |                               |
|           |             |         | Mag. N.S.        | 40 03.9                         | 48           | S.E. by S.   | 1.831      |                                   |                      |                               |
|           |             |         | Mag. S.          | 20 54.4                         | 48           | S.E. by S.   |            |                                   |                      |                               |
|           |             |         | Def. N.          | 35 54.6                         | 52           | S.E. by S.   | 1.825      |                                   |                      |                               |
|           |             |         | -55 04           | 209 58                          | Def. S.      | 32 37.1      | 52         |                                   |                      | S.E. by S.                    |
|           | Mag. N.     | 29 56.6 |                  |                                 | 52           | S.E. by S.   | 1.849      |                                   |                      |                               |
|           | Mag. N.S.   | 39 36.9 |                  |                                 | 52           | S.E. by S.   | 1.867      |                                   |                      |                               |
|           | Mag. S.     | 20 21.6 |                  |                                 | 52           | S.E. by S.   |            |                                   |                      |                               |
|           | Def. N.     | 35 55.5 |                  |                                 | 52           | S.E. by S.   | 1.824      |                                   |                      |                               |
| 14.       | -56 14      | 211 43  |                  |                                 | Def. S.      | 32 43.8      | 52         | S.E. by S.                        | 1.860                |                               |
|           |             |         | Mag. N.          | 29 59.3                         | 52           | S.E. by S.   | 1.845      |                                   |                      |                               |
|           |             |         | Mag. N.S.        | 39 31.8                         | 52           | S.E. by S.   | 1.874      |                                   |                      |                               |
|           |             |         | Mag. S.          | 20 24.4                         | 52           | S.E. by S.   |            |                                   |                      |                               |
|           |             |         | Def. N.          | 35 36.6                         | 52           | S.E. by S.   | 1.841      |                                   |                      |                               |
|           |             |         | -56 30           | 211 50                          | Def. S.      | 32 43.4      | 52         | S.E. by S.                        | 1.861                |                               |
|           |             |         |                  |                                 | Mag. N.      | 29 59.9      | 52         | S.E. by S.                        | 1.844                |                               |
|           |             |         |                  |                                 | Mag. N.S.    | 40 01.6      | 52         | S.E. by S.                        | 1.834                |                               |
|           |             |         |                  |                                 | Mag. S.      | 20 33.4      | 52         | S.E. by S.                        |                      |                               |
|           |             |         |                  |                                 | wt. 1 gr.    | 11 46.1      | 52         | S.E. by S.                        | 1.884                |                               |
|           |             |         |                  |                                 | -56 53       | 212 06       | wt. 1½ gr. | 18 10.6                           | 52                   | S.E. by S.                    |
|           | wt. 2 grs.  | 24 02.0 |                  |                                 |              |              | 52         | S.E. by S.                        | 1.902                |                               |
|           | wt. 2½ grs. | 31 08.6 |                  |                                 |              |              | 52         | S.E. by S.                        | 1.848                |                               |
|           | wt. 3 grs.  | 38 07.8 |                  |                                 |              |              | 52         | S.E. by S.                        | 1.855                |                               |
|           | wt. 3½ grs. | 46 00.9 |                  |                                 |              |              | 52         | S.E. by S.                        | 1.846                |                               |
|           | -57 16      | 212 17  |                  |                                 |              |              | Def. N.    | 35 33.1                           | 41                   | S.E. by S.                    |
|           |             |         | Def. S.          | 32 47.5                         |              |              | 41         | S.E. by S.                        | 1.855                |                               |
|           |             |         | Mag. N.          | 29 57.1                         |              |              | 41         | S.E. by S.                        | 1.848                |                               |
|           |             |         | Mag. N.S.        | 40 06.1                         |              |              | 41         | S.E. by S.                        | 1.828                |                               |
|           |             |         | Mag. S.          | 20 33.2                         |              |              | 41         | S.E. by S.                        |                      |                               |
|           |             |         | -57 44           | 212 59                          |              |              | Def. N.    | 35 28.4                           | 41                   | S.E. by S.                    |
|           |             |         |                  |                                 | Def. S.      | 32 21.9      | 41         | S.E. by S.                        | 1.882                |                               |
| Mag. N.   |             |         |                  |                                 | 29 25.4      | 41           | S.E. by S. | 1.895                             |                      |                               |
| Mag. N.S. |             |         |                  |                                 | 39 39.1      | 41           | S.E. by S. | 1.865                             |                      |                               |
| Mag. S.   |             |         |                  |                                 | 20 14.7      | 41           | S.E. by S. |                                   |                      |                               |
| -57 44    |             |         |                  |                                 | 212 59       | Def. N.      | 35 13.8    | 42                                | S.S.E.               | 1.863                         |
|           | Def. S.     | 32 22.3 |                  |                                 |              | 42           | S.S.E.     | 1.882                             |                      |                               |
|           | Mag. N.     | 29 51.2 |                  |                                 |              | 42           | S.S.E.     | 1.857                             |                      |                               |
|           | Mag. N.S.   | 39 30.9 |                  |                                 |              | 42           | S.S.E.     | 1.876                             |                      |                               |
|           | Mag. S.     | 20 15.2 |                  |                                 |              | 42           | S.S.E.     |                                   |                      |                               |
|           | wt. 1 gr.   | 11 45.4 |                  |                                 |              | 42           | S.S.E.     | 1.882                             |                      |                               |
|           | wt. 1½ gr.  | 18 00.2 | 42               | S.S.E.                          |              | 1.860        |            |                                   |                      |                               |
|           | wt. 2 grs.  | 23 38.6 | 42               | S.S.E.                          |              | 1.929        |            |                                   |                      |                               |
|           | wt. 2½ grs. | 30 04.6 | 42               | S.S.E.                          |              | 1.904        |            |                                   |                      |                               |

## Observations of the Magnetic Force. (Continued.)

| 1841.    | Lat.   | Long.  | Method employed. | Angle of deflection. Face east. | Temperature. | Ship's head. | Intensity. | Correction for ship's attraction. | Corrected Intensity. | Remarks.                                |
|----------|--------|--------|------------------|---------------------------------|--------------|--------------|------------|-----------------------------------|----------------------|---|
| Dec. 16. | —58 28 | 213 08 | Def. N.          | 34 42.2                         | 42           | S.S.E.       | 1.895      | —017                              | 1.878                | Very steady.                            |
|          |        |        | Def. S.          | 32 09.3                         | 42           | S.S.E.       | 1.896      |                                   |                      |   |
|          |        |        | Mag. N.          | 29 32.0                         | 42           | S.S.E.       | 1.885      |                                   |                      |   |
|          |        |        | Mag. N.S.        | 39 29.4                         | 42           | S.S.E.       | 1.878      |                                   |                      |   |
|          |        |        | Mag. S.          | 20 16.5                         | 42           | S.S.E.       |            |                                   |                      |   |
|          |        |        | wt. 1 gr.        | 11 33.4                         | 42           | S.S.E.       | 1.915      |                                   |                      |   |
|          |        |        | wt. 1½ gr.       | 17 36.2                         | 42           | S.S.E.       | 1.904      |                                   |                      |   |
|          |        |        | wt. 2 grs.       | 23 48.0                         | 42           | S.S.E.       | 1.917      |                                   |                      |   |
|          |        |        | wt. 2½ grs.      | 29 50.1                         | 42           | S.S.E.       | 1.918      |                                   |                      |   |
|          |        |        | wt. 3 grs.       | 36 40.9                         | 42           | S.S.E.       | 1.914      |                                   |                      |   |
|          | —58 44 | 213 11 | wt. 3½ grs.      | 44 52.1                         | 42           | S.S.E.       | 1.877      | —016                              | 1.892                | Very slight motion, steering well.      |
|          |        |        | Def. N.          | 35 11.8                         | 42           | S.S.E.       | 1.865      |                                   |                      |   |
|          |        |        | Def. S.          | 32 22.7                         | 42           | S.S.E.       | 1.882      |                                   |                      |   |
|          |        |        | Mag. N.          | 29 28.0                         | 42           | S.S.E.       | 1.891      |                                   |                      |   |
|          |        |        | Mag. N.S.        | 39 16.0                         | 42           | S.S.E.       | 1.896      |                                   |                      |   |
|          |        |        | Mag. S.          | 19 46.3                         | 42           | S.S.E.       |            |                                   |                      |   |
|          |        |        | Def. N.          | 34 58.7                         | 36           | S.S.E.       | 1.878      |                                   |                      |   |
|          |        |        | Def. S.          | 31 59.8                         | 36           | S.S.E.       | 1.905      |                                   |                      |   |
|          |        |        | Mag. N.          | 29 19.8                         | 36           | S.S.E.       | 1.903      |                                   |                      |   |
|          |        |        | Mag. N.S.        | 39 06.6                         | 36           | S.S.E.       | 1.907      |                                   |                      |   |
| 17.      | —60 48 | 213 51 | Mag. S.          | 19 45.9                         | 36           | S.S.E.       |            | —016                              | 1.916                | Very steady, sailing amongst loose ice. |
|          |        |        | wt. 1 gr.        | 11 51.7                         | 36           | S.S.E.       | 1.863      |                                   |                      |   |
|          |        |        | wt. 1½ gr.       | 16 49.6                         | 36           | S.S.E.       | 1.987      |                                   |                      |   |
|          |        |        | wt. 2 grs.       | 23 56.7                         | 36           | S.S.E.       | 1.907      |                                   |                      |   |
|          |        |        | wt. 2½ grs.      | 29 43.5                         | 36           | S.S.E.       | 1.923      |                                   |                      |   |
|          |        |        | wt. 3 grs.       | 36 48.8                         | 36           | S.S.E.       | 1.906      |                                   |                      |   |
|          |        |        | wt. 3½ grs.      | 44 22.1                         | 36           | S.S.E.       | 1.893      |                                   |                      |   |
|          |        |        | Def. N.          | 34 28.6                         | 34           | S. ½ E.      | 1.908      |                                   |                      |   |
|          |        |        | Def. S.          | 31 43.6                         | 34           | S. ½ E.      | 1.922      |                                   |                      |   |
|          |        |        | Mag. N.          | 29 09.5                         | 34           | S. ½ E.      | 1.918      |                                   |                      |   |
|          | —61 37 | 213 54 | Mag. N.S.        | 39 10.2                         | 34           | S. ½ E.      | 1.903      | —016                              | 1.910                | Very steady, running amongst loose ice. |
|          |        |        | Mag. S.          | 19 54.3                         | 34           | S. ½ E.      |            |                                   |                      |   |
|          |        |        | Def. N.          | 34 27.6                         | 32           | S. by E.     | 1.909      |                                   |                      |   |
|          |        |        | Def. S.          | 31 38.4                         | 32           | S. by E.     | 1.928      |                                   |                      |   |
|          |        |        | Mag. N.          | 29 06.9                         | 32           | S. by E.     | 1.922      |                                   |                      |   |
|          |        |        | Mag. N.S.        | 38 39.3                         | 32           | S. by E.     | 1.945      |                                   |                      |   |
|          |        |        | Mag. S.          | 19 21.5                         | 32           | S. by E.     |            |                                   |                      |   |
|          |        |        | wt. 1 gr.        | 11 30.6                         | 32           | S. by E.     | 1.920      |                                   |                      |   |
|          |        |        | wt. 1½ gr.       | 16 59.2                         | 32           | S. by E.     | 1.968      |                                   |                      |   |
|          |        |        | wt. 2 grs.       | 23 55.7                         | 32           | S. by E.     | 1.905      |                                   |                      |   |
| 18.      | —62 34 | 212 34 | wt. 2½ grs.      | 29 07.6                         | 32           | S. by E.     | 1.958      | —016                              | 1.916                | Very steady, sailing amongst loose ice. |
|          |        |        | wt. 3 grs.       | 36 00.5                         | 32           | S. by E.     | 1.942      |                                   |                      |   |
|          |        |        | wt. 3½ grs.      | 43 45.9                         | 32           | S. by E.     | 1.920      |                                   |                      |   |
|          |        |        | Def. N.          | 34 27.4                         | 40           | S.S.W.       | 1.910      |                                   |                      |   |
|          |        |        | Def. S.          | 31 50.7                         | 40           | S.S.W.       | 1.914      |                                   |                      |   |
|          |        |        | Mag. N.          | 29 08.0                         | 40           | S.S.W.       | 1.920      |                                   |                      |   |
|          |        |        | Mag. N.S.        | 38 52.6                         | 40           | S.S.W.       | 1.927      |                                   |                      |   |
|          |        |        | Mag. S.          | 19 37.4                         | 40           | S.S.W.       |            |                                   |                      |   |
|          |        |        | Def. N.          | 34 20.3                         | 34           | S.S.W.       | 1.917      |                                   |                      |   |
|          |        |        | Def. S.          | 31 19.9                         | 34           | S.S.W.       | 1.946      |                                   |                      |   |
|          | —63 06 | 210 55 | Mag. N.          | 28 59.8                         | 34           | S.S.W.       | 1.932      | —015                              | 1.910                | Very steady, running amongst loose ice. |
|          |        |        | Mag. N.S.        | 38 48.0                         | 34           | S.S.W.       | 1.933      |                                   |                      |   |
|          |        |        | Mag. S.          | 19 37.0                         | 34           | S.S.W.       |            |                                   |                      |   |
|          |        |        | Def. N.          | 34 21.3                         | 34           | S.           | 1.916      |                                   |                      |   |
|          |        |        | Def. S.          | 31 23.0                         | 34           | S.           | 1.943      |                                   |                      |   |
|          |        |        | Mag. N.          | 28 47.5                         | 34           | S.           | 1.950      |                                   |                      |   |
|          |        |        | Mag. N.S.        | 38 39.1                         | 34           | S.           | 1.945      |                                   |                      |   |
|          |        |        | Mag. S.          | 19 21.6                         | 34           | S.           |            |                                   |                      |   |
|          | —63 53 | 208 32 |                  |                                 |              |              |            |                                   |                      |   |
|          |        |        |                  |                                 |              |              |            |                                   |                      |   |
|          |        |        |                  |                                 |              |              |            |                                   |                      |   |
|          |        |        |                  |                                 |              |              |            |                                   |                      |   |

## Observations of the Magnetic Force. (Continued.)

| 1841.    | Lat.             | Long.  | Method employed.         | Angle of deflection. Face east. | Temperature. | Ship's head.          | Intensity. | Correction for ship's attraction. | Corrected Intensity. | Remarks.  |
|----------|------------------|--------|--------------------------|---------------------------------|--------------|-----------------------|------------|-----------------------------------|----------------------|---|
| Dec. 21. | -64 11           | 206 35 | Def. N.                  | 34 01.3                         | 34           | S.S.W.                | 1.936      | -013                              | 1.927                | Very steady, running amongst loose ice.   |
|          |                  |        | Def. S.                  | 31 15.8                         | 34           | S.S.W.                | 1.950      |                                   |                      |   |
|          |                  |        | Mag. N.                  | 28 54.2                         | 34           | S.S.W.                | 1.941      |                                   |                      |   |
|          |                  |        | Mag. N.S.                | 38 44.7                         | 34           | S.S.W.                | 1.937      |                                   |                      |   |
|          | -64 51           | 206 19 | Mag. S.                  | 19 15.2                         | 34           | S.S.W.                | 1.978      | -013                              | 1.943                | Very steady, steering amongst loose ice.  |
|          |                  |        | wt. 1 gr.                | 11 10.3                         | 35           | S. $\frac{3}{4}$ W.   | 1.948      |                                   |                      |   |
|          |                  |        | wt. 1 $\frac{1}{2}$ gr.  | 17 10.4                         | 35           | S. $\frac{3}{4}$ W.   | 1.968      |                                   |                      |   |
|          |                  |        | wt. 2 grs.               | 23 07.5                         | 35           | S. $\frac{3}{4}$ W.   | 1.959      |                                   |                      |   |
|          |                  |        | wt. 2 $\frac{1}{2}$ grs. | 29 07.7                         | 35           | S. $\frac{3}{4}$ W.   | 1.949      |                                   |                      |   |
|          |                  |        | wt. 3 grs.               | 35 52.4                         | 35           | S. $\frac{3}{4}$ W.   | 1.947      |                                   |                      |   |
|          |                  |        | wt. 3 $\frac{1}{2}$ grs. | 42 59.5                         | 35           | S. $\frac{3}{4}$ W.   | 1.932      |                                   |                      |   |
|          |                  |        | Def. N.                  | 34 05.5                         | 35           | S. $\frac{3}{4}$ W.   | 1.965      |                                   |                      |   |
|          | 22. -65 19       | 205 08 | Def. S.                  | 31 01.8                         | 35           | S. $\frac{3}{4}$ W.   | 1.930      | -013                              | 1.931                | Very steady, steering amongst loose ice.  |
|          |                  |        | Def. N.                  | 34 07.6                         | 37           | S. $\frac{1}{2}$ W.   | 1.948      |                                   |                      |   |
|          |                  |        | Def. S.                  | 31 17.5                         | 37           | S. $\frac{1}{2}$ W.   | 1.945      |                                   |                      |   |
|          |                  |        | Mag. N.                  | 28 50.9                         | 37           | S. $\frac{1}{2}$ W.   | 1.940      |                                   |                      |   |
|          | -65 34           | 205 00 | Mag. N.S.                | 38 42.3                         | 37           | S. $\frac{1}{2}$ W.   | 1.937      | -013                              | 1.931                | Very steady, steering amongst loose ice.  |
|          |                  |        | Mag. S.                  | 19 29.9                         | 37           | S. $\frac{1}{2}$ W.   | 1.966      |                                   |                      |   |
|          |                  |        | Def. N.                  | 33 59.5                         | 37           | S.                    | 1.942      |                                   |                      |   |
|          |                  |        | Def. S.                  | 31 00.9                         | 37           | S.                    | 1.946      |                                   |                      |   |
|          | 23. -65 47       | 204 19 | Mag. N.                  | 28 53.2                         | 37           | S.                    | 1.935      | +009                              | 1.950                | Very steady, sailing amongst loose ice.   |
|          |                  |        | Mag. N.S.                | 38 37.7                         | 37           | S.                    | 1.942      |                                   |                      |   |
|          |                  |        | Mag. S.                  | 19 25.2                         | 37           | S.                    | 1.958      |                                   |                      |   |
|          |                  |        | Def. N.                  | 34 02.2                         | 36           | N.E.                  | 1.938      |                                   |                      |   |
|          | 24. -65 54       | 204 08 | Def. S.                  | 31 23.8                         | 36           | N.E.                  | 1.921      | +011                              | 1.950                | Fast to a piece of ice.   |
|          |                  |        | Mag. N.                  | 28 42.6                         | 36           | N.E.                  | 1.944      |                                   |                      |   |
|          |                  |        | Mag. N.S.                | 38 44.3                         | 36           | N.E.                  | 1.945      |                                   |                      |   |
|          |                  |        | Mag. S.                  | 19 44.9                         | 36           | N.E.                  | 1.936      |                                   |                      |   |
|          | 27. -66 08       | 203 50 | Def. N.                  | 34 15.9                         | 42           | N. by W.              | 1.929      | -004                              | 1.949                | Working in a hole of water.   |
|          |                  |        | Def. S.                  | 31 21.8                         | 42           | N. by W.              | 1.969      |                                   |                      |   |
|          |                  |        | Mag. N.                  | 28 51.3                         | 42           | N. by W.              | 1.953      |                                   |                      |   |
|          |                  |        | Mag. N.S.                | 38 45.8                         | 42           | N. by W.              | 1.937      |                                   |                      |   |
|          | 28. -66 10       | 202 54 | Mag. S.                  | 19 29.0                         | 42           | N. by W.              | 1.929      | +010                              | 1.949                | Working in a hole of water.   |
|          |                  |        | Def. N.                  | 34 07.9                         | 30           | E.S.E.                | 1.969      |                                   |                      |   |
|          |                  |        | Def. S.                  | 30 57.8                         | 30           | E.S.E.                | 1.953      |                                   |                      |   |
|          |                  |        | Mag. N.                  | 28 46.1                         | 30           | N.W. by N.            | 1.937      |                                   |                      |   |
|          | 1842.<br>Jan. 1. | 203 29 | Mag. N.S.                | 38 45.3                         | 30           | N.W. by N.            | 1.929      | +003                              | 1.961                | Fast to a piece of ice, Erebus fifty yards N.E. (This result is not employed in the map.) |
|          |                  |        | Mag. S.                  | 19 24.3                         | 30           | N.W. by N.            | 1.941      |                                   |                      |   |
|          |                  |        | Def. N.                  | 33 56.0                         | 30           | W. by N.              | 1.931      |                                   |                      |   |
|          |                  |        | Def. S.                  | 31 17.7                         | 44           | N.W. $\frac{1}{2}$ W. | 1.948      |                                   |                      |   |
| 7.       | -66 20           | 203 39 | Mag. N.                  | 28 46.6                         | 44           | N.W. $\frac{1}{2}$ W. | 1.951      | +009                              | 1.961                | Fast to a piece of ice, Erebus fifty yards N.E. (This result is not employed in the map.) |
|          |                  |        | Mag. N.S.                | 38 35.1                         | 44           | N.W. $\frac{1}{2}$ W. | 1.950      |                                   |                      |   |
|          |                  |        | Mag. S.                  | 19 28.8                         | 44           | N.W. $\frac{1}{2}$ W. | 1.950      |                                   |                      |   |
|          |                  |        | wt. 1 gr.                | 11 20.8                         | 44           | N.W. $\frac{1}{2}$ W. | 1.967      |                                   |                      |   |
|          | -66 20           | 203 39 | wt. 1 $\frac{1}{2}$ gr.  | 16 59.2                         | 44           | N.W. $\frac{1}{2}$ W. | 2.001      | +009                              | 1.961                | Fast to a piece of ice, Erebus fifty yards N.E. (This result is not employed in the map.) |
|          |                  |        | wt. 2 grs.               | 22 44.6                         | 44           | N.W. $\frac{1}{2}$ W. | 1.947      |                                   |                      |   |
|          |                  |        | wt. 2 $\frac{1}{2}$ grs. | 29 21.5                         | 44           | N.W. $\frac{1}{2}$ W. | 1.952      |                                   |                      |   |
|          |                  |        | wt. 3 grs.               | 35 50.3                         | 44           | N.W. $\frac{1}{2}$ W. | 1.922      |                                   |                      |   |
|          | -66 20           | 203 39 | wt. 3 $\frac{1}{2}$ grs. | 43 33.7                         | 44           | N.W. $\frac{1}{2}$ W. | 1.924      | +009                              | 1.944                | Working in a hole of water.   |
|          |                  |        | Def. N.                  | 34 13.5                         | 33           | N.W.                  | 1.946      |                                   |                      |   |
|          |                  |        | Def. S.                  | 31 20.0                         | 33           | N.W.                  | 1.932      |                                   |                      |   |
|          |                  |        | Mag. N.                  | 29 00.1                         | 33           | N.W.                  | 1.943      |                                   |                      |   |
|          | -66 20           | 203 39 | Mag. N.S.                | 38 40.2                         | 33           | N.W.                  | 1.943      | +009                              | 1.944                | Working in a hole of water.   |
|          |                  |        | Mag. S.                  | 19 29.8                         | 33           | N.W.                  | 1.943      |                                   |                      |   |

## Observations of the Magnetic Force. (Continued.)

| 1842.                   | Lat.   | Long.  | Method employed.        | Angle of deflection. Face east. | Temperature. | Ship's head.              | Intensity.                | Correction for ship's attraction. | Corrected Intensity. | Remarks.                    |      |                             |                             |
|-------------------------|--------|--------|-------------------------|---------------------------------|--------------|---------------------------|---------------------------|-----------------------------------|----------------------|-----------------------------|------|-----------------------------|-----------------------------|
| Jan. 8.                 | -66 05 | 204 02 | Def. N.                 | 34 13.8                         | 35           | s. by w. $\frac{1}{2}$ w. | 1.923                     | -011                              | 1.944                | Working in a hole of water. |      |                             |                             |
|                         |        |        | Def. S.                 | 31 22.2                         | 35           | s. by w. $\frac{1}{2}$ w. | 1.944                     |                                   |                      |                             |      |                             |                             |
|                         |        |        | Mag. N.                 | 29 05.0                         | 35           | s. by w. $\frac{1}{2}$ w. | 1.925                     |                                   |                      |                             |      |                             |                             |
|                         |        |        | Mag. N.S.               | 38 47.0                         | 35           | s. by w. $\frac{1}{2}$ w. | 1.935                     |                                   |                      |                             |      |                             |                             |
|                         |        |        | Mag. S.                 | 19 29.8                         | 35           | s. by w. $\frac{1}{2}$ w. |                           | +012                              |                      |                             |      |                             |                             |
|                         |        |        | wt. 1 gr.               | 11 14.4                         | 35           | N.                        | 1.965                     |                                   |                      |                             |      |                             |                             |
|                         |        |        | wt. $1\frac{1}{2}$ gr.  | 17 07.6                         | 35           | N.                        | 1.951                     |                                   |                      |                             |      |                             |                             |
|                         |        |        | wt. 2 grs.              | 23 02.1                         | 35           | N.                        | 1.982                     |                                   |                      |                             |      |                             |                             |
|                         |        |        | wt. $2\frac{1}{2}$ grs. | 29 01.7                         | 35           | N.                        | 1.963                     |                                   |                      |                             |      |                             |                             |
|                         |        |        | wt. 3 grs.              | 35 44.9                         | 35           | N.                        | 1.953                     |                                   |                      |                             |      |                             |                             |
|                         |        |        | wt. $3\frac{1}{2}$ grs. | 43 14.8                         | 35           | N.                        | 1.930                     |                                   |                      |                             |      |                             |                             |
|                         | 9.     | -66 01 | 204 04                  | Def. N.                         | 33 45.1      | 35                        | s.w. $\frac{1}{2}$ w.     | 1.952                             | -007                 |                             |      |                             |                             |
|                         |        |        |                         | Def. S.                         | 31 12.7      | 35                        | s.w.                      | 1.954                             |                      |                             |      |                             |                             |
|                         |        |        |                         | Mag. N.                         | 28 59.9      | 35                        | s.w. by w.                | 1.932                             |                      |                             |      |                             |                             |
|                         |        |        |                         | Mag. N.S.                       | 38 37.6      | 35                        | s.w. by w.                | 1.946                             |                      |                             |      |                             |                             |
|                         | 10.    | -65 57 | 203 56                  | Mag. S.                         | 19 16.0      | 35                        | s.w. by w.                |                                   | +000                 |                             |      |                             |                             |
|                         |        |        |                         | Def. N.                         | 33 53.7      | 30                        | w. by s.                  | 1.943                             |                      |                             |      |                             |                             |
|                         |        |        |                         | Def. S.                         | 30 59.0      | 30                        | w. by s.                  | 1.968                             |                      |                             |      |                             |                             |
|                         |        |        |                         | Mag. N.                         | 28 46.5      | 30                        | w. by s.                  | 1.952                             |                      |                             |      |                             |                             |
|                         |        |        |                         | Mag. N.S.                       | 38 36.3      | 30                        | E.                        | 1.948                             |                      |                             |      |                             |                             |
|                         |        |        |                         | Mag. S.                         | 19 16.3      | 30                        | E.                        |                                   |                      |                             |      |                             |                             |
|                         |        |        |                         | wt. 1 gr.                       | 11 28.5      | 30                        | w. by s. $\frac{1}{2}$ s. | 1.923                             |                      |                             |      |                             |                             |
|                         |        |        |                         | wt. $1\frac{1}{2}$ gr.          | 16 59.9      | 30                        | w. by s. $\frac{1}{2}$ s. | 1.965                             |                      |                             |      |                             |                             |
|                         |        |        |                         | wt. 2 grs.                      | 22 55.0      | 30                        | w. by s. $\frac{1}{2}$ s. | 1.984                             |                      |                             |      |                             |                             |
|                         |        |        |                         | wt. $2\frac{1}{2}$ grs.         | 29 09.5      | 30                        | w. by s. $\frac{1}{2}$ s. | 1.955                             |                      |                             |      |                             |                             |
|                         |        |        |                         | wt. 3 grs.                      | 35 46.6      | 30                        | w. by s. $\frac{1}{2}$ s. | 1.950                             |                      |                             |      |                             |                             |
|                         |        |        |                         | wt. $3\frac{1}{2}$ grs.         | 42 54.2      | 30                        | w. by s. $\frac{1}{2}$ s. | 1.942                             |                      |                             |      |                             |                             |
|                         |        |        |                         |                                 | Def. N.      | 33 54.5                   | 30                        | s.w. by w.                        | 1.942                |                             | -006 | Working in a hole of water. |                             |
|                         |        |        |                         |                                 | Def. S.      | 31 22.4                   | 30                        | s.w. by w.                        | 1.944                |                             |      |                             |                             |
|                         |        |        |                         |                                 | Mag. N.      | 28 46.7                   | 30                        | s.w. by w.                        | 1.952                |                             |      |                             |                             |
|                         |        |        |                         |                                 | Mag. N.S.    | 38 30.3                   | 30                        | s.w. by w.                        | 1.957                |                             |      |                             |                             |
|                         |        |        |                         |                                 | Mag. S.      | 19 19.4                   | 30                        | s.w. by w.                        |                      |                             |      |                             |                             |
|                         |        | 11.    | -65 56                  | 203 31                          | Def. N.      | 33 51.4                   | 30                        | s.                                | 1.946                |                             |      |                             |                             |
|                         |        |        |                         |                                 | Def. S.      | 31 05.2                   | 30                        | s.                                | 1.962                |                             |      |                             |                             |
|                         |        |        |                         |                                 | Mag. N.      | 28 45.2                   | 30                        | s.                                | 1.953                |                             |      |                             |                             |
|                         |        |        |                         |                                 | Mag. N.S.    | 38 40.3                   | 30                        | s.                                | 1.943                |                             |      |                             |                             |
|                         |        | 13.    | -66 06                  | 202 10                          | Mag. S.      | 19 21.0                   | 30                        | s.                                |                      |                             | -012 |                             |                             |
|                         |        |        |                         |                                 | Def. N.      | 34 14.7                   | 33                        | N. $\frac{1}{2}$ E.               | 1.922                |                             |      |                             |                             |
|                         |        |        |                         |                                 | Def. S.      | 31 23.1                   | 33                        | N. $\frac{1}{2}$ E.               | 1.943                |                             |      |                             |                             |
|                         |        |        |                         |                                 | Mag. N.      | 28 52.6                   | 33                        | N. $\frac{1}{2}$ E.               | 1.942                |                             |      |                             |                             |
|                         |        |        |                         |                                 | Mag. N.S.    | 38 49.4                   | 33                        | N. $\frac{1}{2}$ E.               | 1.931                |                             | +012 |                             | Working in a hole of water. |
|                         |        |        |                         |                                 | Mag. S.      | 19 36.1                   | 33                        | N. $\frac{1}{2}$ E.               |                      |                             |      |                             |                             |
|                         |        |        |                         |                                 | Def. N.      | 34 10.3                   | 33                        | N.E. by E.                        | 1.927                |                             |      |                             |                             |
|                         |        |        |                         |                                 | Def. S.      | 31 15.2                   | 35                        | N.E. by E.                        | 1.951                |                             |      |                             |                             |
|                         | 14.    | -66 08 | 201 46                  | Mag. N.                         | 28 49.5      | 35                        | N.E. by E.                | 1.947                             | +008                 |                             |      |                             |                             |
|                         |        |        |                         | Mag. N.S.                       | 38 38.4      | 35                        | N.E. by E.                | 1.946                             |                      |                             |      |                             |                             |
|                         |        |        |                         | Mag. S.                         | 19 27.1      | 35                        | N.E. by E.                |                                   |                      |                             |      |                             |                             |
| Def. N.                 |        |        |                         | 33 47.6                         | 50           |                           | 1.949                     |                                   |                      |                             |      |                             |                             |
| Def. S.                 |        |        |                         | 31 16.1                         | 50           |                           | 1.951                     |                                   |                      |                             |      |                             |                             |
| Mag. N.                 |        |        |                         | 28 52.7                         | 50           |                           | 1.942                     |                                   |                      |                             |      |                             |                             |
| Mag. N.S.               |        |        |                         | 38 45.7                         | 50           |                           | 1.936                     |                                   |                      |                             |      |                             |                             |
| Mag. S.                 |        |        |                         | 19 44.8                         | 50           |                           |                           |                                   |                      |                             |      |                             |                             |
| wt. 1 gr.               |        |        |                         | 11 25.4                         | 50           | Observed on ice.          | 1.940                     |                                   |                      |                             |      |                             |                             |
| wt. $1\frac{1}{2}$ gr.  |        |        |                         | 17 08.3                         | 50           |                           | 1.957                     |                                   |                      |                             |      |                             |                             |
| wt. 2 grs.              |        |        |                         | 23 02.9                         | 50           |                           | 1.979                     |                                   |                      |                             |      |                             |                             |
| wt. $2\frac{1}{2}$ grs. |        |        |                         | 29 16.2                         | 50           |                           | 1.955                     |                                   |                      |                             |      |                             |                             |
| wt. 3 grs.              |        |        |                         | 36 17.4                         | 50           |                           | 1.935                     |                                   |                      |                             |      |                             |                             |
| wt. $3\frac{1}{2}$ grs. |        |        |                         | 43 23.5                         | 50           |                           | 1.932                     |                                   |                      |                             |      |                             |                             |



## Observations of the Magnetic Force. (Continued.)

| 1842.    | Lat.   | Long.  | Method employed.         | Angle of deflection. Face east. | Temperature. | Ship's head.              | Intensity. | Correction for ship's attraction. | Corrected Intensity. | Remarks.   |
|----------|--------|--------|--------------------------|---------------------------------|--------------|---------------------------|------------|-----------------------------------|----------------------|--|
| Jan. 26. | -67 12 | 203 12 | Def. N.                  | 33 14.0                         | 35           | E. by N.                  | 1.984      | +003                              | 1.972*               | Fast to a piece of ice: Erebus N. by W. 20 fathoms*. |
|          |        |        | Def. S.                  | 31 00.0                         | 35           | E. by N.                  | 1.967      |                                   |                      |  |
|          |        |        | Mag. N.                  | 28 30.9                         | 35           | E. by N.                  | 1.977      |                                   |                      |  |
|          |        |        | Mag. N.S.                | 38 28.5                         | 35           | E. by N.                  | 1.960      |                                   |                      |  |
|          |        |        | Mag. N.S.                | 38 22.2                         | 35           | S.E. by S.                | 1.966      |                                   |                      |  |
|          |        |        | Mag. S.                  | 19 15.7                         | 35           | S.E. by S.                |            | -009                              |                      | Fast to a piece of ice: Erebus N.E. by E.            |
| 28.      | -67 46 | 204 17 | Def. N.                  | 33 47.7                         | 35           | E. by N.                  | 1.949      | +003                              | 1.960                | A swell from W.S.W., table steady.                   |
|          |        |        | Def. S.                  | 31 00.7                         | 35           | N.                        | 1.966      | +012                              |                      |  |
|          |        |        | Def. N.                  | 33 47.5                         | 35           | N. by E.                  | 1.949      | +011                              |                      |  |
|          |        |        | Def. N.                  | 33 43.8                         | 35           | N.N.E.                    | 1.954      |                                   |                      |  |
|          |        |        | Mag. N.                  | 28 45.1                         | 35           | N.N.E.                    | 1.955      | +010                              |                      |  |
|          |        |        | Mag. N.S.                | 38 29.8                         | 35           | N.N.E.                    | 1.957      |                                   |                      |  |
|          |        |        | Mag. S.                  | 19 21.1                         | 35           | N.N.E.                    |            |                                   |                      |  |
|          |        |        | Def. N.                  | 33 45.2                         | 35           | S. $\frac{3}{4}$ W.       | 1.952      |                                   |                      |  |
|          |        |        | Def. S.                  | 30 52.2                         | 35           | S. $\frac{3}{4}$ W.       | 1.975      |                                   |                      |  |
|          |        |        | Mag. N.                  | 28 39.0                         | 35           | S. $\frac{3}{4}$ W.       | 1.965      | -012                              |                      |  |
|          |        |        | Mag. N.S.                | 38 22.4                         | 35           | S. $\frac{3}{4}$ W.       | 1.968      |                                   |                      |  |
|          |        |        | Mag. S.                  | 19 16.9                         | 35           | S. $\frac{3}{4}$ W.       |            |                                   |                      |  |
| 28.      | -67 46 | 204 17 | wt. 1 gr.                | 10 53.5                         | 35           | N.                        | 2.028      | +012                              | 1.965                | Table steady.  |
|          |        |        | wt. 1 $\frac{1}{2}$ gr.  | 16 57.2                         | 35           | N.                        | 1.972      |                                   |                      |  |
|          |        |        | wt. 2 grs.               | 23 09.2                         | 35           | N. by W. $\frac{3}{4}$ W. | 1.966      |                                   |                      |  |
|          |        |        | wt. 2 $\frac{1}{2}$ grs. | 29 14.4                         | 35           | N. by W. $\frac{3}{4}$ W. | 1.951      | +011                              |                      |  |
|          |        |        | wt. 3 grs.               | 35 37.6                         | 35           | N. by W. $\frac{3}{4}$ W. | 1.959      |                                   |                      |  |
|          |        |        | wt. 3 $\frac{1}{2}$ grs. | 42 53.4                         | 35           | N. by W. $\frac{3}{4}$ W. | 1.944      |                                   |                      |  |
| 29.      | -67 24 | 204 05 | Def. N.                  | 33 42.1                         | 31           | S. by W.                  | 1.956      |                                   | 1.946                | Strong breeze, table steady.                         |
|          |        |        | Def. S.                  | 30 58.3                         | 31           | S. by W.                  | 1.969      | -012                              |                      |  |
|          |        |        | Mag. N.                  | 28 49.8                         | 31           | S. by W.                  | 1.947      |                                   |                      |  |
|          |        |        | Mag. N.S.                | 38 41.5                         | 31           | S. by W.                  | 1.941      |                                   |                      |  |
| 31.      | -67 12 | 202 24 | Def. N.                  | 33 51.2                         | 32           | S.S.W.                    | 1.946      |                                   | 1.946                | Strong breeze, table steady.                         |
|          |        |        | Def. S.                  | 30 50.5                         | 32           | S.S.W.                    | 1.976      | -011                              |                      |  |
|          |        |        | Mag. N.                  | 28 38.1                         | 32           | S.S.W.                    | 1.966      |                                   |                      |  |
|          |        |        | Mag. N.S.                | 38 30.3                         | 32           | S.S.W.                    | 1.957      |                                   |                      |  |
|          |        |        | Mag. S.                  | 19 21.8                         | 32           | S.S.W.                    |            |                                   |                      |  |
|          |        |        | Def. N.                  | 33 52.1                         | 32           | S.W.                      | 1.945      | -007                              |                      |  |
|          |        |        | Def. N.                  | 33 52.3                         | 32           | S.W. by S.                | 1.945      | -008                              |                      |  |
| Feb. 1.  | -67 12 | 201 34 | Def. N.                  | 34 30.6                         | 32           | W. by S.                  | 1.906      | -001                              | 1.935                | Table very steady.                                   |
|          |        |        | Def. N.                  | 34 04.4                         | 32           | E.                        | 1.933      | +001                              |                      |  |
|          | -67 16 |        | Def. N.                  | 33 56.0                         | 32           | S.S.W.                    | 1.941      |                                   |                      |  |
|          |        |        | Def. S.                  | 31 03.0                         | 32           | S.S.W.                    | 1.964      | -011                              |                      |  |
|          |        |        | Mag. N.                  | 28 46.3                         | 32           | S.S.W.                    | 1.951      |                                   |                      |  |
|          |        |        | Mag. N.S.                | 38 31.8                         | 32           | S.S.W.                    | 1.954      |                                   |                      |  |
|          |        |        | Mag. S.                  | 19 21.1                         | 32           | S.S.W.                    |            |                                   |                      |  |
|          |        |        | Def. N.                  | 34 07.1                         | 32           | N. $\frac{3}{4}$ W.       | 1.930      | +011                              |                      |  |
|          |        |        | Def. N.                  | 33 51.1                         | 32           | S.W.                      | 1.946      | -007                              |                      |  |
| 2.       | -67 56 | 199 48 | Def. N.                  | 33 33.9                         | 31           | S. by W.                  | 1.964      |                                   | 1.955                | Cross sea ship unsteady.                             |
|          |        |        | Def. S.                  | 31 00.5                         | 31           | S. by W.                  | 1.966      | -011                              |                      |  |
|          |        |        | Mag. N.                  | 28 51.5                         | 31           | S. by W.                  | 1.944      |                                   |                      |  |
|          |        |        | Mag. N.S.                | 38 23.3                         | 31           | S. by W.                  | 1.967      |                                   |                      |  |
|          |        |        | Mag. S.                  | 19 15.5                         | 31           | S. by W.                  |            |                                   |                      |  |
| 3.       | -68 21 | 200 06 | Def. N.                  | 33 45.4                         | 31           | S.S.W.                    | 1.952      |                                   | 1.955                | Cross sea ship unsteady.                             |
|          |        |        | Def. S.                  | 30 51.4                         | 31           | S.S.W.                    | 1.976      | -011                              |                      |  |
|          |        |        | Mag. N.                  | 28 22.2                         | 31           | S.S.W.                    | 1.990      |                                   |                      |  |
|          |        |        | Mag. N.S.                | 38 21.2                         | 31           | S.S.W.                    | 1.970      |                                   |                      |  |
|          |        |        | Mag. S.                  | 19 13.8                         | 31           | S.S.W.                    |            |                                   |                      |  |

\* This result has not been employed in the map.

## Observations of the Magnetic Force. (Continued.)

| 1842.     | Lat.      | Long.         | Method employed. | Angle of deflection. Face east. | Temperature. | Ship's head. | Intensity. | Correction for ship's attraction. | Corrected Intensity.  | Remarks.                    |
|-----------|-----------|---------------|------------------|---------------------------------|--------------|--------------|------------|-----------------------------------|---|-----------------------------|
| Feb. 4.   | -68 45    | 199 41        | Def. N.          | 33 38.7                         | 30           | s.           | 1.959      | -011                              | 1.961   | Table steady.               |
|           |           |               | Def. S.          | 30 43.2                         | 30           | s.           | 1.984      |                                   |   |                             |
|           |           |               | Mag. N.          | 28 32.2                         | 30           | s.           | 1.975      |                                   |   |                             |
|           |           |               | Mag. N.S.        | 38 15.0                         | 30           | s.           | 1.977      |                                   |   |                             |
|           |           |               | Mag. S.          | 19 15.9                         | 30           | s.           |            |                                   |   |                             |
|           |           |               | wt. 1 gr.        | 11 08.5                         | 30           | s.           | 1.984      |                                   |   |                             |
|           |           |               | wt. 1 1/2 gr.    | 16 55.4                         | 30           | s. 1/2 E.    | 1.974      | -011                              |   |                             |
|           |           |               | wt. 2 grs.       | 22 31.5                         | 30           | s.           | 2.015      | -011                              |   |                             |
|           |           |               | wt. 2 1/2 grs.   | 29 00.9                         | 30           | s.           | 1.963      |                                   |   |                             |
|           |           |               | wt. 3 grs.       | 35 06.1                         | 30           | s.           | 1.983      |                                   |   |                             |
|           |           |               | wt. 3 1/2 grs.   | 42 35.6                         | 30           | s. by E.     | 1.952      | -011                              |   |                             |
|           |           |               | Def. N.          | 33 38.8                         | 30           | s. by E.     | 1.959      |                                   |   |                             |
|           |           |               | Def. S.          | 31 04.3                         | 30           | s. by E.     | 1.963      |                                   |   |                             |
|           |           |               | -68 49           | 199 26                          | Def. N.      | 33 59.1      | 30         | N.N.W.                            |   |                             |
|           | 5. -68 52 | 198 24        | Def. N.          | 33 46.1                         | 32           | s.W.         | 1.952      | -006                              | 1.966   | Fresh breeze, table steady. |
|           |           |               | Def. S.          | 30 46.1                         | 32           | s.W.         | 1.981      |                                   |   |                             |
|           |           |               | Mag. N.          | 28 35.2                         | 32           | s.W.         | 1.970      |                                   |   |                             |
|           |           |               | Mag. N.S.        | 38 24.0                         | 32           | s.W.         | 1.965      |                                   |   |                             |
|           |           |               | Mag. S.          | 19 18.6                         | 32           | s.W.         |            |                                   |   |                             |
|           |           |               | wt. 1 gr.        | 11 08.8                         | 32           | s.W. 1/2 W.  | 1.984      |                                   |   |                             |
|           |           |               | wt. 1 1/2 gr.    | 16 59.2                         | 32           | s.W. 1/2 W.  | 1.966      |                                   |   |                             |
|           |           |               | wt. 2 grs.       | 22 30.9                         | 32           | s.W. 1/2 W.  | 2.016      |                                   |   |                             |
|           |           |               | wt. 2 1/2 grs.   | 28 49.9                         | 32           | s.W. 1/2 W.  | 1.974      | -005                              |   |                             |
|           |           |               | wt. 3 grs.       | 35 33.8                         | 32           | s.W. 1/2 W.  | 1.961      |                                   |   |                             |
|           |           |               | wt. 3 1/2 grs.   | 42 40.2                         | 32           | s.W. 1/2 W.  | 1.949      |                                   |   |                             |
| 6. -69 55 | 192 17    | Def. N.       | 33 46.5          | 34                              | s. by W.     | 1.952        | -010       | 1.965                             | A swell from the N.N.W., unsteady.<br><br>Steering well.                            |                             |
|           |           | Def. S.       | 30 44.6          | 34                              | s. by W.     | 1.982        |            |                                   |   |                             |
|           |           | Mag. N.       | 28 21.7          | 34                              | s. by W.     | 1.990        |            |                                   |   |                             |
|           |           | Mag. N.S.     | 38 08.0          | 34                              | s. by W.     | 1.987        |            |                                   |   |                             |
|           |           | Mag. S.       | 18 54.1          | 34                              | s. by W.     |              |            |                                   |   |                             |
|           |           | Def. N.       | 33 44.5          | 34                              | s.           | 1.953        | -010       |                                   |   |                             |
|           |           | Def. N.       | 33 53.9          | 30                              | s.s.W.       | 1.943        | -009       |                                   |   |                             |
|           |           | Def. S.       | 30 47.4          | 30                              | s.s.W.       | 1.980        |            |                                   |   |                             |
|           |           | Mag. N.       | 28 38.8          | 30                              | s.s.W.       | 1.965        |            |                                   |   |                             |
|           |           | Mag. N.S.     | 37 43.3          | 30                              | s.s.W.       | 2.021        |            |                                   |   |                             |
| 7. -70 05 | 191 03    | Mag. S.       | 17 52.3          | 30                              | s.s.W.       |              | -004       | 1.976                             | Swell from W.N.W., steering badly, very unsteady.<br><br>Steering wildly, unsteady. |                             |
|           |           | Def. N.       | 33 48.7          | 31                              | s.W.         | 1.948        |            |                                   |   |                             |
|           |           | Def. N.       | 33 49.3          | 31                              | s.W. by W.   | 1.947        |            |                                   |   |                             |
|           |           | Def. S.       | 30 38.2          | 31                              | s.W. by W.   | 1.989        |            |                                   |   |                             |
|           |           | Mag. N.       | 28 30.9          | 31                              | s.W. by W.   | 1.977        |            |                                   |   |                             |
|           |           | Mag. N.S.     | 37 43.8          | 31                              | s.W. by W.   | 2.020        |            |                                   |   |                             |
|           |           | Mag. S.       | 17 38.4          | 31                              | s.W. by W.   |              |            |                                   |   |                             |
|           |           | wt. 1 gr.     | 11 15.2          | 31                              | s.           | 1.961        |            |                                   |   |                             |
|           |           | wt. 1 1/2 gr. | 16 52.1          | 31                              | s.           | 1.979        |            |                                   |   |                             |
|           |           | wt. 2 grs.    | 22 37.0          | 31                              | s.           | 2.007        |            |                                   |   |                             |
|           | 8. -70 08 | 186 39        | wt. 2 1/2 grs.   | 28 35.7                         | 31           | s.           | 1.989      |                                   |   | -009                        |
|           |           |               | wt. 3 grs.       | 34 59.8                         | 31           | s.           | 1.988      |                                   |   |                             |
|           |           |               | wt. 3 1/2 grs.   | 41 52.3                         | 31           | s.           | 1.980      |                                   |   |                             |
|           |           |               | Def. N.          | 33 38.4                         | 31           | s.           | 1.960      |                                   |   |                             |
|           |           |               | Def. S.          | 30 34.2                         | 31           | s.           | 1.995      |                                   |   |                             |
|           |           |               | Mag. N.          | 28 26.8                         | 31           | s.           | 1.983      |                                   |   |                             |
|           |           |               | Mag. N.S.        | 37 33.2                         | 31           | s.           | 2.034      |                                   |   |                             |
|           |           |               | Mag. S.          | 17 17.7                         | 31           | s.           |            |                                   |   |                             |

## Observations of the Magnetic Force. (Continued.)

| 1842.     | Lat.    | Long.  | Method employed. | Angle of deflection. Face east. | Temperature. | Ship's head.    | Intensity. | Correction for ship's attraction. | Corrected Intensity. | Remarks.  |       |                         |                                  |   |                                 |
|-----------|---------|--------|------------------|---------------------------------|--------------|-----------------|------------|-----------------------------------|----------------------|---|-------|-------------------------|----------------------------------|---|---------------------------------|
| Feb. 9.   | -70 32  | 185 38 | Def. N.          | 33 37.4                         | 30           | s.              | 1.961      | -009                              | 1.983                | Head swell, very unsteady.                        |       |                         |                                  |   |                                 |
|           |         |        | Def. S.          | 30 50.6                         | 30           | s.              | 1.976      |                                   |                      |   |       |                         |                                  |   |                                 |
| 10.       | -69 56  | 184 43 | Mag. N.S.        | 37 30.0                         | 30           | s.              | 2.039      | -006                              |                      |   | 1.988 | Head swell, not steady. |                                  |   |                                 |
|           |         |        | Def. N.          | 33 43.4                         | 30           | S.E. by s.      | 1.955      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | Def. S.          | 30 29.7                         | 30           | S. 1/2 E.       | 1.997      | -009                              |                      |   |       |                         | 1.988                            | Strong breeze, swell from the west, table not steady. |                                 |
|           |         |        | Mag. N.S.        | 37 29.7                         | 30           | S. 1/2 E.       | 2.039      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | Def. N.          | 33 37.7                         | 32           | w. by s.        | 1.960      | 000                               |                      | 1.988   |       |                         |                                  |   | Cross sea, table very unsteady. |
|           |         |        | Def. S.          | 30 47.2                         | 32           | w. by s.        | 1.980      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | Mag. N.          | 28 34.0                         | 32           | w. by s.        | 1.972      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | Mag. N.S.        | 37 56.0                         | 32           | w. by s.        | 2.004      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | Mag. S.          | 17 58.6                         | 32           | w. by s.        |            |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | 11.              | -69 51                          | 183 02       | Def. N.         | 33 37.5    | 32                                | W.S.W.               |   |       | 1.960                   |                                  | -001  |                                 |
| Def. S.   | 30 30.3 | 32     |                  |                                 |              | W.S.W.          | 1.997      |                                   |                      |   |       |                         |                                  |   |                                 |
| Mag. N.   | 28 18.6 | 32     |                  |                                 |              | W.S.W.          | 1.994      |                                   |                      |   |       |                         |                                  |   |                                 |
| Mag. N.S. | 37 44.4 | 32     |                  |                                 |              | W.S.W.          | 2.029      |                                   |                      |   |       |                         |                                  |   |                                 |
| Mag. S.   | 18 08.6 | 32     |                  |                                 |              | W.S.W.          |            |                                   |                      |   |       |                         |                                  |   |                                 |
| 12.       | -71 03  | 180 56 | Def. N.          | 33 38.3                         | 33           | S.E. by s.      | 1.960      | -006                              | 1.988                | Cross sea, table very unsteady.                   |       |                         |                                  |   |                                 |
|           |         |        | Def. S.          | 30 37.8                         | 33           | S.E. by s.      | 1.989      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | Mag. N.          | 28 18.2                         | 33           | S.E. by s.      | 1.995      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | Mag. N.S.        | 37 51.2                         | 33           | S.E. by s.      | 2.011      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | Mag. S.          | 18 05.3                         | 33           | S.E. by s.      |            |                                   |                      |   |       |                         |                                  |   |                                 |
| 13.       | -72 07  | 181 50 | Def. N.          | 33 22.3                         | 31           | S.E. by s.      | 1.976      | -006                              | 2.001                | Swell from N.W., steering wildly, table unsteady. |       |                         |                                  |   |                                 |
|           |         |        | Def. S.          | 30 42.3                         | 31           | S.E. by s.      | 1.985      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | Mag. N.          | 28 04.6                         | 31           | S.E. by s.      | 2.017      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | Mag. N.S.        | 37 27.2                         | 31           | S.E. by s.      | 2.044      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | Mag. S.          | 17 43.3                         | 31           | S.E. by s.      |            |                                   |                      |   |       |                         |                                  |   |                                 |
| 14.       | -72 55  | 181 33 | Def. N.          | 33 14.6                         | 30           | S.E. by E.      | 1.983      | -004                              | 2.004                | N.W. swell, ship unsteady.                        |       |                         |                                  |   |                                 |
|           |         |        | Def. S.          | 30 22.9                         | 30           | S.E. by E.      | 2.004      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | Mag. N.          | 28 12.1                         | 30           | S.E. by E.      | 2.006      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | Mag. N.S.        | 37 31.9                         | 30           | S.E. by E.      | 2.036      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | Mag. S.          | 17 56.7                         | 30           | S.E. by E.      |            |                                   |                      |   |       |                         |                                  |   |                                 |
| 16.       | -74 51  | 174 02 | Def. N.          | 33 12.5                         | 28           | S.S.E.          | 1.986      | -006                              | 2.008                | Table steady.                                     |       |                         |                                  |   |                                 |
|           |         |        | Def. S.          | 30 26.1                         | 28           | S.S.E.          | 2.001      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | Mag. N.          | 27 52.3                         | 28           | S.S.E.          | 2.036      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | Mag. N.S.        | 37 19.9                         | 28           | S.S.E.          | 2.052      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | Mag. S.          | 17 45.9                         | 28           | S.S.E.          |            |                                   |                      |   |       |                         |                                  |   |                                 |
|           | -75 09  | 173 16 | wt. 1 gr.        | 11 09.7                         | 28           | E. 1/2 S.       | 1.976      | 000                               | 2.008                | N.W. swell, motion slight.                        |       |                         |                                  |   |                                 |
|           |         |        | wt. 1 1/2 gr.    | 16 40.5                         | 28           | E. 1/2 S.       | 2.001      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | wt. 2 grs.       | 21 41.0                         | 28           | E. 1/2 S.       | 2.090      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | wt. 2 1/2 grs.   | 28 13.7                         | 28           | E. 1/2 S.       | 2.013      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | wt. 3 grs.       | 34 53.1                         | 28           | E. 1/2 S.       | 1.995      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | wt. 3 1/2 grs.   | 42 16.6                         | 28           | E. 1/2 S.       | 1.964      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | Def. N.          | 33 04.9                         | 28           | E. by s.        | 1.990      |                                   |                      |   | 000   | 2.006                   | Steering wildly, table unsteady. |   |                                 |
|           |         |        | Def. S.          | 30 23.8                         | 28           | E. by s.        | 2.003      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | Mag. N.S.        | 37 27.9                         | 28           | E. by s.        | 2.042      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | Def. N.          | 33 25.4                         | 32           | E. by N. 1/2 N. | 1.973      |                                   |                      |   |       |                         |                                  |   |                                 |
| Def. S.   | 30 37.3 | 32     | E. by N. 1/2 N.  | 1.990                           |              |                 |            |                                   |                      |   |       |                         |                                  |   |                                 |
| 17.       | -76 06  | 174 57 | Mag. N.          | 28 16.2                         | 32           | E. by N. 1/2 N. | 1.999      | +002                              | 2.006                | Steering wildly, table unsteady.                  |       |                         |                                  |   |                                 |
|           |         |        | Mag. N.S.        | 37 28.6                         | 32           | E. by N. 1/2 N. | 2.041      |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | Mag. S.          | 17 38.4                         | 32           | E. by N. 1/2 N. |            |                                   |                      |   |       |                         |                                  |   |                                 |
|           |         |        | Def. N.          | 33 12.4                         | 27           | E.N.E.          | 1.987      |                                   |                      |   | +004  | 2.007                   | Cross sea, table unsteady.       |   |                                 |
|           |         |        | Def. S.          | 30 36.1                         | 27           | E.N.E.          | 1.991      |                                   |                      |   |       |                         |                                  |   |                                 |
| Mag. N.   | 28 17.4 | 27     | E.N.E.           | 1.998                           |              |                 |            |                                   |                      |   |       |                         |                                  |   |                                 |
| Mag. N.S. | 37 31.7 | 27     | E.N.E.           | 2.036                           |              |                 |            |                                   |                      |   |       |                         |                                  |   |                                 |
| Mag. S.   | 17 49.0 | 27     | E.N.E.           |                                 |              |                 |            |                                   |                      |   |       |                         |                                  |   |                                 |

## Observations of the Magnetic Force. (Continued.)

| 1842.    | Lat.   | Long.  | Method employed. | Angle of deflection. Face east. | Temperature. | Ship's head.  | Intensity. | Correction for ship's attraction. | Corrected Intensity. | Remarks.                                     |
|----------|--------|--------|------------------|---------------------------------|--------------|---------------|------------|-----------------------------------|----------------------|--|
| Feb. 19. | -76 48 | 184 46 | Def. N.          | 33 16.1                         | 25           | N. by E.      | 1.983      | +006                              | 2.009                | Head sea, ship unsteady.                     |
|          |        |        | Def. S.          | 30 30.3                         | 25           | N. by E.      | 1.997      |                                   |                      |  |
|          |        |        | Mag. N.          | 28 14.8                         | 25           | N. by E.      | 2.002      |                                   |                      |  |
|          |        |        | Mag. N.S.        | 37 34.7                         | 25           | N. by E.      | 2.031      |                                   |                      |  |
| 20.      | -76 20 | 191 26 | Mag. S.          | 17 30.6                         | 25           | N. by E.      |            | +005                              | 2.024                | Head sea, ship unsteady.                     |
|          |        |        | Def. N.          | 33 10.8                         | 28           | N.E.          | 1.988      |                                   |                      |  |
|          |        |        | Def. S.          | 30 30.9                         | 28           | N.E.          | 1.996      |                                   |                      |  |
|          |        |        | Mag. N.          | 27 55.8                         | 28           | N.E.          | 2.030      |                                   |                      |  |
| 22.      | -76 24 | 184 54 | Mag. N.S.        | 37 12.8                         | 28           | N.E.          | 2.062      | -005                              | 2.004                | Strong wind, head sea, unsteady.             |
|          |        |        | Mag. S.          | 17 14.3                         | 28           | N.E.          |            |                                   |                      |  |
|          |        |        | Def. N.          | 33 09.1                         | 30           | S.E. by S.    | 1.990      |                                   |                      |  |
|          |        |        | Def. S.          | 30 25.3                         | 30           | S.E. by S.    | 2.002      |                                   |                      |  |
|          | -77 13 | 193 52 | Mag. N.          | 28 11.1                         | 30           | S.E. by S.    | 2.007      | -005                              | 2.004                | Strong wind, head sea, unsteady.             |
|          |        |        | Mag. N.S.        | 37 30.2                         | 30           | S.E. by S.    | 2.039      |                                   |                      |  |
|          |        |        | Mag. S.          | 17 41.0                         | 30           | S.E. by S.    |            |                                   |                      |  |
|          |        |        | Def. N.          | 33 12.9                         | 30           | E. by S.      | 1.986      |                                   |                      |  |
|          |        |        | Def. S.          | 30 39.5                         | 30           | E. by S.      | 1.987      | -000                              | 2.011                | Light swell, motion gentle.                  |
|          |        |        | Mag. N.          | 28 21.0                         | 30           | E. by S.      | 1.991      |                                   |                      |  |
|          |        |        | Mag. N.S.        | 37 31.9                         | 30           | E. by S.      | 2.036      |                                   |                      |  |
|          |        |        | Mag. S.          | 17 13.0                         | 30           | E. by S.      |            |                                   |                      |  |
|          |        |        | wt. 1 gr.        | 10 55.0                         | 30           | E. by S.      | 2.021      | -000                              | 2.011                | Light swell, motion gentle.                  |
|          |        |        | wt. 1½ gr.       | 16 28.5                         | 30           | E. by S.      | 2.026      |                                   |                      |  |
|          |        |        | wt. 2 grs.       | 22 23.3                         | 30           | E. by S.      | 2.028      |                                   |                      |  |
|          |        |        | wt. 2½ grs.      | 28 07.5                         | 30           | E. by S.      | 2.020      |                                   |                      |  |
|          |        |        | wt. 3 grs.       | 34 16.6                         | 30           | E. by S.      | 2.025      | +005                              | 2.001                | Table steady.                                |
|          |        |        | wt. 3½ grs.      | 41 32.7                         | 30           | E. by S.      | 1.992      |                                   |                      |  |
|          |        |        | Def. N.          | 33 28.8                         | 29           | N.E. by E.    | 1.969      |                                   |                      |  |
|          |        |        | Def. S.          | 30 36.2                         | 29           | N.E. by E.    | 1.991      |                                   |                      |  |
| 23.      | -77 47 | 197 25 | Mag. N.          | 28 08.2                         | 29           | E.N.E.        | 2.011      | +004                              | 2.001                | Table steady.                                |
|          |        |        | Mag. N.S.        | 37 45.3                         | 29           | E.N.E.        | 2.018      |                                   |                      |  |
|          |        |        | Mag. S.          | 17 17.8                         | 29           | E.N.E.        |            |                                   |                      |  |
|          |        |        | Def. N.          | 33 10.3                         | 30           | S.W. by S.    | 1.989      |                                   |                      |  |
|          | -77 14 | 199 29 | Def. S.          | 30 41.2                         | 30           | S.W. by S.    | 1.980      | -005                              | 1.992                | Fresh breeze, swell from N.E., table steady. |
|          |        |        | Mag. N.          | 28 22.9                         | 30           | S.W. by S.    | 1.989      |                                   |                      |  |
|          |        |        | Mag. N.S.        | 37 30.5                         | 30           | S.W. by S.    | 2.038      |                                   |                      |  |
|          |        |        | Mag. S.          | 17 25.3                         | 30           | S.W. by S.    |            |                                   |                      |  |
|          |        |        | wt. 1 gr.        | 11 02.2                         | 30           | S.W. by S.    | 2.000      | -005                              | 1.992                | Fresh breeze, swell from N.E., table steady. |
|          |        |        | wt. 1½ gr.       | 16 31.1                         | 30           | S.W. by S.    | 2.020      |                                   |                      |  |
|          |        |        | wt. 2 grs.       | 22 33.5                         | 30           | S.W. by S.    | 2.010      |                                   |                      |  |
|          |        |        | wt. 2½ grs.      | 28 40.4                         | 30           | S.W. by S.    | 1.983      |                                   |                      |  |
|          |        |        | wt. 3 grs.       | 34 58.0                         | 30           | S.W. by S.    | 1.989      | +001                              | 2.003                | Fresh breeze, swell from N.E., table steady. |
|          |        |        | wt. 3½ grs.      | 42 08.1                         | 30           | S.W. by S.    | 1.970      |                                   |                      |  |
|          |        |        | Def. N.          | 33 05.2                         | 29           | w.            | 1.994      |                                   |                      |  |
|          |        |        | Def. S.          | 30 34.4                         | 29           | w.            | 1.993      |                                   |                      |  |
| 25.      | -75 20 | 194 36 | Mag. N.          | 28 14.8                         | 29           | w.            | 2.000      | +001                              | 2.003                | Fresh breeze, swell from N.E., table steady. |
|          |        |        | Mag. N.S.        | 37 43.8                         | 29           | w.            | 2.020      |                                   |                      |  |
|          |        |        | Mag. S.          | 17 38.2                         | 29           | w.            |            |                                   |                      |  |
|          |        |        | Def. N.          | 33 17.7                         | 29           | N.W. by W.    | 1.980      |                                   |                      |  |
|          | -73 10 | 189 21 | Def. S.          | 30 34.9                         | 29           | N.W. by W.    | 1.992      | +005                              | 2.000                | Strong breeze, motion great.                 |
|          |        |        | Mag. N.          | 28 06.6                         | 29           | N.W. by W.    | 2.012      |                                   |                      |  |
|          |        |        | Mag. N.S.        | 38 01.7                         | 29           | N.W. by W.    | 1.995      |                                   |                      |  |
|          |        |        | Mag. S.          | 17 13.8                         | 29           | N.W. by W.    |            |                                   |                      |  |
|          | -72 03 | 187 40 | Def. N.          | 33 22.8                         | 26           | S.W.          | 1.976      | -005                              | 1.999                | Easterly swell, slight motion.               |
|          |        |        | Def. S.          | 30 36.3                         | 26           | S.W.          | 1.991      |                                   |                      |  |
|          |        |        | Mag. N.          | 28 11.4                         | 26           | S.W.          | 2.007      |                                   |                      |  |
|          |        |        | Mag. N.S.        | 37 39.4                         | 26           | w. by N. ½ N. | 2.025      |                                   |                      |  |
| 27.      |        |        | Mag. S.          | 17 28.8                         | 26           | w. by N. ½ N. |            | +002                              | 1.999                | Easterly swell, slight motion.               |

## Observations of the Magnetic Force. (Continued.)

| 1842.    | Lat.     | Long.    | Method employed. | Angle of deflection. Face east. | Temperature. | Ship's head.              | Intensity. | Correction for ship's attraction. | Corrected Intensity. | Remarks.                                   |
|----------|----------|----------|------------------|---------------------------------|--------------|---------------------------|------------|-----------------------------------|----------------------|--|
| Feb. 27. | -72° 03' | 187° 40' | wt. 1 gr.        | 11° 01' 0                       | 26           | S.W. $\frac{1}{2}$ W.     | 2.002      | -005                              | 1.999                | Easterly swell, slight motion.             |
|          |          |          | wt. 1½ gr.       | 16 26.3                         | 26           | S.W. $\frac{1}{2}$ W.     | 2.029      |                                   |                      |  |
|          |          |          | wt. 2 grs.       | 22 13.8                         | 26           | S.W. $\frac{1}{2}$ W.     | 2.040      |                                   |                      |  |
|          |          |          | wt. 2½ grs.      | 28 25.7                         | 26           | S.W. $\frac{1}{2}$ W.     | 1.998      |                                   |                      |  |
|          |          |          | wt. 3 grs.       | 34 35.3                         | 26           | S.W. $\frac{1}{2}$ W.     | 2.009      |                                   |                      |  |
|          | -71 43   | 187 15   | wt. 3½ grs.      | 42 33.7                         | 26           | S.W. $\frac{1}{2}$ W.     | 1.953      | +002                              | 1.999                | Easterly swell, slight motion.             |
|          |          |          | wt. 1 gr.        | 11 04.8                         | 26           | W. by N. $\frac{1}{2}$ N. | 1.990      |                                   |                      |  |
|          |          |          | wt. 1½ gr.       | 16 01.3                         | 26           | W. by N. $\frac{1}{2}$ N. | 2.081      |                                   |                      |  |
|          |          |          | wt. 2 grs.       | 22 29.5                         | 26           | W. by N. $\frac{1}{2}$ N. | 2.016      |                                   |                      |  |
|          |          |          | wt. 2½ grs.      | 28 37.6                         | 26           | W. by N. $\frac{1}{2}$ N. | 1.986      |                                   |                      |  |
| 28.      | -71 20   | 184 30   | wt. 3 grs.       | 34 56.6                         | 26           | W. by N. $\frac{1}{2}$ N. | 1.990      | -000                              | 1.999                | Easterly swell, slight motion.             |
|          |          |          | wt. 3½ grs.      | 42 04.9                         | 26           | W. by N. $\frac{1}{2}$ N. | 1.971      |                                   |                      |  |
|          |          |          | Def. N.          | 33 44.8                         | 25           | W. by S.                  | 1.952      |                                   |                      |  |
|          |          |          | Def. S.          | 30 47.1                         | 25           | W. by S.                  | 1.980      |                                   |                      |  |
|          |          |          | Mag. N.          | 28 22.8                         | 25           | W. by S.                  | 1.988      |                                   |                      |  |
|          | -69 54   | 179 55   | Mag. N.S.        | 37 39.1                         | 25           | W. by S.                  | 2.025      | +005                              | 1.999                | Easterly swell, slight motion.             |
|          |          |          | Mag. S.          | 17 44.3                         | 25           | W. by S.                  |            |                                   |                      |  |
|          |          |          | Def. N.          | 33 24.5                         | 32           | W.N.W.                    | 1.974      |                                   |                      |  |
|          |          |          | Def. S.          | 30 38.5                         | 32           | W.N.W.                    | 1.989      |                                   |                      |  |
|          |          |          | Mag. N.          | 28 17.3                         | 32           | W.N.W.                    | 1.998      |                                   |                      |  |
| Mar. 1.  | -68 09   | 183 10   | Mag. N.S.        | 37 47.1                         | 32           | W.N.W.                    | 2.015      | +007                              | 1.981                | Swell from eastward.                       |
|          |          |          | Mag. S.          | 17 43.2                         | 32           | W.N.W.                    |            |                                   |                      |  |
|          |          |          | Def. N.          | 33 34.6                         | 32           | N.N.E.                    | 1.963      |                                   |                      |  |
|          |          |          | Def. S.          | 31 01.2                         | 32           | N.N.E.                    | 1.966      |                                   |                      |  |
|          |          |          | Mag. N.          | 28 30.9                         | 32           | N.N.E.                    | 1.977      |                                   |                      |  |
|          | -67 35   | 185 18   | Mag. N.S.        | 38 05.3                         | 32           | N.N.E.                    | 1.990      | +006                              | 1.978                | Cross sea, ship unsteady.                  |
|          |          |          | Mag. S.          | 18 05.9                         | 32           | N.N.E.                    |            |                                   |                      |  |
|          |          |          | Def. N.          | 33 30.0                         | 31           | N.E. by E.                | 1.968      |                                   |                      |  |
|          |          |          | Def. S.          | 31 15.6                         | 31           | N.E. by E.                | 1.951      |                                   |                      |  |
|          |          |          | Mag. N.          | 28 29.3                         | 31           | N.E. by E.                | 1.979      |                                   |                      |  |
| 4.       | -67 40   | 187 40   | Mag. N.S.        | 37 54.8                         | 31           | N.E. by E.                | 2.005      | +011                              | 1.981                | Strong gale, heavy sea, ship unsteady.     |
|          |          |          | Mag. S.          | 18 00.1                         | 31           | N.E. by E.                |            |                                   |                      |  |
|          |          |          | wt. 1 gr.        | 11 07.4                         | 31           | N.E. by E.                | 1.986      |                                   |                      |  |
|          |          |          | wt. 1½ gr.       | 17 00.0                         | 31           | N.E. $\frac{1}{2}$ E.     | 1.965      |                                   |                      |  |
|          |          |          | wt. 2 grs.       | 22 48.2                         | 31           | N.E. $\frac{1}{2}$ E.     | 1.993      |                                   |                      |  |
|          | -67 09   | 188 02   | wt. 2½ grs.      | 28 54.6                         | 31           | N.E. $\frac{1}{2}$ E.     | 1.970      | +012                              | 1.955                | Heavy sea from W.S.W., ship very unsteady. |
|          |          |          | wt. 3 grs.       | 35 30.5                         | 31           | N.E. $\frac{1}{2}$ E.     | 1.965      |                                   |                      |  |
|          |          |          | wt. 3½ grs.      | 42 54.1                         | 31           | N.E. $\frac{1}{2}$ E.     | 1.942      |                                   |                      |  |
|          |          |          | Def. N.          | 33 43.9                         | 33           | N. by W.                  | 1.954      |                                   |                      |  |
|          |          |          | Def. S.          | 31 04.0                         | 33           | N. by W.                  | 1.963      |                                   |                      |  |
| 5.       | -65 28   | 191 24   | Mag. N.          | 28 23.5                         | 33           | N. by W.                  | 1.988      | +012                              | 1.955                | Swell from the S.S.W., table steady.       |
|          |          |          | Mag. N.S.        | 37 47.2                         | 33           | N. by W.                  | 2.015      |                                   |                      |  |
|          |          |          | Mag. S.          | 17 59.9                         | 33           | N. by W.                  |            |                                   |                      |  |
|          |          |          | Def. N.          | 33 43.6                         | 35           | N.                        | 1.954      |                                   |                      |  |
|          |          |          | Def. S.          | 31 47.7                         | 35           | N.                        | 1.917      |                                   |                      |  |
|          | -64 49   | 192 21   | Mag. N.          | 28 36.4                         | 35           | N.                        | 1.968      | +012                              | 1.955                | Swell from the S.S.W., table steady.       |
|          |          |          | Mag. N.S.        | 37 57.1                         | 35           | N.                        | 2.003      |                                   |                      |  |
|          |          |          | Mag. S.          | 17 50.3                         | 35           | N.                        |            |                                   |                      |  |
|          |          |          | Def. N.          | 33 56.8                         | 33           | N. by E.                  | 1.940      |                                   |                      |  |
|          |          |          | Def. S.          | 31 20.9                         | 33           | N. by E.                  | 1.945      |                                   |                      |  |
| 6.       | -64 49   | 192 21   | Mag. N.          | 28 44.3                         | 33           | N. by E.                  | 1.956      | +012                              | 1.955                | Swell from the S.S.W., table steady.       |
|          |          |          | Mag. N.S.        | 38 07.4                         | 33           | N. by E.                  | 1.988      |                                   |                      |  |
|          |          |          | Mag. S.          | 18 29.3                         | 33           | N. by E.                  |            |                                   |                      |  |
|          |          |          | wt. 1 gr.        | 11 29.7                         | 33           | N. by E. $\frac{1}{2}$ E. | 1.920      |                                   |                      |  |
|          |          |          | wt. 1½ gr.       | 17 20.6                         | 33           | N. by E. $\frac{1}{2}$ E. | 1.928      |                                   |                      |  |
|          | -64 49   | 192 21   | wt. 2 grs.       | 23 10.9                         | 33           | N. by E. $\frac{1}{2}$ E. | 1.963      | +012                              | 1.955                | Swell from the S.S.W., table steady.       |
|          |          |          |                  |                                 |              |                           |            |                                   |                      |  |
|          |          |          |                  |                                 |              |                           |            |                                   |                      |  |
|          |          |          |                  |                                 |              |                           |            |                                   |                      |  |
|          |          |          |                  |                                 |              |                           |            |                                   |                      |  |

## Observations of the Magnetic Force. (Continued.)

| 1842.   | Lat.   | Long.  | Method employed. | Angle of deflection. Face east. | Temperature. | Ship's head.  | Intensity. | Correction for ship's attraction. | Corrected Intensity. | Remarks.                                    |
|---------|--------|--------|------------------|---------------------------------|--------------|---------------|------------|-----------------------------------|----------------------|---|
| Mar. 6. | -64 49 | 192 21 | wt. 2½ grs.      | 29 34.9                         | 33           | N. by E. ½ E. | 1.930      | } +.012                           | 1.955                | Swell from the S.S.W., table steady.        |
|         |        |        | wt. 3 grs.       | 36 02.8                         | 33           | N. by E. ½ E. | 1.940      |                                   |                      |   |
|         |        |        | wt. 3½ grs.      | 43 37.5                         | 33           | N. by E. ½ E. | 1.917      |                                   |                      |   |
| 7.      | -63 30 | 194 15 | Def. N.          | 34 42.3                         | 33           | N. by E.      | 1.895      | } +.012                           | 1.942                | Table steady.                               |
|         |        |        | Def. S.          | 31 50.8                         | 33           | N. by E.      | 1.914      |                                   |                      |   |
|         |        |        | Mag. N.          | 29 04.3                         | 33           | N. by E.      | 1.926      |                                   |                      |   |
|         |        |        | Mag. N.S.        | 38 11.2                         | 33           | N. by E.      | 1.983      |                                   |                      |   |
| 8.      | -62 17 | 195 55 | Mag. S.          | 18 24.5                         | 33           | N. by E.      | 1.889      | } +.014                           | 1.916                | Table steady.                               |
|         |        |        | Def. N.          | 34 47.8                         | 35           | N. by E.      | 1.889      |                                   |                      |   |
|         |        |        | Def. S.          | 32 05.4                         | 35           | N. by E.      | 1.900      |                                   |                      |   |
|         |        |        | Mag. N.          | 29 00.5                         | 35           | N. by E.      | 1.931      |                                   |                      |   |
|         |        |        | Mag. N.S.        | 38 35.2                         | 35           | N. by E.      | 1.950      |                                   |                      |   |
|         |        |        | Mag. S.          | 18 46.6                         | 35           | N. by E.      | 1.875      |                                   |                      |   |
|         |        |        | wt. 1 gr.        | 11 47.0                         | 35           | N. by E.      | 1.857      |                                   |                      |   |
|         |        |        | wt. 1½ gr.       | 18 01.9                         | 35           | N. by E.      | 1.916      |                                   |                      |   |
|         |        |        | wt. 2 grs.       | 23 47.3                         | 35           | N. by E.      | 1.902      |                                   |                      |   |
|         |        |        | wt. 2½ grs.      | 30 03.9                         | 35           | N. by E.      | 1.894      |                                   |                      |   |
|         |        |        | wt. 3 grs.       | 37 04.3                         | 35           | N. by E.      | 1.870      |                                   |                      |   |
|         |        |        | wt. 3½ grs.      | 45 00.2                         | 35           | N. by E.      | 1.887      |                                   |                      |   |
| 9.      | -61 06 | 198 08 | Def. N.          | 34 50.2                         | 35           | N.E. ½ N.     | 1.901      | } +.013                           | 1.920                | Sea getting up, unsteady.                   |
|         |        |        | Def. S.          | 32 03.8                         | 35           | N.E. ½ N.     | 1.910      |                                   |                      |   |
|         |        |        | Mag. N.          | 29 15.0                         | 35           | N.E. ½ N.     | 1.950      |                                   |                      |   |
|         |        |        | Mag. N.S.        | 38 35.4                         | 35           | N.E. ½ N.     | 1.891      |                                   |                      |   |
| 10.     | -60 19 | 203 42 | Mag. S.          | 18 55.7                         | 35           | N.E. ½ N.     | 1.899      | } +.010                           | 1.907                | Ship unsteady.                              |
|         |        |        | Def. N.          | 34 45.6                         | 34           | E.N.E.        | 1.910      |                                   |                      |   |
|         |        |        | Def. S.          | 32 05.7                         | 34           | E.N.E.        | 1.942      |                                   |                      |   |
|         |        |        | Mag. N.          | 29 15.1                         | 34           | E.N.E.        | 1.872      |                                   |                      |   |
| 11.     | -60 15 | 208 06 | Mag. N.S.        | 38 40.9                         | 34           | E.N.E.        | 1.906      | } +.007                           | 1.910                | Strong gale, heavy sea, ship very unsteady. |
|         |        |        | Mag. S.          | 19 00.8                         | 34           | E. by N.      | 1.926      |                                   |                      |   |
|         |        |        | Def. N.          | 35 04.8                         | 35           | E. by N.      | 1.935      |                                   |                      |   |
|         |        |        | Def. S.          | 31 58.7                         | 35           | E. by N.      | 1.873      |                                   |                      |   |
| 12.     | -60 16 | 211 45 | Mag. N.          | 29 04.3                         | 35           | E. by N.      | 1.897      | } +.015                           | 1.900                | Heavy swell from S.W., unsteady.            |
|         |        |        | Mag. N.S.        | 38 46.5                         | 35           | E. by N.      | 1.894      |                                   |                      |   |
|         |        |        | Mag. S.          | 18 53.1                         | 35           | E. by N.      | 1.897      |                                   |                      |   |
|         |        |        | Def. N.          | 35 04.2                         | 35           | E. by N.      | 1.877      |                                   |                      |   |
| 13.     | -59 53 | 216 28 | Def. S.          | 32 08.0                         | 35           | E. by N.      | 1.893      | } +.015                           | 1.913                | Heavy swell, steering badly.                |
|         |        |        | Mag. N.          | 29 25.5                         | 35           | E. by N.      | 1.898      |                                   |                      |   |
|         |        |        | Mag. N.S.        | 39 14.9                         | 35           | E. by N.      | 1.914      |                                   |                      |   |
|         |        |        | Mag. S.          | 18 53.3                         | 35           | N.E. ½ E.     | 1.870      |                                   |                      |   |
| 14.     | -59 22 | 218 14 | Def. N.          | 35 00.2                         | 36           | N.E. ½ E.     | 1.871      | } +.015                           | 1.907                | Heavy swell, very unsteady, steering badly. |
|         |        |        | Def. S.          | 32 11.9                         | 36           | N.E. ½ E.     | 1.879      |                                   |                      |   |
|         |        |        | Mag. N.          | 29 23.2                         | 36           | N.E. ½ E.     | 1.922      |                                   |                      |   |
|         |        |        | Mag. N.S.        | 39 02.3                         | 36           | N.E. ½ E.     | 1.862      |                                   |                      |   |
| 15.     | -58 49 | 221 25 | Mag. S.          | 18 59.1                         | 36           | N.E. ½ E.     | 1.927      | } +.011                           | 1.913                | Heavy swell, steering badly.                |
|         |        |        | Def. N.          | 35 07.5                         | 37           | N.E. ½ E.     | 1.917      |                                   |                      |   |
|         |        |        | Def. S.          | 32 32.6                         | 37           | N.E. ½ E.     | 1.902      |                                   |                      |   |
|         |        |        | Mag. N.          | 29 36.2                         | 37           | N.E. ½ E.     | 1.862      |                                   |                      |   |
|         |        |        | Mag. N.S.        | 38 56.5                         | 37           | N.E. ½ E.     | 1.927      |                                   |                      |   |
|         |        |        | Mag. S.          | 19 00.9                         | 37           | N.E. ½ E.     | 1.917      |                                   |                      |   |
|         |        |        | Def. N.          | 35 14.8                         | 37           | E.N.E.        | 1.902      |                                   |                      |   |
|         |        |        | Def. S.          | 31 38.8                         | 37           | E.N.E.        | 1.927      |                                   |                      |   |
|         |        |        | Mag. N.          | 29 10.9                         | 37           | E.N.E.        | 1.917      |                                   |                      |   |
|         |        |        | Mag. N.S.        | 39 11.3                         | 37           | E.N.E.        | 1.902      |                                   |                      |   |
|         |        |        | Mag. S.          | 19 05.6                         | 37           | E.N.E.        | 1.902      |                                   |                      |   |

## Observations of the Magnetic Force. (Continued.)

| 1842.    | Lat.   | Long.  | Method employed.        | Angle of deflection. Face east. | Temperature. | Ship's head.              | Intensity. | Correction for ship's attraction. | Corrected Intensity. | Remarks.                                  |
|----------|--------|--------|-------------------------|---------------------------------|--------------|---------------------------|------------|-----------------------------------|----------------------|---|
| Mar. 16. | —59 01 | 227 43 | Def. N.                 | 34 39.9                         | 39           | E.                        | 1.897      | +003                              | 1.897                | Heavyswell, steering badly.               |
|          |        |        | Def. S.                 | 32 14.2                         | 39           | E.                        | 1.891      |                                   |                      |   |
|          |        |        | Mag. N.                 | 29 30.9                         | 39           | E.                        | 1.887      |                                   |                      |   |
|          |        |        | Mag. N.S.               | 39 10.7                         | 39           | E.                        | 1.903      |                                   |                      |   |
| 18.      | —60 05 | 235 56 | Mag. S.                 | 18 51.8                         | 39           | E.                        |            | -000                              | 1.884                | Heavy sea from S.W. by W., ship unsteady. |
|          |        |        | Def. N.                 | 35 07.2                         | 38           | E. by S.                  | 1.870      |                                   |                      |   |
|          |        |        | Def. S.                 | 32 36.0                         | 38           | E. by S.                  | 1.868      |                                   |                      |   |
|          |        |        | Mag. N.                 | 29 27.6                         | 38           | E. by S.                  | 1.892      |                                   |                      |   |
|          | —60 17 | 236 38 | Mag. N.S.               | 39 08.7                         | 38           | E. by S.                  | 1.904      | +003                              | 1.892                | The ship more steady.                     |
|          |        |        | Mag. S.                 | 18 50.6                         | 38           | E. by S.                  |            |                                   |                      |   |
|          |        |        | Def. N.                 | 35 02.5                         | 38           | E.                        | 1.875      |                                   |                      |   |
|          |        |        | Def. S.                 | 32 29.4                         | 38           | E.                        | 1.875      |                                   |                      |   |
|          | —60 24 | 237 29 | Mag. N.                 | 29 25.4                         | 38           | E.                        | 1.896      | +007                              | 1.907                | Ship steady.                              |
|          |        |        | Mag. N.S.               | 39 04.2                         | 38           | E.                        | 1.911      |                                   |                      |   |
|          |        |        | Mag. S.                 | 18 45.3                         | 38           | E.                        |            |                                   |                      |   |
|          |        |        | Def. N.                 | 35 05.5                         | 38           | E. by N.                  | 1.872      |                                   |                      |   |
| 21.      | —59 05 | 247 27 | Def. S.                 | 32 07.2                         | 38           | E. by N.                  | 1.898      | +007                              | 1.875                | Cross sea, motion gentle.                 |
|          |        |        | Mag. N.                 | 29 06.3                         | 38           | E. by N.                  | 1.923      |                                   |                      |   |
|          |        |        | Mag. N.S.               | 39 05.9                         | 38           | E. by N.                  | 1.909      |                                   |                      |   |
|          |        |        | Mag. S.                 | 18 23.6                         | 38           | E. by N.                  |            |                                   |                      |   |
|          | —58 26 | 251 42 | Def. N.                 | 35 50.2                         | 38           | E. by N.                  | 1.830      | +007                              | 1.885                | Cross sea, ship unsteady.                 |
|          |        |        | Def. S.                 | 32 49.7                         | 38           | E. by N.                  | 1.853      |                                   |                      |   |
|          |        |        | Mag. N.                 | 29 27.6                         | 38           | E. by N.                  | 1.892      |                                   |                      |   |
|          |        |        | Mag. N.S.               | 39 13.5                         | 38           | E. by N.                  | 1.898      |                                   |                      |   |
| 22.      | —58 26 | 251 42 | Mag. S.                 | 19 10.0                         | 38           | E. by N.                  |            | +007                              | 1.885                | Cross sea, ship unsteady.                 |
|          |        |        | Def. N.                 | 35 29.5                         | 38           | E. by N.                  | 1.848      |                                   |                      |   |
|          |        |        | Def. S.                 | 32 41.7                         | 38           | E. by N.                  | 1.862      |                                   |                      |   |
|          |        |        | Mag. N.                 | 29 27.9                         | 38           | E. by N.                  | 1.891      |                                   |                      |   |
|          | —58 33 | 254 45 | Mag. N.S.               | 39 05.7                         | 38           | E. by N.                  | 1.909      | +006                              | 1.824                | Little motion.                            |
|          |        |        | Mag. S.                 | 19 23.5                         | 38           | E. by N.                  |            |                                   |                      |   |
|          |        |        | wt. 1 gr.               | 12 12.4                         | 33           | E. $\frac{1}{2}$ N.       | 1.812      |                                   |                      |   |
|          |        |        | wt. $1\frac{1}{2}$ gr.  | 18 20.0                         | 33           | E. $\frac{1}{2}$ N.       | 1.828      |                                   |                      |   |
|          |        |        | wt. 2 grs.              | 25 22.7                         | 33           | E. $\frac{1}{2}$ N.       | 1.803      | +010                              | 1.832                | Little motion; overcast and damp.         |
|          |        |        | wt. $2\frac{1}{2}$ grs. | 31 29.0                         | 33           | E. $\frac{1}{2}$ N.       | 1.825      |                                   |                      |   |
|          |        |        | wt. 3 grs.              | 39 04.8                         | 33           | E. $\frac{1}{2}$ N.       | 1.812      |                                   |                      |   |
|          |        |        | wt. $3\frac{1}{2}$ grs. | 47 40.6                         | 33           | E. $\frac{1}{2}$ N.       | 1.780      |                                   |                      |   |
|          | —58 40 | 257 32 | Def. N.                 | 36 13.8                         | 33           | E. $\frac{1}{2}$ N.       | 1.806      | +012                              | 1.783                | Motion gentle.                            |
|          |        |        | Def. S.                 | 33 24.9                         | 33           | E. $\frac{1}{2}$ N.       | 1.818      |                                   |                      |   |
|          |        |        | Mag. N.                 | 29 55.5                         | 33           | E. $\frac{1}{2}$ N.       | 1.850      |                                   |                      |   |
|          |        |        | Mag. N.S.               | 39 49.9                         | 33           | E. $\frac{1}{2}$ N.       | 1.851      |                                   |                      |   |
|          | —58 53 | 258 55 | Mag. S.                 | 19 52.7                         | 33           | E. $\frac{1}{2}$ N.       |            | +010                              | 1.832                | Little motion; overcast and damp.         |
|          |        |        | Def. N.                 | 36 09.9                         | 35           | E. by N.                  | 1.810      |                                   |                      |   |
|          |        |        | Def. S.                 | 33 27.9                         | 35           | E. by N.                  | 1.815      |                                   |                      |   |
|          |        |        | Mag. N.                 | 29 47.9                         | 35           | E. by N.                  | 1.862      |                                   |                      |   |
|          | —58 59 | 267 50 | Mag. N.S.               | 39 36.0                         | 35           | E. by N.                  | 1.869      | +012                              | 1.783                | Motion gentle.                            |
|          |        |        | Mag. S.                 | 19 56.5                         | 35           | E. by N.                  |            |                                   |                      |   |
|          |        |        | wt. 1 gr.               | 12 30.1                         | 35           | E. by N.                  | 1.770      |                                   |                      |   |
|          |        |        | wt. $1\frac{1}{2}$ gr.  | 18 17.1                         | 35           | E. by N.                  | 1.837      |                                   |                      |   |
|          |        |        | wt. 2 grs.              | 25 22.4                         | 35           | E. by N.                  | 1.803      | +012                              | 1.783                | Motion gentle.                            |
|          |        |        | wt. $2\frac{1}{2}$ grs. | 31 46.5                         | 35           | E. by N.                  | 1.810      |                                   |                      |   |
|          |        |        | Def. N.                 | 36 48.2                         | 45           | E. by N. $\frac{1}{2}$ N. | 1.773      |                                   |                      |   |
|          |        |        | Def. S.                 | 34 31.2                         | 45           | E. by N. $\frac{1}{2}$ N. | 1.753      |                                   |                      |   |
|          |        |        | Mag. N.                 | 30 53.2                         | 45           | E. by N. $\frac{1}{2}$ N. | 1.771      | +012                              | 1.783                | Motion gentle.                            |
|          |        |        | Mag. N.S.               | 40 39.9                         | 45           | E. by N. $\frac{1}{2}$ N. | 1.786      |                                   |                      |   |
|          |        |        | Mag. S.                 | 20 37.6                         | 45           | E. by N. $\frac{1}{2}$ N. |            |                                   |                      |   |

## Observations of the Magnetic Force. (Continued.)

| 1842.    | Lat.   | Long.  | Method employed. | Angle of deflection. Face east. | Temperature. | Ship's head. | Intensity. | Correction for ship's attraction. | Corrected Intensity. | Remarks.  |
|----------|--------|--------|------------------|---------------------------------|--------------|--------------|------------|-----------------------------------|----------------------|---|
| Mar. 27. | -59 01 | 272 06 | Def. N.          | 37 29.4                         | 36           | E.N.E.       | 1.734      | +013                              | 1.747                | Ship unsteady.  |
|          |        |        | Def. S.          | 35 37.2                         | 36           | E.N.E.       | 1.687      |                                   |                      |   |
|          |        |        | Mag. N.          | 31 21.2                         | 36           | E.N.E.       | 1.734      |                                   |                      |   |
|          |        |        | Mag. N.S.        | 40 47.4                         | 36           | E.N.E.       | 1.780      |                                   |                      |   |
|          |        |        | Mag. S.          | 20 48.3                         | 36           | E.N.E.       |            |                                   |                      |   |
| 28.      | -58 24 | 276 18 | Def. N.          | 38 14.0                         | 39           | N.E. by E.   | 1.690      | +016                              | 1.722                | Swell from S.W., slight motion.   |
|          |        |        | Def. S.          | 35 38.0                         | 39           | N.E. by E.   | 1.686      |                                   |                      |   |
|          |        |        | Mag. N.          | 31 57.2                         | 39           | N.E. by E.   | 1.684      |                                   |                      |   |
|          |        |        | Mag. N.S.        | 40 59.0                         | 39           | N.E. by E.   | 1.763      |                                   |                      |   |
|          |        |        | Mag. S.          | 20 51.8                         | 39           | N.E. by E.   |            |                                   |                      |   |
| 29.      | -58 25 | 279 44 | wt. 1 gr.        | 13 14.6                         | 45           | N.E. by E.   | 1.676      | +017                              | 1.672                | Slight motion.<br>Needle very unsteady (omitted in the mean).<br>Slight motion. |
|          |        |        | wt. 1½ gr.       | 20 00.5                         | 45           | N.E. by E.   | 1.684      |                                   |                      |   |
|          |        |        | wt. 2 grs.       | 28 08.5                         | 45           | N.E. by E.   | 1.642      |                                   |                      |   |
|          |        |        | wt. 2½ grs.      | 36 37.1                         | 45           | N.E. by E.   | 1.601      |                                   |                      |   |
|          |        |        | Def. N.          | 38 49.8                         | 45           | N.E. by E.   | 1.656      |                                   |                      |   |
|          |        |        | Def. S.          | 36 09.1                         | 45           | N.E. by E.   | 1.658      |                                   |                      |   |
|          |        |        | Mag. N.          | 32 21.1                         | 45           | N.E. by E.   | 1.651      |                                   |                      |   |
|          |        |        | Mag. N.S.        | 41 45.0                         | 45           | N.E. by E.   | 1.705      |                                   |                      |   |
|          |        |        | Mag. S.          | 21 53.0                         | 45           | N.E. by E.   |            |                                   |                      |   |
|          |        |        | Def. N.          | 38 25.5                         | 40           | E.N.E.       | 1.680      |                                   |                      |   |
| 30.      | -58 31 | 281 33 | Def. S.          | 36 04.1                         | 40           | E.N.E.       | 1.661      | +015                              |                      |   |
|          |        |        | Mag. N.          | 32 15.8                         | 40           | E.N.E.       | 1.658      |                                   |                      |   |
|          |        |        | Mag. N.S.        | 41 37.5                         | 40           | E.N.E.       | 1.714      |                                   |                      |   |
|          |        |        | Mag. S.          | 21 26.3                         | 40           | E.N.E.       |            |                                   |                      |   |
|          |        |        | Def. N.          | 39 35.3                         | 44           | N.E.         | 1.611      |                                   |                      |   |
| 31.      | -58 36 | 285 33 | Def. S.          | 36 46.6                         | 44           | N.E.         | 1.619      | +021                              | 1.648                | Slight motion.  |
|          |        |        | Mag. N.          | 32 48.3                         | 44           | N.E.         | 1.613      |                                   |                      |   |
|          |        |        | Mag. N.S.        | 42 15.6                         | 44           | N.E.         | 1.664      |                                   |                      |   |
|          |        |        | Mag. S.          | 22 13.4                         | 44           | N.E.         |            |                                   |                      |   |
|          |        |        | Def. N.          | 40 12.8                         | 47           | N.E. by N.   | 1.573      |                                   |                      |   |
| Apr. 1.  | -57 21 | 289 36 | Def. S.          | 36 33.8                         | 47           | N.E. by N.   | 1.632      | +024                              | 1.592                | Strong breeze, ship unsteady, steering wild.                                    |
|          |        |        | Mag. N.          | 33 28.9                         | 47           | N.E. by N.   | 1.554      |                                   |                      |   |
|          |        |        | Mag. N.S.        | 42 50.4                         | 47           | N.E. by N.   | 1.622      |                                   |                      |   |
|          |        |        | Mag. S.          | 22 29.8                         | 47           | N.E. by N.   |            |                                   |                      |   |
|          |        |        | Def. N.          | 40 13.1                         | 44           | S.E.         | 1.573      |                                   |                      |   |
| 2.       | -57 26 | 291 32 | Def. S.          | 37 44.6                         | 44           | S.E.         | 1.561      | -017                              | 1.592                | Heavy sea, ship unsteady.   |
|          |        |        | Mag. N.          | 33 23.9                         | 44           | S.E.         | 1.562      |                                   |                      |   |
|          |        |        | Mag. N.S.        | 42 47.3                         | 44           | S.E.         | 1.627      |                                   |                      |   |
|          |        |        | Mag. S.          | 23 07.7                         | 44           | S.E.         |            |                                   |                      |   |
|          |        |        | Def. N.          | 41 28.4                         | 44           | N.E.         | 1.505      |                                   |                      |   |
| 3.       | -56 37 | 294 34 | Def. S.          | 38 40.8                         | 44           | N.E.         | 1.506      |                                   |                      |   |
|          |        |        | Mag. N.          | 33 47.9                         | 44           | N.E.         | 1.527      |                                   |                      |   |
|          |        |        | Mag. N.S.        | 44 02.5                         | 44           | N.E.         | 1.523      |                                   |                      |   |
|          |        |        | Mag. S.          | 24 06.6                         | 44           | N.E.         |            |                                   |                      |   |
|          |        |        | Def. N.          | 42 33.1                         | 44           | N.E.         | 1.443      |                                   |                      |   |
| 4.       | -54 48 | 297 21 | Def. S.          | 40 06.6                         | 44           | N.E.         | 1.428      | +022                              | 1.495                | Heavy sea, ship unsteady.   |
|          |        |        | Mag. N.          | 35 00.8                         | 44           | N.E.         | 1.420      |                                   |                      |   |
|          |        |        | Mag. N.S.        | 45 01.4                         | 44           | N.E.         | 1.440      |                                   |                      |   |
|          |        |        | Mag. S.          | 25 06.5                         | 44           | N.E.         |            |                                   |                      |   |
|          |        |        | Def. N.          | 44 47.8                         | 44           | N.N.E.       | 1.325      |                                   |                      |   |
| 5.       | -52 40 | 299 52 | Def. S.          | 42 29.0                         | 44           | N.N.E.       | 1.307      |                                   |                      |   |
|          |        |        | Mag. N.          | 36 03.2                         | 44           | N.N.E.       | 1.326      |                                   |                      |   |
|          |        |        | Mag. N.S.        | 46 17.6                         | 44           | N.N.E.       | 1.326      |                                   |                      |   |
|          |        |        | Mag. S.          | 25 40.2                         | 44           | N.N.E.       |            |                                   |                      |   |
|          |        |        | wt. 1 gr.        | 17 23.4                         | 44           | N.N.E.       | 1.284      |                                   |                      |   |
|          |        |        | wt. 1½ gr.       | 26 11.2                         | 44           | N.N.E.       | 1.304      | +025                              | 1.355                | Ship steady.  |



## Observations of the Magnetic Force. (Continued.)

| 1842.                | Lat.     | Long.    | Method employed. | Angle of deflection. Face east. | Temperature. | Ship's head. | Intensity. | Correction for ship's attraction.                                  | Corrected Intensity. | Remarks.           |
|----------------------|----------|----------|------------------|---------------------------------|--------------|--------------|------------|--|----------------------|--------------------|
| Apr. 5.              | -52° 40' | 299° 52' | wt. 2 grs.       | 34° 54.7                        | 44           | N.N.E.       | 1.351      | +0.025   | 1.355                | Ship steady.       |
|                      |          |          | wt. 2½ grs.      | 45 13.0                         | 44           | N.N.E.       | 1.344      |  |                      |                    |
|                      |          |          | wt. 3 grs.       | 54 16.9                         | 44           | N.N.E.       | 1.408      |  |                      |                    |
|                      |          |          | Def. N.          | 44 40.6                         | 44           | N.N.E.       | 1.327      |  |                      |                    |
|                      |          |          | Def. S.          | 42 04.5                         | 44           | N.N.E.       | 1.326      |  |                      |                    |
|                      | -52 28   | 301 42   | Mag. N.          | 36 12.5                         | 44           | N.N.E.       | 1.313      | +0.025   |                      |                    |
|                      |          |          | Mag. N.S.        | 46 43.3                         | 44           | N.N.E.       | 1.290      |  |                      |                    |
|                      |          |          | Mag. S.          | 25 58.0                         | 44           | N.N.E.       |            |  |                      |                    |
|                      |          |          | Def. N.          | 44 52.9                         | 44           | N.N.W. ½ W.  | 1.319      |  |                      | +0.024             |
|                      |          |          | Def. S.          | 42 26.1                         | 44           | N.N.W. ½ W.  | 1.308      |  |                      |                    |
| 6.                   | -51 42   | 301 36   | Mag. N.          | 36 14.5                         | 44           | N.N.W. ½ W.  | 1.309      | +0.024   |                      |                    |
|                      |          |          | Mag. N.S.        | 46 16.5                         | 44           | N.N.W. ½ W.  | 1.332      |  |                      |                    |
|                      |          |          | Mag. S.          | 26 08.0                         | 44           | N.N.W. ½ W.  |            |  |                      |                    |
|                      |          |          | Def. N.          | 44 21.2                         | 44           | W. ½ N.      | 1.346      |  | +0.009               |                    |
|                      |          |          | Def. S.          | 42 02.4                         | 44           | W. ½ N.      | 1.328      |  |                      |                    |
| 9. Falkland Islands. |          |          | Def. N.          | 44 58.5                         | 43           |              | 1.314      | +0.009   |                      |                    |
|                      |          |          | Def. S.          | 41 52.8                         | 43           |              | 1.335      |  |                      |                    |
|                      |          |          | Mag. N.          | 35 57.0                         | 43           |              | 1.336      |  |                      |                    |
|                      |          |          | Mag. N.S.        | 46 13.9                         | 43           |              | 1.335      |  |                      |                    |
|                      |          |          | Mag. S.          | 25 37.0*                        | 43           |              |            |  |                      |                    |
| 10.                  | -51 32   | 301 53   | wt. 1 gr.        | 16 56.5                         | 43           |              | 1.316      | Mean of all the results obtained with weights at Port Louis 1.336. |                      |                    |
|                      |          |          | wt. 1½ gr.       | 25 36.6                         | 43           |              | 1.331      |  |                      |                    |
|                      |          |          | wt. 2 grs.       | 34 47.2                         | 43           |              | 1.356      |  |                      |                    |
|                      |          |          | wt. 2½ grs.      | 45 34.1                         | 43           |              | 1.336      |  |                      |                    |
|                      |          |          | wt. 3 grs.       | 57 39.1                         | 43           |              | 1.353      |  |                      |                    |
|                      | July 25. |          |                  | Def. N.                         | 44 27.0      | 43           |            |  | 1.340                | Observed on shore. |
|                      |          |          |                  | Def. S.                         | 42 00.4      | 43           |            |  | 1.330                |                    |
|                      |          |          |                  | Mag. N.                         | 36 00.0      | 43           |            |  | 1.331                |                    |
|                      |          |          |                  | Mag. N.S.                       | 46 13.2      | 43           |            |  | 1.336                |                    |
|                      |          |          |                  | Mag. S.                         | 25 42.8      | 43           |            |  |                      |                    |
|                      |          |          |                  | wt. 1 gr.                       | 16 51.2      | 43           |            |  | 1.323                |                    |
|                      |          |          |                  | wt. 1½ gr.                      | 25 34.3      | 43           |            |  | 1.333                |                    |
|                      |          |          |                  | wt. 2 grs.                      | 34 47.8      | 43           |            |  | 1.355                |                    |
|                      |          |          |                  | wt. 2½ grs.                     | 45 29.7      | 43           |            |  | 1.338                |                    |
|                      |          |          |                  | wt. 3 grs.                      | 57 48.7†     | 43           |            |  | 1.350                |                    |
| Aug. 15.             |          |          | Def. N.          | 44 29.0                         | 38           |              | 1.339      |  |                      |                    |
|                      |          |          | Def. S.          | 41 58.0                         | 38           |              | 1.332      |  |                      |                    |
|                      |          |          | Mag. N.          | 36 00.9                         | 38           |              | 1.330      |  |                      |                    |
|                      |          |          | Mag. N.S.        | 46 14.8                         | 38           |              | 1.333      |  |                      |                    |
|                      |          |          |                  |                                 |              |              |            |  |                      |                    |

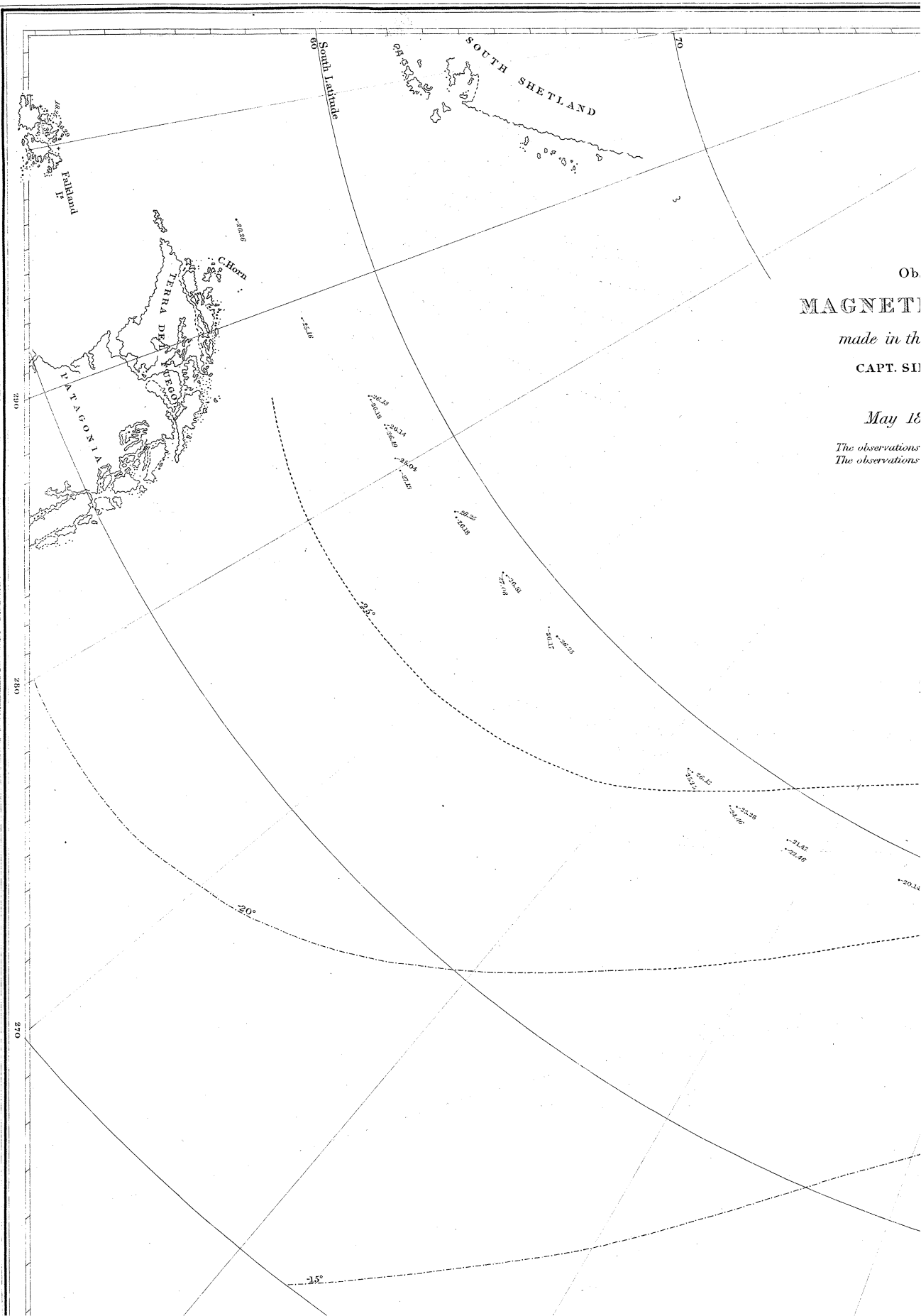
|                                    |             |          |            |
|------------------------------------|-------------|----------|------------|
| * Observed on shore;<br>face west. | wt. 1 gr.   | 16° 14.1 | Intensity. |
|                                    | wt. 1½ gr.  | 24 36.9  | 1.316      |
|                                    | wt. 2 grs.  | 33 44.9  | 1.338      |
|                                    | wt. 2½ grs. | 44 31.3  | 1.342      |
| † Observed on shore;<br>face west. | wt. 3 grs.  | 58 17.8  | 1.334      |
|                                    | wt. 1 gr.   | 16 26.1  | 1.333      |
|                                    | wt. 1½ gr.  | 24 27.9  | 1.301      |
|                                    | wt. 2 grs.  | 33 49.5  | 1.345      |
|                                    | wt. 2½ grs. | 44 17.1  | 1.339      |
|                                    | wt. 3 grs.  | 58 19.5  | 1.339      |

## Observations of the Magnetic Force. (Continued.)

| 1842.    | Lat.                         | Long.  | Method employed. | Angle of deflection. Face east. | Temperature. | Ship's head.       | Intensity. | Correction for ship's attraction. | Corrected Intensity.   | Remarks.                 |
|----------|------------------------------|--|------------------|---------------------------------|--------------|--------------------|------------|-----------------------------------|--|--------------------------|
| Aug. 15. | °                            | °  | Mag. S.          | 25 52.1*                        | 38           | Observed on shore. |            |                                   | Mean of all the results obtained with weights at Port Louis 1.336. | At the Magnetic Station. |
|          |                              |  | wt. 1 gr.        | 17 00.4                         | 38           |                    | 1.311      |                                   |  |                          |
|          |                              |  | wt. 1½ gr.       | 25 37.3                         | 38           |                    | 1.331      |                                   |  |                          |
|          |                              |  | wt. 2 grs.       | 34 24.4                         | 38           |                    | 1.369      |                                   |  |                          |
|          |                              |  | wt. 2½ grs.      | 45 20.1                         | 38           |                    | 1.341      |                                   |  |                          |
|          |                              |  | wt. 3 grs.       | 57 43.6                         | 38           |                    | 1.352      |                                   |  |                          |
| 18.      |                              |  | Def. N.          | 44 27.0                         | 38           |                    | 1.340      |                                   |  |                          |
|          |                              |  | Def. S.          | 41 59.6                         | 38           |                    | 1.330      |                                   |  |                          |
|          |                              |  | Mag. N.          | 35 59.3                         | 38           |                    | 1.332      |                                   |  |                          |
|          |                              |  | Mag. N.S.        | 46 12.2                         | 38           |                    | 1.338      |                                   |  |                          |
| Aug. 15. | At anchor in Berkeley Sound. | To obtain corrections for the ship's attraction. | Mag. S.          | 25 43.8                         | 38           |                    |            |                                   |  |                          |
|          |                              |  | Def. N.          | 44 59.4                         | 40           | E. ½ S.            | 1.313      | +0.007                            | 1.320  |                          |
|          |                              |  | Def. N.          | 44 32.3                         | 40           | E.                 | 1.336      | +0.009                            | 1.345  |                          |
|          |                              |  | Def. N.          | 44 10.0                         | 40           | E.S.E.             | 1.355      | -0.003                            | 1.352  |                          |
|          |                              |  | Def. N.          | 43 52.8                         | 40           | S.E.               | 1.370      | -0.014                            | 1.356  |                          |
|          |                              |  | Def. N.          | 43 55.3                         | 40           | S.S.E.             | 1.368      | -0.023                            | 1.345  |                          |
|          |                              |  | Def. N.          | 43 52.3                         | 40           | S.                 | 1.370      | -0.024                            | 1.346  |                          |
|          |                              |  | Def. N.          | 43 57.8                         | 40           | S.S.W.             | 1.366      | -0.023                            | 1.343  |                          |
|          |                              |  | Def. N.          | 44 05.9                         | 40           | S.W.               | 1.359      | -0.014                            | 1.345  |                          |
|          |                              |  | Def. N.          | 44 22.3                         | 40           | W.S.W.             | 1.345      | -0.003                            | 1.342  | 1.342                    |
|          |                              |  | Def. N.          | 44 47.5                         | 40           | W.                 | 1.324      | +0.009                            | 1.333  |                          |
|          |                              |  | Def. N.          | 45 06.1                         | 40           | W.N.W.             | 1.308      | +0.017                            | 1.325  |                          |
|          |                              |  | Def. N.          | 45 01.7                         | 40           | N.W.               | 1.312      | +0.023                            | 1.335  |                          |
|          |                              |  | Def. N.          | 44 59.7                         | 40           | N.N.W.             | 1.313      | +0.025                            | 1.338  |                          |
|          |                              |  | Def. N.          | 44 52.2                         | 40           | N.                 | 1.320      | +0.026                            | 1.346  |                          |
|          |                              |  | Def. N.          | 44 57.2                         | 40           | N.N.E.             | 1.315      | +0.025                            | 1.340  |                          |
|          |                              |  | Def. N.          | 44 59.0                         | 40           | N.E.               | 1.314      | +0.023                            | 1.337  |                          |
|          |                              |  | Def. N.          | 44 32.5                         | 40           | E.N.E.             | 1.336      | +0.017                            | 1.353  |                          |

\* Observed on shore;  
face west.

|             |         |            |       |
|-------------|---------|------------|-------|
| wt. 1 gr.   | 16 15.4 | Intensity. | 1.315 |
| wt. 1½ gr.  | 24 30.1 |            | 1.344 |
| wt. 2 grs.  | 33 57.8 |            | 1.335 |
| wt. 2½ grs. | 44 32.3 |            | 1.333 |
| wt. 3 grs.  | 57 35.7 |            | 1.344 |



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MAGNETIC DECLINATION

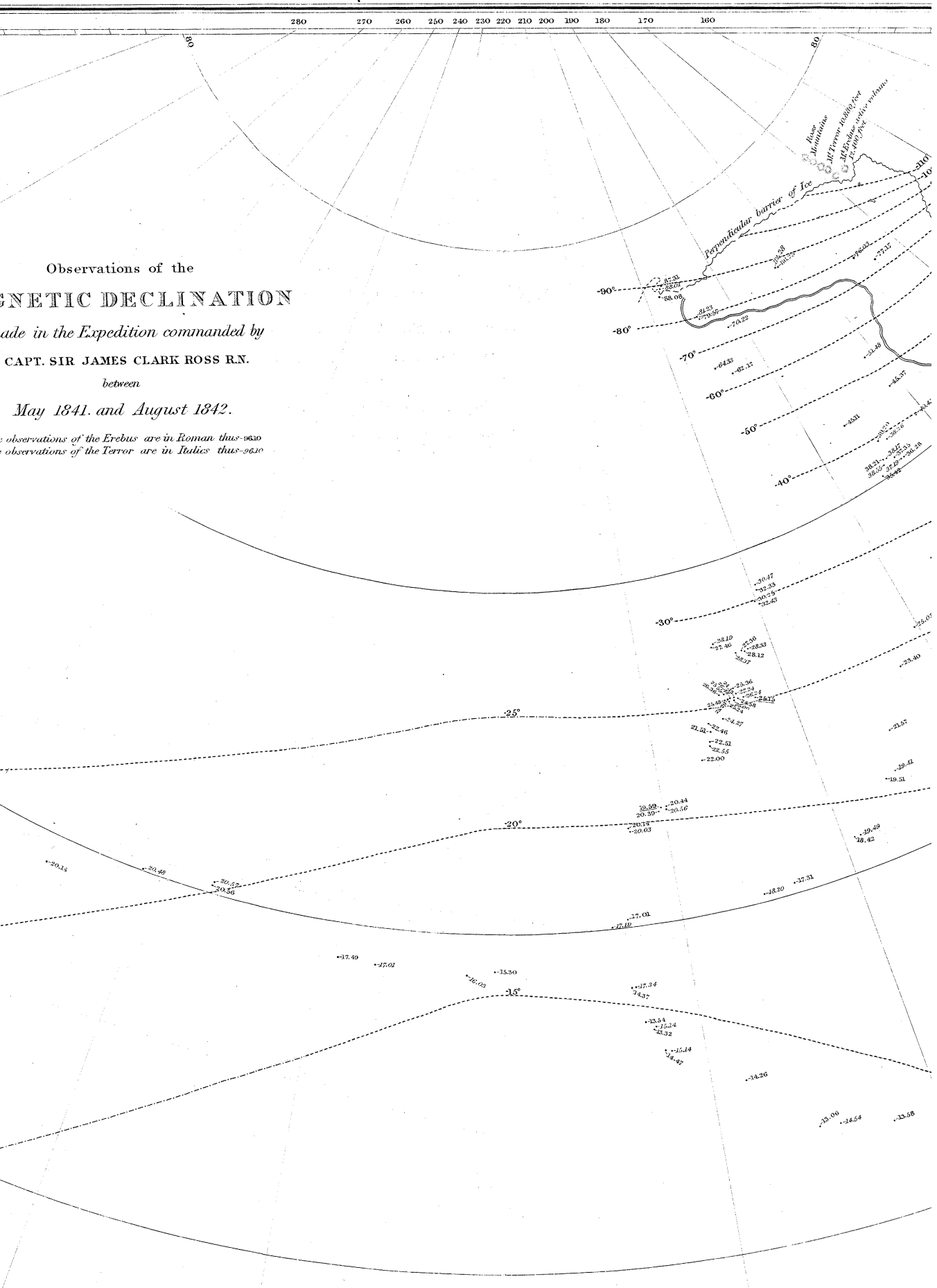
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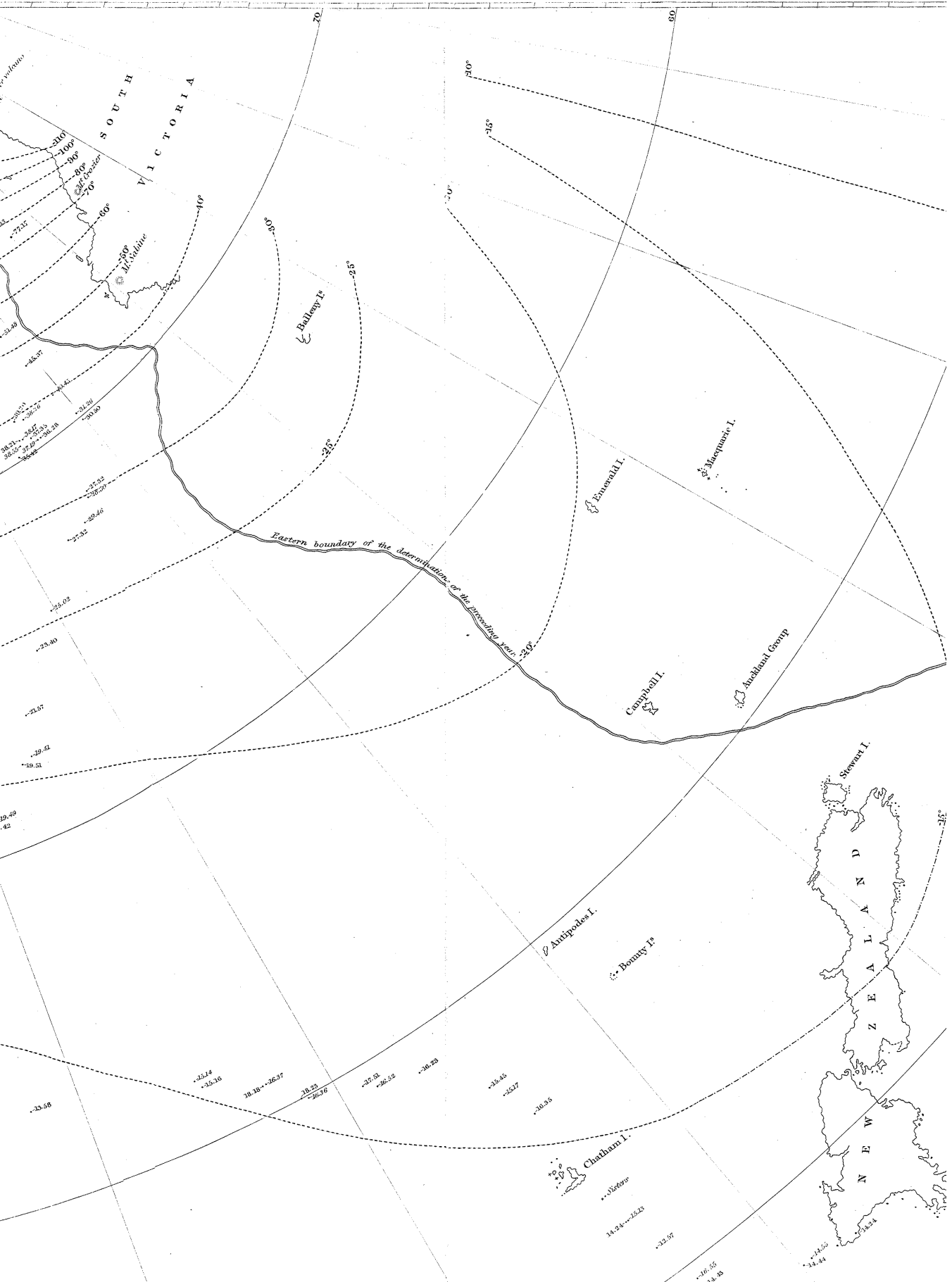
CAPT. SIR JAMES CLARK ROSS R.N.

between

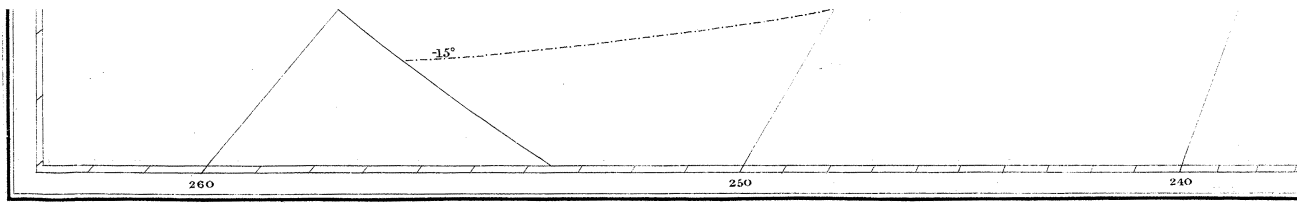
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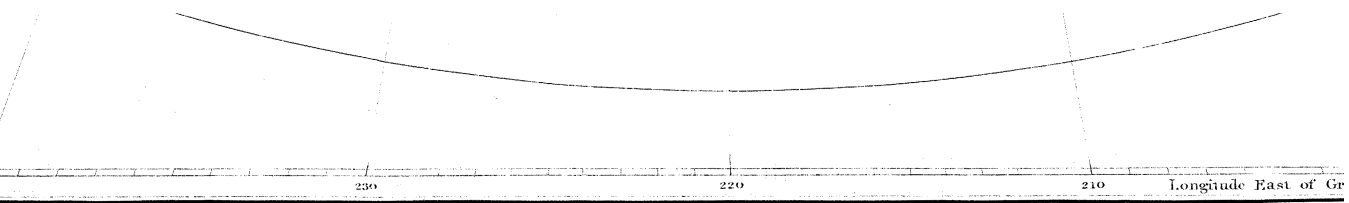
the observations of the Erebus are in Roman thus -9630  
the observations of the Terror are in Italics thus -9630



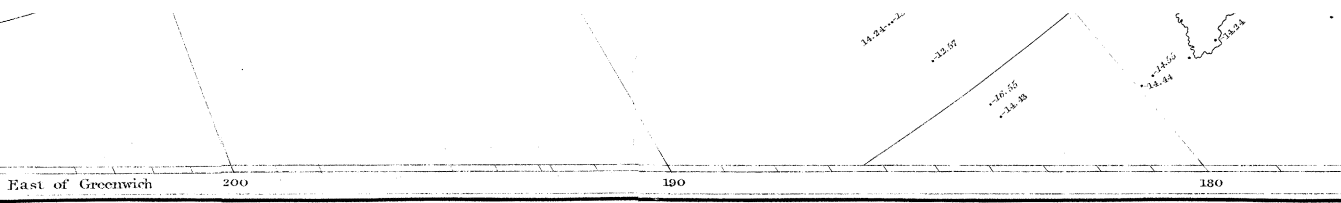






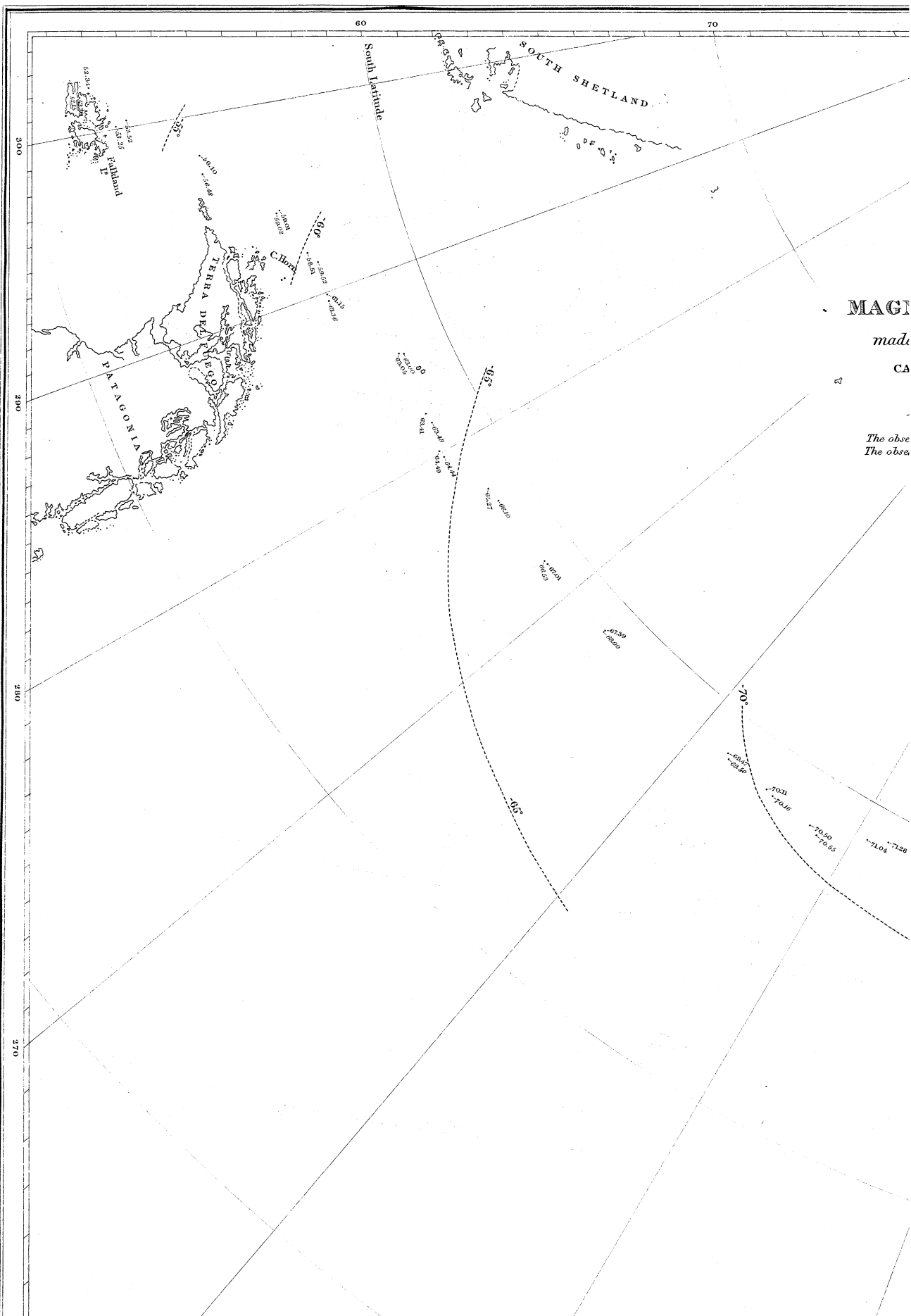








J.&C. Walling Sculpt.



Observations of the  
**MAGNETIC INCLINATION**

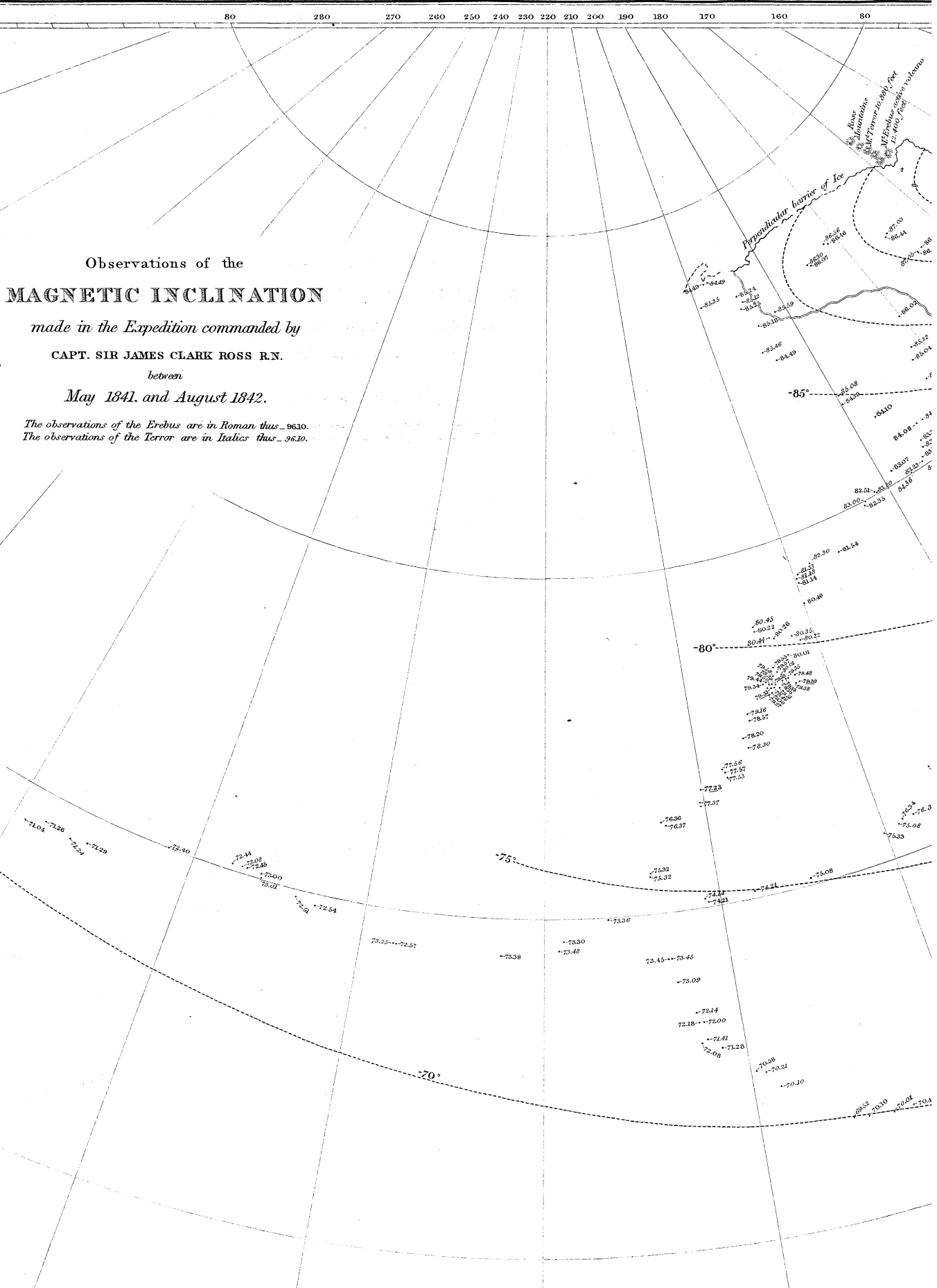
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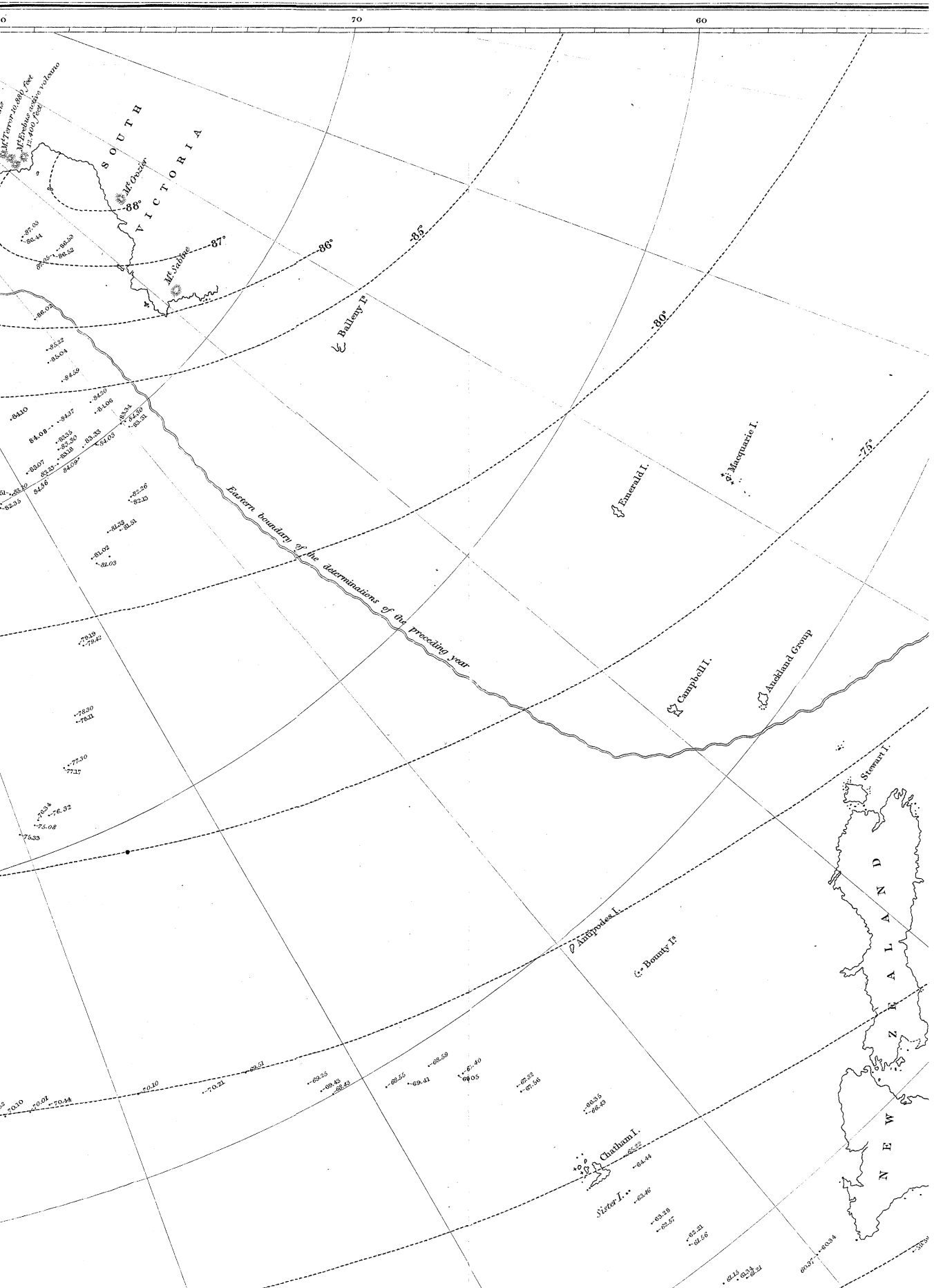
CAPT. SIR JAMES CLARK ROSS R.N.

between

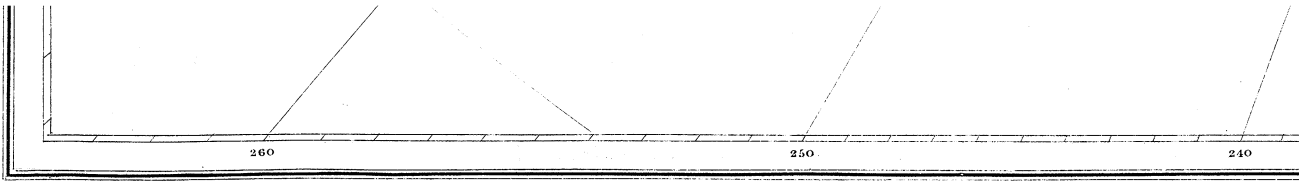
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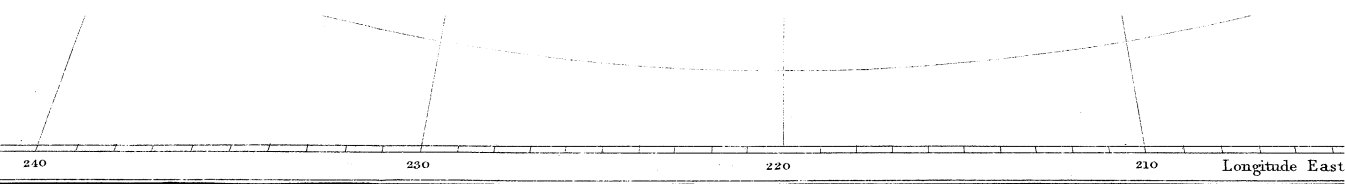
The observations of the Erebus are in Roman thus \_9630.  
 The observations of the Terror are in Italics thus \_9630.



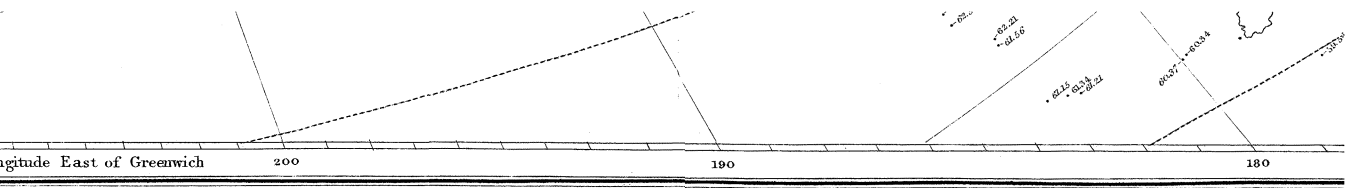


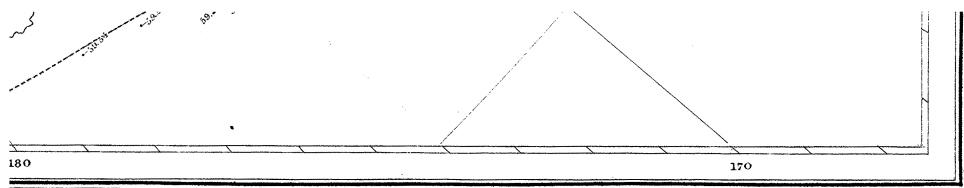




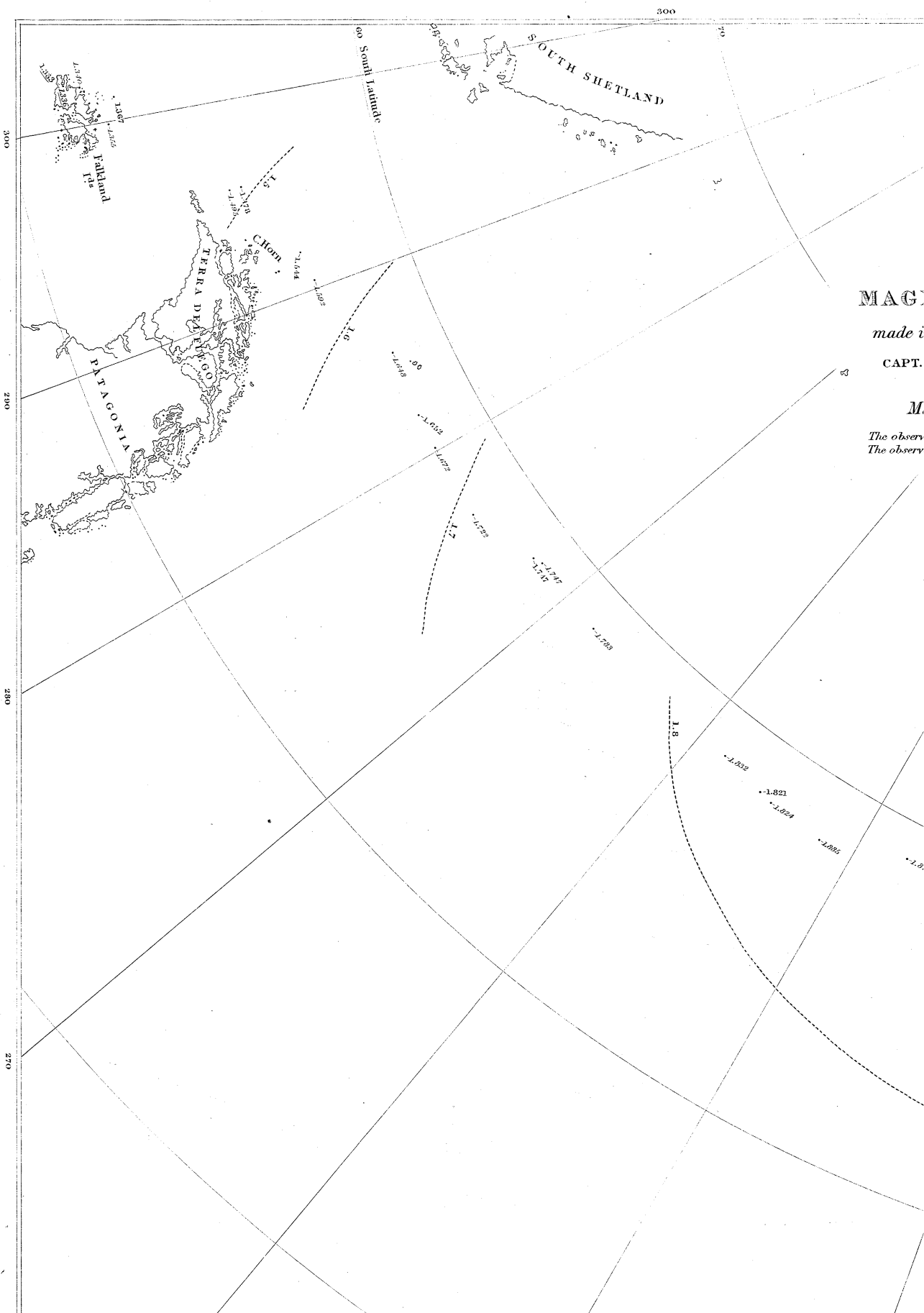








J. & C. Walker Sculp.<sup>t</sup>



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Observations of the  
**MAGNETIC INTENSITY**

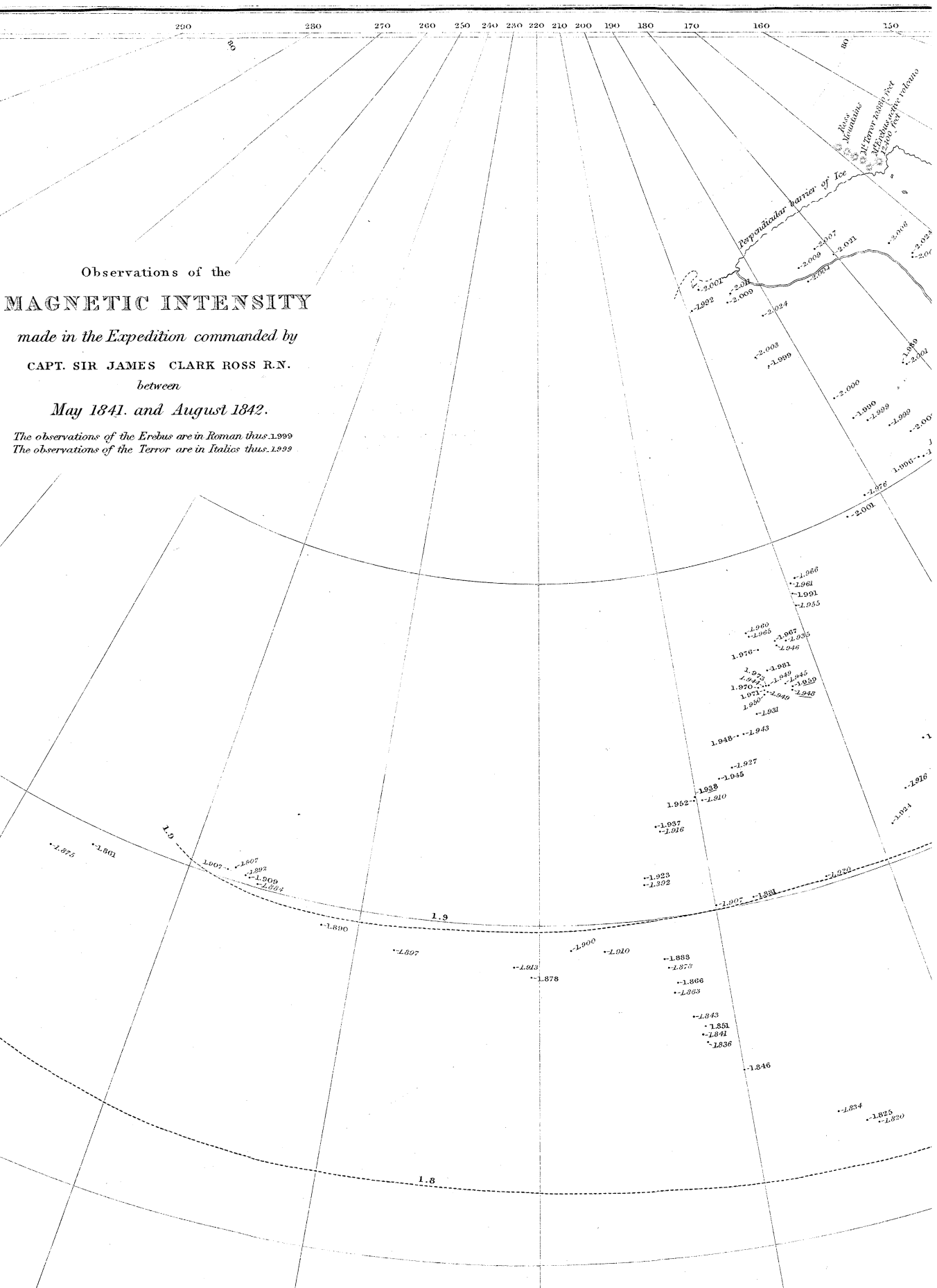
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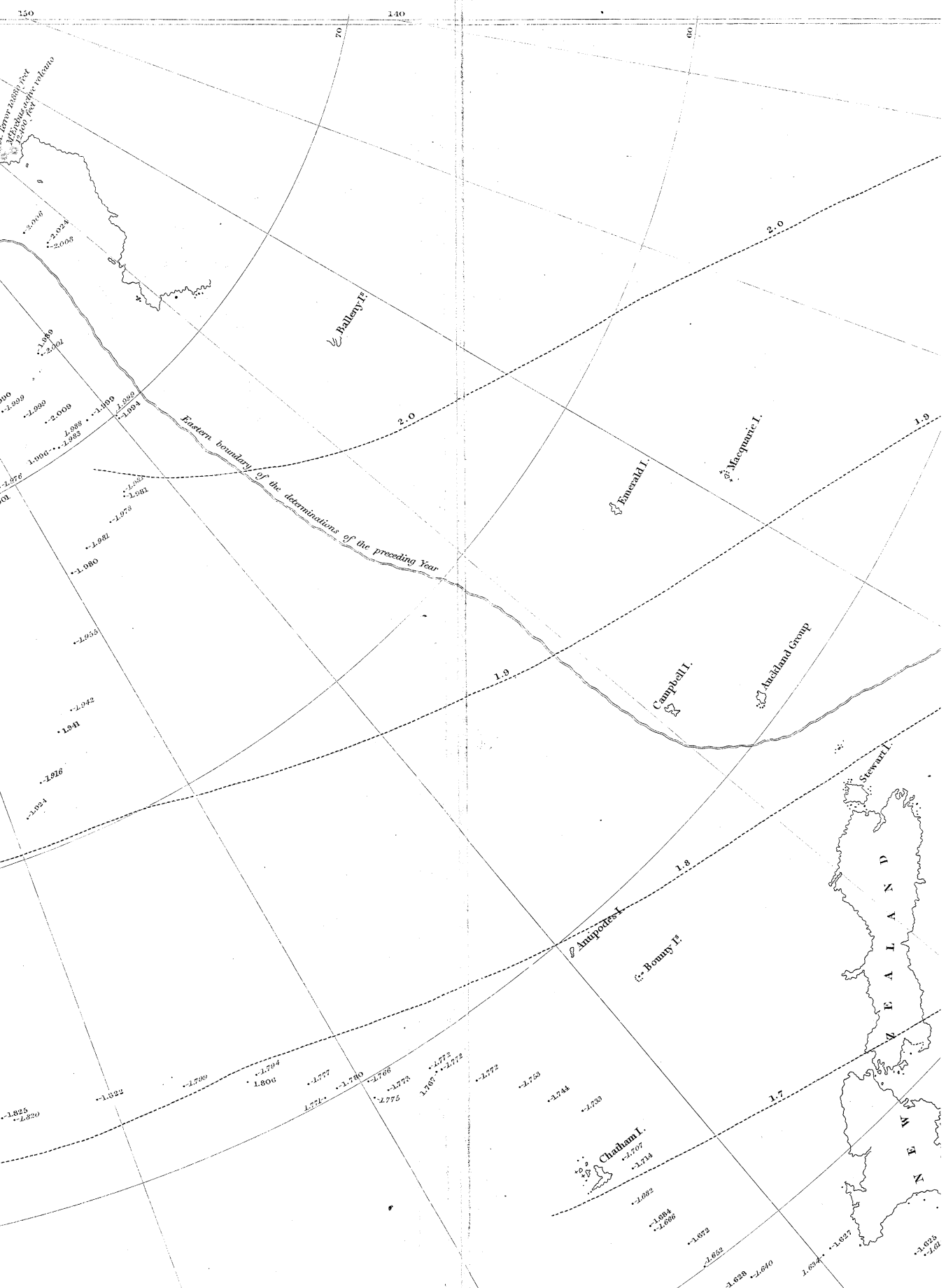
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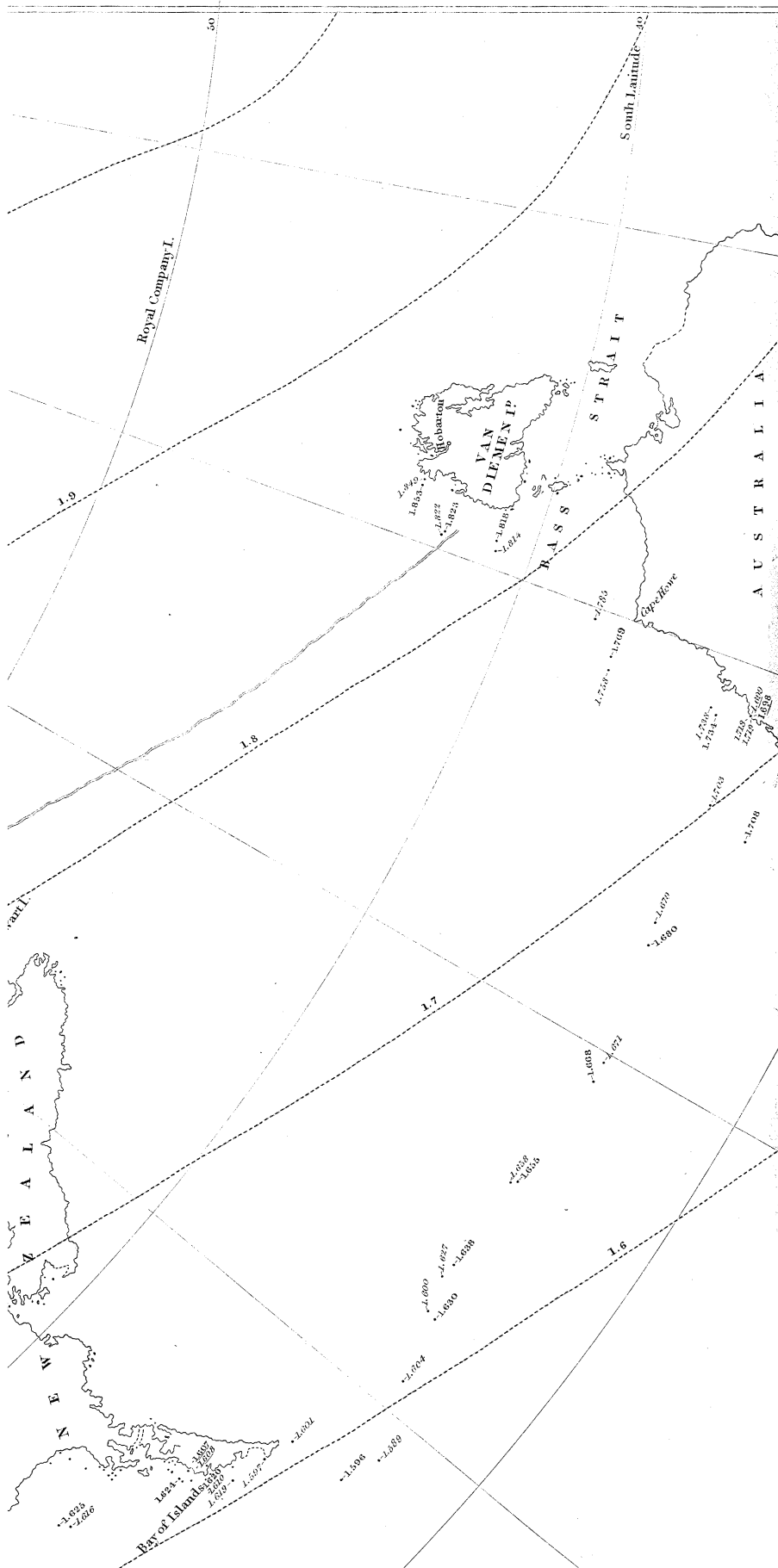
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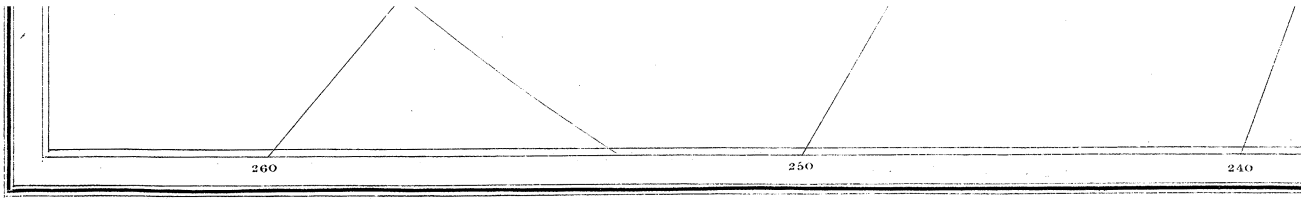
*May 1841. and August 1842.*

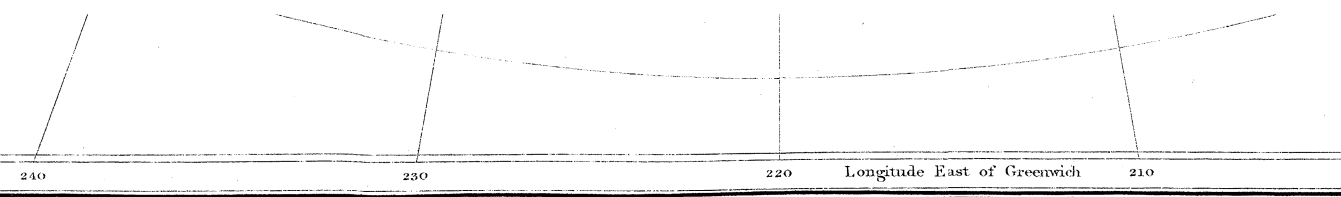
*The observations of the Erebus are in Roman thus 1.999*  
*The observations of the Terror are in Italics thus 1.999*



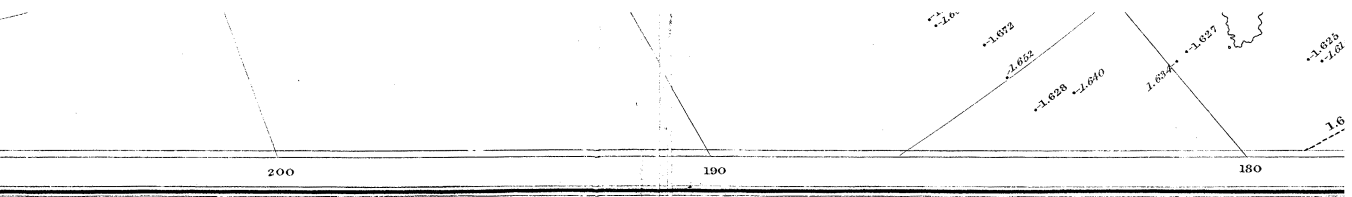












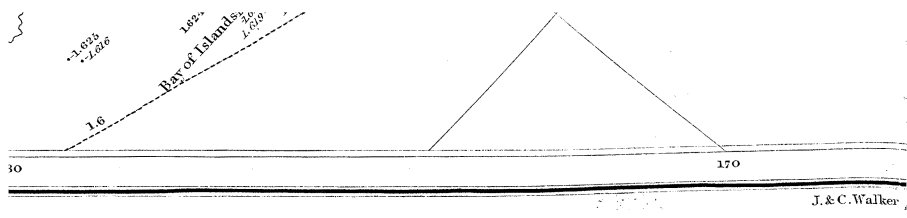
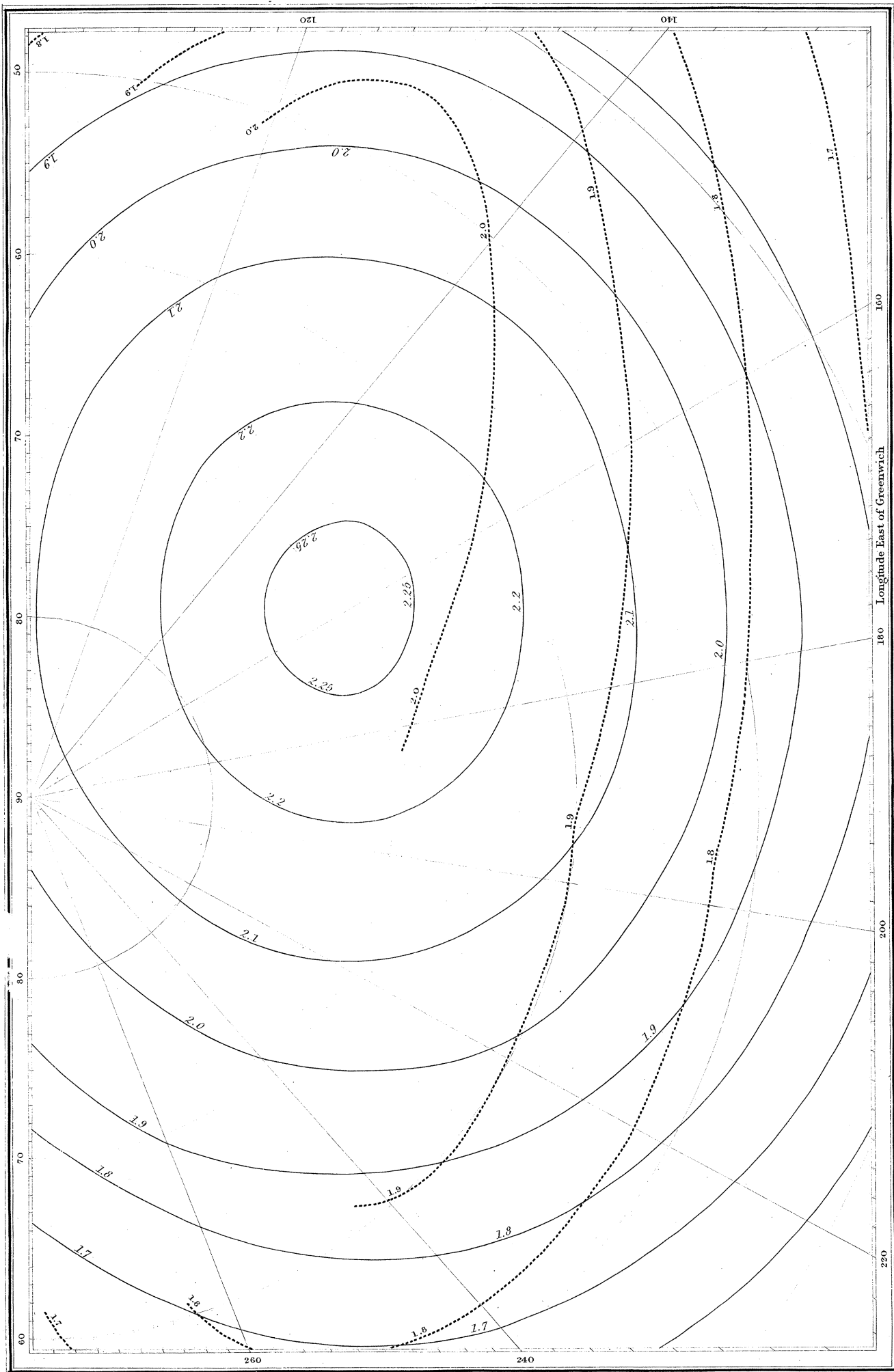


PLATE SHOWING THE LINES OF EQUAL INTENSITY DEDUCED FROM THE OBSERVATIONS OF THE ANTARCTIC EXPEDITION IN COMPARISON WITH M. GAUSS'S THEORETICAL LINES.

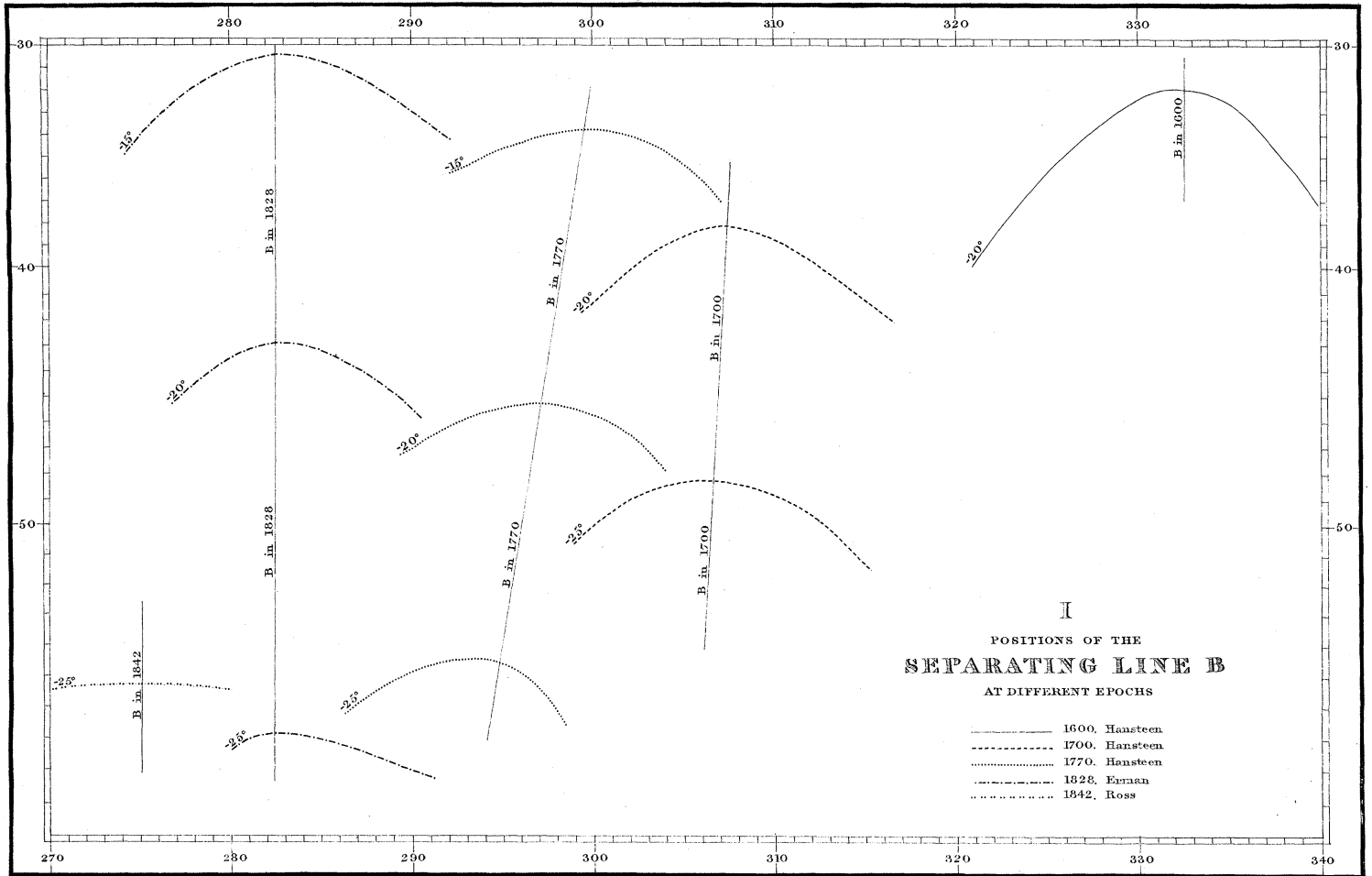
— M. Gauss's theoretical Lines  
 ..... Lines deduced from the Observations of the Antarctic Expedition

Phil. Trans. MDCCCXLIV. Plate XII.



Plate, shewing the progressive westerly movement of the Magnetic Phenomena in the  
Southern Pacific Ocean.

1. Between the Longitudes of 270° and 340° East.



2. Between the Longitudes of 200° and 270° East.

