

LATITUDES—continued.

Locality.	Date.	Observed Mean Altitude, Corrected for Index Error.	Longitude by Observation or by Account.	Latitude.
	1858.	° ' "	° ' "	° ' "
α Stray Camp - - - -	Sept. 2 -	95 12 55	115 27 0	49 58 15
British Kootanie Pass, W. end of -	" 6 -	93 49 5	115 22 0	49 11 21
Ditto Height of Land -	" 7 -	92 47 25	114 58 0	49 19 44
British Kootanie Pass, E. end of -	" 9 -	90 52 15	114 30 0	49 32 3
Middle Tributary of Belly River, coming from Crow Lodge - -	" 10 -	89 44 25	114 25 0	49 47 0
Most N. Tributary of Belly River, 2d crossing of - - - -	" 11 -	88 0 40	114 21 0	50 12 16
High Wood River, 4 miles N. of -	" 12 -	86 28 30	114 18 0	50 35 29
Bow River, 7 miles S. of - -	" 13 -	84 59 0	114 10 0	50 57 16
*Red Deer River - - - -	Observation of Polaris -	114 13 0		52 4 45
Battle River, 3d crossing of - -	" 18 -	77 42 25	114 0 0	52 39 44
α*Fort Edmonton - - - -	" 22 -	72 52 40	- - -	53 31 43
Ditto - - - - -	" 24 -	71 18 41	- - -	53 31 44
Ditto - - - - -	Red. to Mer.	- - -	- - -	53 32 11
Ditto - - - - -	Red. to Mer.	- - -	- - -	53 31 59
Ditto - - - - -	Mer. Alt. of Moon.	- - -	- - -	53 32 13

* Indicates Latitude obtained by other methods.
α " Lunar Distances observed.
N.B.—The Longitude of Edmonton is omitted as a series of Lunar Distances are being taken for that purpose.

FORT CARLTON.—Lat. 52° 52' 30'' N.

1857. December 22d, at 5H. 30M. P.M., (M. T. at place nearly), the following distance was taken between Jupiter and Moon's F. L. (Jupiter E. of Moon). Index Error + 5' 0''. Error of Chronometer on M. T. at place 6H. 57M. 21s. fast. Approx. Error on G. M. T. 10M. slow.
Mean of 5 sights.

	D. H. M. S.	° ' "
Mean of Chron. Times - - -	22 12 23 33.1	Mean of dists. - 50 46 53
Error on M. T. - - -	- 6 57 21.0	Index Error - + 5 0
	22 5 26 12.1	50 51 53

To compute True and Approximate Alt. of * s' and s.

M. ☉'s R.A.	R.A. of Jup.	Cor.	Cor.	Jup. N.P.D.	½ M. Dist.	In Arc.
H. M. S.	H. M. S.	S.	"	° ' "	H. M. S.	
18 3 57.27	2 16 48.48	7.06	16.9	12 25 44	18 6 0.6	1 22 15.5
1 58.28	3.75	1.76	12.5	9	5 26 13.1	60
5.09	2 16 44.73	12.5	84.5	12 25 35	23 32 13.7	82 15 30
18 6 0.64		3.75	202.8	77 34 25	2 16 44.7	20 33 52
			211.25		21 15 29	
			8.6		2 44 30.9	

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