

PAPERS RELATIVE TO THE

OLD BOW FORT, SITE OF THE.—Lat. 51° 9' 0'' N.  
BASE OF ROCKY MOUNTAINS.

1858. August 15th at 3H. 40M. P.M. (M. T. at Place nearly) the following Lunar was observed :—(Sun and Moon) Index Error + 5' 25''. Error of Chronometer on M. T. at Place, 7H. 29M. 30s. fast. Approximate Error on G. M. T. 15M. slow. (Mean of 9 sights.)

|                           |     |                   |                   |   |                 |
|---------------------------|-----|-------------------|-------------------|---|-----------------|
|                           |     | D. H. M. S.       |                   |   | ° ' "           |
| Mean of Chronometer Times | - - | 15 11 6 13·4      | Mean of Distances | - | 84 4 51         |
| Error                     | - - | - 7 29 30         | Index Error       | - | + 5 25          |
|                           |     | <u>15 3 36 43</u> |                   |   | <u>84 10 16</u> |

To compute True and App. Altitude of ☉  
s' and s.

| ☉'s N. P. D. | Cor.   | Cor.  | Eq. of T. | ½ M. Dist. | In Arc.   | ½ (l' + p). | l'      |
|--------------|--------|-------|-----------|------------|-----------|-------------|---------|
| ° ' "        | "      | s.    | M. S.     | H. M. S.   | H. M. S.  | ° ' "       |         |
| 14 5 13·4 N. | 47·13  | ·49   | 4 17·01   | 3 36 43·4  | 1 46 15·9 | 76 3 39·    | 90 0 0  |
| 8 52·5       | 11·3   | 11·3  | 5·33      | 4 11·5     | 60        | 38 51 0·    | 51 9 0  |
| 13 56 20·9   | 14139  | 147   | 4 11·48   | 3 32 32    | 106 15·54 | 114 54 39·  | 38 51 0 |
|              | 51843  | 539   |           |            |           |             |         |
| 76 3 39      | 532559 | 5·537 | — to M.T. | 1 46 15·9  | 26 33·58  | 57 27 19·   |         |
|              | 8 52·5 |       |           |            |           |             |         |

$$\sin. \theta = \sqrt{\sin l'. \sin. p. \cos. \frac{2 H}{2}}$$
$$\sin. \frac{z}{2} = \sqrt{\sin. \left( \frac{l'+p}{2} + \theta \right). \sin. \left( \frac{l'+p}{2} - \theta \right)}$$

|           |        |           |   |           |
|-----------|--------|-----------|---|-----------|
| H         | 2 cos. | 26 33 58  | = | 19·903084 |
| p         | sin.   | 76 3 39   | = | 9·937018  |
| l'        | sin.   | 38 51 0   | = | 9·797464  |
|           |        | 57 27 19  |   | 19·687566 |
| θ         | sin.   | 44 15 26  |   | 9·843783  |
|           | sin.   | 101 42 45 | = | 9·968041  |
|           | sin.   | 13 11 53  | = | 9·358539  |
|           |        |           |   | 19·326580 |
|           | sin.   | 27 25 25  |   | 9·663290  |
|           |        | 2         |   |           |
|           |        | 54 50 50  |   |           |
| s'        |        | 35 9 10   |   |           |
| R. and P. |        | + 1 14    |   |           |
| s         |        | 35 10 24  |   |           |

To compute True and App. Altitude of ☽  
m' and m.

| R. A. of M. ☉ | R.A. of ☽.  | Cor.  | Cor.   | ☽'s N. P. D. | ½ M. Dist. | In Arc.   | ½ (l' + p). |
|---------------|-------------|-------|--------|--------------|------------|-----------|-------------|
| H. M. S.      | H. M. S.    |       |        | S.           | H. M. S.   | H. M. S.  | ° ' "       |
| 9 34 24·62    | 14 51 23·75 | 124·1 | 98·7   | 21 32 58·6   | 9 36 16·3  |           |             |
| 1 48·42       | 41·2        | 2·06  | 2      | 3 17·4       | 3 36 43·4  | 0 49 32·6 | 111 36 16   |
| 3·28          |             |       |        |              |            | 49 32 36  | 38 51 0     |
| 9 36 16·32    | 14 52 4·95  | 20    | 197·4  | 21 36 16     | 13 12 59·7 |           |             |
|               |             | 41·2  | 3 17·4 | 111 36 16    | 14 52 4 9  | 12 23 9   | 150 27 16   |
|               |             |       |        |              | 1 39 5·2   |           | 75 13 38    |
|               |             |       |        |              | 0 49 32·6  |           |             |