

Enclosure 4 in No. 9.

RECORD of ASTRONOMICAL OBSERVATIONS during Seasons 1857-58.

LONGITUDES OBTAINED BY OBSERVATION.

Locality.	Latitude by Observation or by Account.	Approximate M. T. P.	Mean of Chrono- meter Times corrected for E. on G.M.T.	Mean of Observation Alti- tudes, corrected for.	Longitude.
	N. ° ' "	1857.	D. H. M. S.	° ' "	W. ° ' "
Fort William, H.B.C.	48 24 5	June 13, 8 A.M.	13 1 43 39	68 44 7	89 24 50
Trembling Portage	48 30 0	" 21, 9 A.M.	21 2 47 35	88 45 41	89 58 48
Dog Portage (w. end)	48 45 0	" 22, 9 A.M.	22 2 31 59	83 39 51	89 53 45
Dog River (r. bank)	48 55 0	" 23, 8 A.M.	23 2 16 59	78 30 39	89 53 48
Savanah Portage	48 53 0	" 25, 8 A.M.	25 2 7 17	74 43 35	90 13 46
Barrier Portage	48 45 0	" 26, 5 P.M.	26 10 34 15	64 2 23	90 50 24
French Portage	48 40 0	" 27, 10 A.M.	27 4 4 33	109 19 37	91 11 32
Camp Portage	48 25 0	" 29, 7 P.M.	29 13 24 48	11 48 20	92 27 28
	48 27 0	" 30, 7 A.M.	30 1 13 58	53 12 49	92 30 4
Fort Frances, H.B.C.	48 36 15	July 1, 6 P.M.	1 11 55 8	40 59 27	93 33 33
Rainy River	48 50 0	" 3, 9 A.M.	3 3 43 36	99 13 31	94 14 19
Portage de Bois	49 26 0	" 4, 9 A.M.	4 2 42 42	75 36 39	94 48 7
Winipeg River	49 55 0	" 5, 8 A.M.	5 3 2 4	84 34 31	94 45 30
Ditto	50 15 0	" 6, 8 A.M.	6 2 55 52	81 31 54	95 17 19
*Winipeg Lake	50 33 48	" *	" *	" *	96 33 56
Ditto	50 23 0	" 11, 8 A.M.	11 2 35 26	72 21 2	96 30 25
Upper Fort Garry	49 52 6	" 16, 8 A.M.	16 2 47 47	74 49 20	96 52 27
Post on boundary line, near Pembina	48 59 12	" 25, 3 P.M.	25 10 15 1	73 43 58	96 46 13
Prairie	48 52 0	" 28, 3 P.M.	28 10 39 34	65 34 4	97 17 29
St. Joseph	See separate paper.				
Prairie	49 10 0	July 31, 4½ P.M.	31 11 5 27	56 51 56	98 10 39
Ditto	49 8 0	Aug. 2, 4 P.M.	2 10 3 51	76 28 2	98 33 45
Ditto	49 8 0	" 3, 5 P.M.	3 11 6 37	56 18 32	98 47 15
Ditto	49 8 0	" 4, 8 A.M.	4 1 43 38	45 42 32	98 48 24
Ditto	49 0 32	" 5, 4 P.M.	4 10 31 20	67 37 43	99 1 25
Turtle Mount, E. Flk.	49 0 0	" 5, 5 P.M.	5 11 46 16	43 6 52	99 16 50
Ditto	49 6 0	" 7, 5 P.M.	7 11 21 48	50 23 27	99 21 43
Fort Ellice, H.B.C.	See separate paper.				
α Saskatchewan elbow of S. branch	See separate paper, pp. 52, 53, 54.				
Qui'Appele Lakes, 12 miles S. of	50 20 0	Sept. 13, 3 P.M.	13 10 26 33	49 31 28	103 45 45
Saskatchewan, S. branch of Red Deer Lakes, 6 miles N. of	50 52 48	" 27, 3 P.M.	27 11 32 31	25 19 17	107 41 7
Prairie	51 20 0	Oct. 3, 9 A.M.	3 3 43 15	20 27 9	107 32 15
Ditto	51 40 0	" 4, 9 A.M.	4 4 44 59	26 43 30	107 37 51
Ditto	52 5 0	" 5, 2 P.M.	5 9 28 40	24 18 40	107 21 0
Ditto	52 12 0	" 6, 2 P.M.	6 9 43 4	22 11 31	106 51 0
1858.					
Eagle Hills	52 18 0	June 21, 7 A.M.	21 2 9 22	26 52 32	107 28 15
Ditto, 3 miles S. of Lizard Lake	- - -	" 21, 4 P.M.	21 11 30 33.5	33 23 19	107 28 16
Eagle Hills, at Stoney Lake	52 14 0	" 22, 3 P.M.	22 9 46 39	48 40 29	107 35 4
Prairie	52 14 0	" 23, 9 A.M.	23 3 15 19.4	42 22 11	108 11 33
Ditto	52 16 0	" 24, 7 A.M.	24 2 8 16.4	25 59 17	108 27 27
Ditto	52 21 0	" 25, 7 A.M.	25 2 30 14.6	29 7 5	108 44 25
Wiquatinow, Valley of	52 28 39	" 26, 8 A.M.	26 3 49 47	40 54 2	108 51 39
Ditto ditto	52 28 39	" 27, 8 A.M.	27 3 50 43	41 1 6	108 52 36
Prairie	52 30 0	July 2, 4 P.M.	2 11 20 15	35 53 22	109 2 30
α Ditto	52 34 25	" 4, 8 A.M.	4 3 28 5	36 46 25	109 23 45
Ditto	52 36 0	" 8, 7 A.M.	8 2 32 13.5	27 27 4	110 23 45
Battle River, 1st crossing of	52 35 39	" 7, 9 A.M.	7 4 12 44.7	42 9 5	110 50 7
Ditto 2d crossing of	52 28 23	" 10, 7 A.M.	10 2 55 48.6	30 4 31	111 29 45
α Dried Mount Camp	52 24 29	" 14, 4 P.M.	14 11 47 15.6	32 59 22	112 14 35

* This observation was accidentally cleaned from slate, leaving however the result as tabulated.

+ These three observations marked thus, may be a little too far to the west, as an examination of chronometer rate, on arrival at Carlton, showed it to have changed.

α Indicates lunar distances observed.

N.B. Frequent examinations of chronometer rate, since the date of the last tabulated longitude, showed us that the rate was unsteady. All longitudes that are determined since that, are the results of lunar distances.

The longitude of Carlton is the result of the accompanying distances, observed while we remained there.