1875phot..1598R

KG
11366
v 594

Zone Observations & Reductions

C. 32

From Sept 8, 1875 to Nov. 22 1875

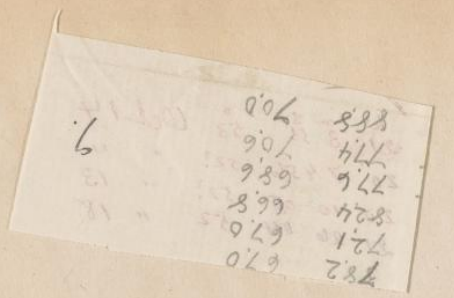
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1875phae.proj.1598R

C.32.	21	3	53	53	Oct. 14
	20	7	45.6	52?	" "
	20	10	05	52?	" 13
	21	26	04	52	" 18

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Continued from C. 31

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											

Value of the Inclination (i) for all dates in this book is equal to $+5^\circ\ 5'\ 11''$

Constant for Declinations

$\log \tan i = 8.94943\ n$

$\log 15 = 1.17609$

$\log 15 \tan i = 0.12552\ n$

See also first page of C. 27

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420

Date$_1$ = 1875, Sept. 8. Observer W. A. R.
n = −.56 Recorder J. F. M.

431

Date$_2$ = 1875, Sept. 14 Observer W. A. R.
n = −.49 Recorder J. F. M.

2

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
12	7 48	51 9	8.5	19 7 59.2	8 16.5	19.9	23.2	26.4	29.8	8	23.16		
7	24.7	7.3	8.0	2.3							− 25.71		
κ				4.4							− 69		
((δ) − D) $\frac{\kappa'}{100}$				61.9					− 26.42		− 2		
a_1										7	56.74		
											− 1.78		
										7	54.96		
			8.6	7 57.4	8 20.3	23.4	27.0	30.3	33.5	8	26.84		
				1.2							− 29.55		
κ				3.0							− 61		
((δ) − D) $\frac{\kappa'}{100}$				60.5					− 30.18		− 2		
a_2										7	56.66		
											− 1.61		
										7	55.05		
9	46	55 5	8.6	9 43.8	10 9.8	13.0	16.6	20.3	24.0	10	1668		
9	23.4	4.2	7.8	44.0							− 25.71		
κ				58.0							− 80		
((δ) − D) $\frac{\kappa'}{100}$				46.9					− 26.54		− 3		
a_1										9	50.14		
											− 1.71		
										9	48.43		
			8.5	9 55.7	10 13.0	16.7	20.0	23.7	27.5	10	20.18		
				54.5							− 29.55		
κ				1.9							− 70		
((δ) − D) $\frac{\kappa'}{100}$				57.0					− 30.28		− 3		
a_2										9	49.90		
											− 1.51		
										9	48.39		
13	14	51 11	8.7	13 43.4	13 42.2	45.3	48.7	51.9	55.2	13	4806		
12	50.3	9.1	8.2	46.8							− 25.71		
κ				49.0							− 69		
((δ) − D) $\frac{\kappa'}{100}$				46.3					− 26.42		− 2		
a_1										13	22.24		
											− 1.82		
										13	20.42		
			8.5	13 22.6	13 45.7	49.0	52.0	55.7	58.9	13	5226		
κ				26.2							− 29.56		
				27.8							− 61		
((δ) − D) $\frac{\kappa'}{100}$				25.5					− 30.19		− 2		
a_2										13	22.07		
											− 1.64		
										13	20.43		
15	18	51 46	8.7	15 20.7	15 44.7	48.2	51.0	54.6	58.0	15	57.31		
14	54.1	44.4	8.9	23.5							− 25.71		
κ				26.2							− 70		
((δ) − D) $\frac{\kappa'}{100}$				23.5					− 26.43		− 2		
a_1										15	24.87		
											− 1.81		
										15	~~23.06~~ 23.06		
			9.0	15 23.8	15 48.0	51.4	54.8	58.4	1.6	15	5484		
				27.8							− 29.56		
κ				31.4							− 62		
((δ) − D) $\frac{\kappa'}{100}$				27.67					− 30.20		− 2		
a_2										15	24.64		
											− 1.64		
										15	23.00		
15	52	53 5	9.0	16 33.0	16 17.6	21.3	24.8	28.3	31.7	16	2474		
16	28.4	2.0	8.7	36.1							− 25.72		
κ				38.4							− 74		
((δ) − D) $\frac{\kappa'}{100}$				35.8					− 26.49		− 3		
a_1										15	58.25		
											− 1.79		
										15	56.46		
			8.8	16 16.8	16 21.4	24.9	28.2	31.5	34.8	16	28.16		
				20.3							− 29.56		
κ											− 65		
((δ) − D) $\frac{\kappa'}{100}$				18.5					− 30.24		− 3		
a_2										15	57.92		
											− 1.61		
										15	56.31		

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1875phae.proj.15988

Reg. Sept. 8 −16′ 13″.78 −″.12
Sept 14 −16 14.35 −.12

3

Runs

	$T_m - T$		A	C	Sum		Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+21.16	1	43.1	4.5	107.6	56 1	53.80	+25	54.55		55	51 9 23.05	
	1.32552							51 9	40.77			− 12	+8.73
d	9.79731								− 17.72			− 23	
	1.24835n											+ 8.67	
((δ) − D) $\frac{d'}{100}$												+ 41	
												−12.10	
δ_1												9 19.68	
	+26.34	1	40.1	0.2	100.3	56 1	50.15	25	58.20		55	9 21.80	
	1.42062							51 9	43.85			− 18	+8.85
d	9.79731								− 22.05			− 22	
	1.34345n											+ 8.84	
((δ) − D) $\frac{d'}{100}$												+ 41	
												−12.90	
δ_2												9 17.75	
	+29.78	0	7.2	29.0	36.2	0	18.10	22	30.25		0	55 5 53.72	
	1.47392							55 6	16.47			− 23	+13.02
d	9.75751								− 22.75			− 4	
	1.35695n											+12.69	
((δ) − D) $\frac{d'}{100}$												+ 60	
												−1240	
δ_1												5 54.34	
	+21.18	0	14.5	35.0	49.5	0	24.75	22	23.60		0	5 53.07	
	1.32593							55 6	9.25			− 11	+13.37
d	9.75751								− 16.18			− 5	
	1.20896n											+12.93	
((δ) − D) $\frac{d'}{100}$												+ 60	
												−13.20	
δ_2												~~52.24~~ 53.24	
	+2.36	0	5.6	27.0	32.6	55 0	16.30	27	32.05		55	51 11 16.31	
	0.37291							51 11	18.27			− 0	+9.09
d	9.79715								− 1.96			− 3	
	0.29558n											+ 8.71	
((δ) − D) $\frac{d'}{100}$												+ 41	
												−1220	
δ_1												11 13.20	
	+26.76	4	45.4	6.9	112.3	54 4	56.15	27	52.20		50	11 15.47	
	1.42749							51 11	37.85			− 19	+8.51
d	9.79699								− 22.38			− 57	
	1.34990n											+ 8.88	
((δ) − D) $\frac{d'}{100}$												+ 41	
												−13.10	
δ_2												11 10.88	
	+27.80	4	34.0	54.7	88.7	19 4	44.35	− 3	4.00		15	51 46 27.26	
	1.44404							51 46	50.22			− 21	+8.86
d	9.79144								−22.96			− 57	
	1.36100n											+ 9.20	
((δ) − D) $\frac{d'}{100}$												+ 44	
												−1240	
δ_1												46 23.72	
	+27.14	4	35.0	53.3	88.3	19 4	44.15	3	4.20		15	46 27.43	
	1.43361							51 46	49.85			− 19	+9.16
d	9.79144								− 22.42			− 57	
	1.35057n											+ 9.48	
((δ) − D) $\frac{d'}{100}$												+ 44	
												−13.20	
δ_2												46 23.39	
	−11.06	1	24.9	46.0	70.9	1	35.45	21	12.90		0	53 5 7.99	
	1.04376n							53 4	50.12			− 3	+10.92
d	9.77862								+ 8.87			− 19	
	0.74790											+10.64	
((δ) − D) $\frac{d'}{100}$												+ 50	
												−1240	
δ_1												5 6.51	
	+9.66	1	9.1	28.7	37.8	1	18.90	21	29.45		6	5 7.35	
	0.98498							53 5	45.10			− 3	+11.15
d	9.77862								− 7.75			− 15	
	0.88912n											+10.83	
((δ) − D) $\frac{d'}{100}$												+ 50	
												−13.20	
δ_2												5 5.30	

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430

Date$_1$ = 1875, Sept. 8 Observer / Recorder

431

Date$_2$ = 1875, Sept. 14 Observer / Recorder

4

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
1	17 0	51 31	8.6	19 17 7.4	17 27.9	31.0	34.4	37.8	41.2	17	34.46		
	16 36.1	29.8	8.7	10.2							− 25.72		
	κ			13.6							− 70		
	((δ) − D) $\frac{\kappa'}{100}$			10.4					− 26.44		− 2		
	α_1									17	8.02		
											−1.83		
										17	6.19		
			8.8	17 16.0	17 31.7	35.0	38.2	41.6	44.9	17	38.28		
				19.0							− 29.56		
	κ			22.4							− 62		
	((δ) − D) $\frac{\kappa'}{100}$			19.1					− 30.20		− 2		
	α_2									17	8.08		
											−1.66		
										17	37.86	6.42	
2	19 1	53 38	8.6	19 15.2	19 25.8	28.3	31.9	35.4	38.9	19	31.91		
	18 37.2	36.6	8.8	17.9							− 25.72		
	κ			21.3							− 76		
	((δ) − D) $\frac{\kappa'}{100}$			18.1					− 26.51		− 3		
	α_1									19	5.39		
											−1.80		
										19	3.59		
			8.5	19 0.3	19 28.4	32.0	35.6	38.9	42.4	19	35.44		
				4.2							− 29.57		
	κ			7.0							− 66		
	((δ) − D) $\frac{\kappa'}{100}$			3.8					− 30.26		− 3		
	α_2									19	5.18		
											−1.61		
										19	3.57		
3	20 11	52 19	7.7	20 20.6	20 38.1	41.3	44.8	48.1	51.5	20	44.76		
	19 47.7	17.0	7.8	23.9							− 25.72		
	κ			26.0							− 73		
	((δ) − D) $\frac{\kappa'}{100}$			23.2					− 26.47		− 2		
	α_1									20	18.29		
											−1.83		
										20	16.46		
			7.5	20 21.3	20 41.5	45.0	48.3	51.9	55.0	20	48.34		
				24.9							− 29.57		
	κ			27.9							− 64		
	((δ) − D) $\frac{\kappa'}{100}$			24.7					− 30.23		− 2		
	α_2									20	18.11		
											−1.66		
										20	16.45		
4	21 6	53 31	9.0	21 12.0	21 31.8	35.4	38.7	42.2	45.8	21	38.78		
	20 42.6	29.7	9.0	16.1							− 25.72		
	κ			18.7							− 76		
	((δ) − D) $\frac{\kappa'}{100}$			15.6					− 26.51		− 3		
	α_1									21	12.27		
											−1.81		
										21	10.46		
			9.2	21 18.3	21 35.2	38.8	42.5	46.0	49.2	21	42.34		
				21.1							− 29.57		
	κ			24.3							− 66		
	((δ) − D) $\frac{\kappa'}{100}$			21.2					− 30.26		− 3		
	α_2									21	12.08		
											−1.63		
										21	10.45		
5	22 1	52 55	9.0	22 19.8	22 27.7	31.3	35.0	38.0	41.4	22	34.68		
	21 37.5	53.4	9.4	23.3							− 25.72		
	κ			26.1							− 74		
	((δ) − D) $\frac{\kappa'}{100}$			23.1					− 26.48		− 2		
	α_1									22	8.20		
											−1.83		
										22	6.37		
			9.2	22 16.3	22 31.4	34.4	38.0	41.4	45.1	22	38.06		
				19.5							− 29.57		
	κ			23.3							− 65		
	((δ) − D) $\frac{\kappa'}{100}$			19.7					− 30.24		− 2		
	α_2									22	7.82		
											−1.65		
										22	6.17		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+24.06	4	0.5	21.1	21.6	34. 4 10.80			30	51 32 3.79	
	1.38130					48	37.55			− 15	+8.84
d	9.79383					51 32	23.77			− 50	
	1.30065m						−19.98			+9.06	
$((\delta) - D)\frac{d'}{100}$										+ 43	
										−12.40	
δ_1										32 0.23	
	+19.18	4	4.5	23.0	27.5 34 4 13.75		34.60		30	32 4.32	
	1.28285					48	20.25			− 10	+9.06
d	9.79383					51 32				− 51	
	1.20220m						−15.93			+9.24	
$((\delta) - D)\frac{d'}{100}$										+ 43	
										−13.20	
δ_2										32 0.18	
	+13.80	2	18.1	38.9	57.0 27 2 28.50	55	19.85		25	53 38 55.15	
	1.13988					53 39	6.07			− 5	+11.38
d	9.77285						−10.92			− 29	
	1.03825m									+11.22	
$((\delta) - D)\frac{d'}{100}$										+ 50	
										−12.60	
δ_1										38 53.93	
	+31.64	2	3.1	22.1	25.2 27 2 12.60	55	35.75		25	38 56.36	
	1.50024					53 39	21.40			− 27	+11.39
d	9.77285						−25.04			− 26	
	1.39861m									+11.42	
$((\delta) - D)\frac{d'}{100}$										+ 50	
										−13.40	
δ_2										38 54.35	
	+21.56	1	32.3	53.3	85.6 46 1 42.80	36	5.55		45	52 19 34.18	
	1.33365					52 19	51.77			− 13	+10.01
d	9.78609						−17.59			− 20	
	1.24526m									+9.87	
$((\delta) - D)\frac{d'}{100}$										+ 47	
										−12.50	
δ_1										19 31.69	
	+23.64	1	28.9	49.8	78.7 116 1 39.35	36	9.00		45	19 35.36	
	1.37365					52 19	59.65			− 15	+10.15
d	9.78609						−19.29			− 20	
	1.28526m									+10.05	
$((\delta) - D)\frac{d'}{100}$										+ 47	
										−13.40	
δ_2										19 32.13	
	+23.18	3	43.1	3.9	107.0 33 3 53.50	48	54.85		30	53 32 22.68	
	1.36511					53 32	41.07			− 14	+10.98
d	9.77387						−18.39			− 47	
	1.26450m									+11.07	
$((\delta) - D)\frac{d'}{100}$										+ 50	
										−12.60	
δ_1										32 21.06	
	+21.14	3	45.7	4.1	109.8 33 3 54.90	48	53.45		30	32 22.33	
	1.32510					53 32	39.18			− 12	+11.20
d	9.77387						−16.77			− 47	
	1.22449m									+11.29	
$((\delta) - D)\frac{d'}{100}$										+ 50	
										−13.50	
δ_2										32 20.03	
	+11.58	4	57.9	18.0	13.59 10 5 7.95	12	40.40		5	52 56 17.30	
	1.06371					52 56	26.62			− 4	+10.33
d	9.78013						− 9.32			− 61	
	0.76936m									+10.48	
$((\delta) - D)\frac{d'}{100}$										+ 50	
										−12.60	
δ_1										56 15.03	
	+18.36	4	50.9	10.7	12.16 10 5 0.80	12	47.55		5	56 18.43	
	1.26387					52 56	33.20			− 8	+10.49
d	9.77997						−14.77			− 60	
	1.16936m									+10.67	
$((\delta) - D)\frac{d'}{100}$										+ 50	
										−13.50	
δ_2										56 15.42	

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430

Date$_1$ = 1875, Sept. 8 Observer / Recorder

430

Date$_2$ = 1875, Sept. 14 Observer / Recorder

6

R

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
23	23 3	50 44	8.0	19 23 15.0	23 30.8	34.0	37.2	40.5	43.7	23	37.24		
22	38.2	41.5	8.1	18.7							− 25.72		
κ				21.5							− 68		
((δ) − D) $\frac{\kappa'}{100}$				18.4					− 26.42		− 2		
α_1										23	10.82		
											− 1.88		
										23	8.94		
			7.8	23 12.6	23 34.4	37.7	40.9	44.1	47.2	23	40.86		
				13.6							− 29.57		
κ				10.3							− 59		
((δ) − D) $\frac{\kappa'}{100}$				17.7					− 30.18		− 2		
α_2				15.8						23	10.68		
											− 1.71		
										23	8.97		
24	14	51 16	9.4	24 22.5	24 43.4	46.6	49.8	53.2	56.9	24	49.98		
23	30.9	14.3	9.4	26.0							− 25.72		
κ				28.0							− 69		
((δ) − D) $\frac{\kappa'}{100}$				25.2					− 26.43		− 2		
α_1										24	23.55		
											− 188		
										24	21.67		
			9.4	24 25.3	24 46.8	49.5	52.7	56.7	0.1	24	53.46 42		
				27.8		50.1	53.4				− 29.57		
κ				30.3					−		− 69		
((δ) − D) $\frac{\kappa'}{100}$				27.8					− 30.20		− 2		
α_2										24	22.96		
											− 1.71		
										24	21.25 51		
25	21	54 30	7.0	25 20.7	25 45.8	49.4	52.9	56.6	0.1	25	52.96		
24	37.8	28.7	7.3	23.2							− 25.72		
κ				26.7							− 79		
((δ) − D) $\frac{\kappa'}{100}$				23.5					− 26.54		− 3		
α_1										25	26.52		
											− 1.82		
										25	24.60		
			7.6	25 33.4	25 49.3	53.0	56.0	0.1	3.4	25	56.46		
				36.7							− 29.57		
κ				39.3							− 69		
((δ) − D) $\frac{\kappa'}{100}$				36.5					− 30.29		− 3		
α_2										25	26.17		
											− 1.63		
										25	24.54 4		
26	22	54 33	8.8	26 26.5	26 46.1	49.6	53.1	56.8	0.3	26	53.18		
25	58.5	30.6	8.5	30.5							− 25.72		
κ				33.3							− 79		
((δ) − D) $\frac{\kappa'}{100}$				30.2					− 26.54		− 3		
α_1										26	26.64		
											− 1.82		
											1627		
										26	24.82		
			8.8	26 22.3	26 49.7	53.0	56.8	0.4	4.0	26	56.78		
				26.4							− 29.57		
κ				29.0							− 69		
((δ) − D) $\frac{\kappa'}{100}$				25.9					− 30.29		− 3		
α_2										26	26.49		
											− 1.63		
										26	24.86		
27	54	54 33	8.9	27 53.2	28 16.4	20.0	23.5	27.2	30.8	28	28.58		
27	29.2	30.8	9.0	56.2							− 25.72		
κ				58.9							− 79		
((δ) − D) $\frac{\kappa'}{100}$				56.1					− 26.54		− 3		
α_1										27	57.04		
											− 1.83		
										27	55.21		
			9.0	27 59.9	28 19.8	23.3	26.4	30.8	34.3	28	26.98		
				3.8							− 29.57		
κ				6.9							− 69		
((δ) − D) $\frac{\kappa'}{100}$				63.5					− 30.29		− 3		
α_2										27	56.69		
											− 1.64		
										27	55.05		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+18.84	2	4.1	25.0	29.1	22 2 14.55	00	33.80		20	50 44 4.10	
	1.27508					50	44	20.02			− 10	+8.27
d	9.60136							− 15.92			− 27	
	1.20196 m										+ 8.26	
$((\delta) - D)\frac{d'}{100}$											+ 38	
											−12.50	
δ_1											43 59.84	
	+25.06	1	58.7	19.3	138.0	22 2 9.00	00	39.35		20	44 3.82	
	1.39898					50	44	25.00			− 17	+8.37
d	9.80136							− 21.18			− 26	
	1.32586 m										+ 8.42	
$((\delta) - D)\frac{d'}{100}$											+ 38	
											−13.40	
δ_2											43 58.74	
	+24.78	4	19.9	41.9	61.8	49 4 30.90	33	17.45		45	51 16 42.98	
	1.39410					51	17	3.67			− 17	+8.51
d	9.79621							− 20.69			− 54	
	1.31583 m										+ 8.81	
$((\delta) - D)\frac{d'}{100}$											+ 41	
											−12.60	
δ_1											16 38.89	
	+16					49						
	+25.36	4	18.8	38.8	57.6	4 28.80	33	19.55		45	16 48.82	
	1.40415					51	17	5.20			− 17	+8.68
d	9.79621							− 21.28			− 54	
	1.32588 m										+ 8.98	
$((\delta) - D)\frac{d'}{100}$											+ 41	
											−13.50	
δ_2											16 39.80	
	+29.46	4	39.7	58.9	98.6	34 4 49.30	47	59.05		30	54 31 22.45	
	1.46923					54	31	45.24			− 22	+11.86
d	9.76360							− 22.82			− 58	
	1.35835 m										+12.11	
$((\delta) - D)\frac{d'}{100}$											+ 55	
											−12.80	
δ_1											31 21.51	
	+19.96	4	46.9	6.5	113.44	34 56.70	47	51.65		30	31 21.84	
	1.30016					54	31	37.30			− 10	+12.19
d	9.76360							− 15.46			− 57	
	1.18928 m										+12.33	
$((\delta) - D)\frac{d'}{100}$											+ 55	
											−13.70	
δ_2											31 20.33	
	+22.98	2	49.9	10.9	120.8	33 3 0.40	49	47.95		30	54 33 16.38	
	1.36135					54	33	34.17			− 14	+12.20
d	9.76324							− 17.79			− 36	
	1.25011 m										+12.15	
$((\delta) - D)\frac{d'}{100}$											+ 55	
											−12.80	
δ_1											33 15.78	
	+30.88	2	42.1	1.9	104.0	32 2 52.00	49	56.35		30	33 18.10	
	1.48968					54	33	42.00			− 25	+12.30
d	9.76324							− 23.90			− 35	
	1.37844 m										+12.35	
$((\delta) - D)\frac{d'}{100}$											+ 55	
											−13.80	
δ_2											33 16.60	
	+27.48	2	15.7	36.8	52.5	32 2 26.25	50	22.10		30	54 33 47.05	
	1.43902					54	34	8.32			− 19	+12.25
d	9.76324							− 21.27			− 29	
	1.32778 m										+12.17	
$((\delta) - D)\frac{d'}{100}$											+ 56	
											−12.90	
δ_1											33 46.40	
	+23.48	~~−36.52~~	2	18.5	38.0	56.5	32 2 28.25	50	20.10		30	33 47.58	
	4.37070							54 34	5.75			− 14	+12.57
d	9.76324								−18.17			− 29	
	1.25946 m											+12.38	
$((\delta) - D)\frac{d'}{100}$												+ 56	
												−13.80	
δ_2												33 46.29	

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430

Date$_1$ = 1875, Sept. 8 Observer / Recorder

431

Date$_2$ = 1875, Sept. 14 Observer / Recorder

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
28	43	54 12	8.9	19 28 51.3	29 8.1	11.5	15.0	18.8	22.3	29	15.14		
28	18.5	9.5	9.0	54.6							− 25.72		
κ				54.9							− 77		
((δ) − D) $\frac{\kappa'}{100}$				54.6					− 26.52	28	− 3 48.62		
a_1											−1.84		
										28	46.78		
			8.6	28 58.5	29 11.9	15.2	18.7	22.1	25.1	29	1860		
κ				58.0							− 29.57		
((δ) − D) $\frac{\kappa'}{100}$				55.1					− 30.27		− 67		
				52.9						28	− 3 48.33		
a_2											−1.66		
										28	46.67		
29	35	54 13	9.1	29 43.0	29 58.5	2.0	5.6	8.9	12.8	30	5.56		
29	10.6	10.6	8.9	47.0							− 25.72		
κ				50.3							− 77		
((δ) − D) $\frac{\kappa'}{100}$				46.8					− 26.52		− 3		
										29	39.04		
a_1											−1.92		
										29	37.12		
			9.0	29 49.0	30 1.8	5.7	9.0	12.6	16.0	30	902		
κ				53.2							− 29.58		
((δ) − D) $\frac{\kappa'}{100}$				56.9					− 30.28		− 67		
				53.0							− 3		
a_2										29	38.74		
											−1.76		
										29	~~37.98~~	36.98	
31	10	50 1	8.6	31 15.3	31 41.3	44.6	47.8	51.0	54.2	31	4778		
30	45.8	49 08.9	9.0	18.5							− 25.72		
κ				20.7							− 67		
((δ) − D) $\frac{\kappa'}{100}$				18.2					− 26.41		− 2		
										31	21.37		
a_1											−1.94		
										31	19.43		
			8.8	31 9.0	31 44.9	48.3	51.4	54.6	58.0	31	5744		
κ				12.1							− 29.58		
((δ) − D) $\frac{\kappa'}{100}$				14.2					− 30.18		− 58		
				11.8							− 2		
a_2										31	21.26		
											−1.78		
										31	19.48		
32	27	49 57	6.0	32 25.2	32 56.9	0.2	3.0	6.4	9.7	33	3.24		
32	8.0	54.8	7.0	27.2							− 25.72		
κ				31.3							− 67		
((δ) − D) $\frac{\kappa'}{100}$				27.9					− 26.41		− 2		
										32	36.83		
a_1											−1.95		
										32	34.88		
			5.5	32 34.2	33 0.5	3.7	6.9	10.1	13.5	33	694		
κ				36.3							− 29.58		
((δ) − D) $\frac{\kappa'}{100}$				37.7					− 30.18		− 58		
				36.1							− 2		
a_2										32	36.76		
											−1.79		
										32	34.97		
33	21	49 55	6.0	33 24.1	33 27.3	30.6	33.7	37.0	40.2	33	3376		
32	~~55.5~~	~~52.6~~	Bae.	28.8							− 25.72		
κ	33.1	53.1		31.5							− 67	33	7.35
((δ) − D) $\frac{\kappa'}{100}$				28.7					− 26.41		− 2		−1.95
32	55.8	49 52.0	9.0	33 33.6	33 49.7	53.0	56.0	59.4	2.6	33	58.14	33	5.40
a_1				53.9							− 25.72		
				54.6					− 26.41		− 67		
				53.7							− 2	33	29.73
			5.0	33 27.3	33 30.7	34.0	37.4	40.3	43.8	33	3724		−1.95
κ				29.7							− 29.58	33	27.78
((δ) − D) $\frac{\kappa'}{100}$				31.4					− 30.18		− 58		
				29.5							− 2	33	7.06
			8.7	34 13.0	33 —	—	59.8	8.0	6.1	33	59.77		−1.79
a_2				15.3			69.8				− 29.58	33	5.27
				14.0			59.97		− 30.18		− 58		
				15.1							− 2		
										33	29.69		
											−1.80		

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Runs

	$T_m - T$	A	C	Sum		Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+20,54	4 1.3	21,0	223	54 4	11"15	28	3720		50	54 12 17.30	
	1.31260						54 12	23.42			− 10	+11.71
d	9.76912							− 16.12			− 50	
	1.20724n										+ 11.79	
((δ) − D) $\frac{d'}{100}$											+ 52	
											−12.90	
δ_1											12 6.11	
					54							
+25.70	~~+34.30~~	3 5.7.2	15.3	1325	4	6,25	28	42,10		50	12 7.68	
	1.40993						54 12	2775			− 18	+11.84
d	9.76712							− 2007			− 49	
	1.30257n										+ 11.99	
((δ) − D) $\frac{d'}{100}$											+ 52	
											−13.80	
δ_2											12 5.72	
					53							
	+1876	2 53.1	14.0	12.71	3	3.55	29	4480		50	50 13 15.00	
	1.27323						50 13	31.02			− 10	+7.64
d	9.80595							− 16.02			− 37	
	1.20470n										+ 7.75	
((δ) − D) $\frac{d'}{100}$											+ 4 36	
											−12,90	
δ_1											13 9.94	
					53							
	+1602	2 55.9	14.0	12.99	3	4.95	29	43.40		50	13 15.36	
	1.20466						50 13	29.05			− 7	+7.81
d	9.80610							− 13.69			− 37	
	1.13628n										+ 7.89	
((δ) − D) $\frac{d'}{100}$											+ 36	
											−13.60	
δ_2											13 9.57	
	29.58	4 3.7.2	56.9	94.1	4	47.05	18	1.30		0	50 1 22.15	
	1.47100						50 1	47.52			− 24	+7.09
d	9.80777							− 25.37			− 67	
	1.40429n										+ 7.55	
((δ) − D) $\frac{d'}{100}$											+ 35	
											−12.90	
δ_1											1 16.54	
	+3964	4 27.3	46.5	73.8	4	36.90	18	1145		0	1 23.10	
	1.59813						50 1	57.10			− 43	+7.06
d	9.80777							− 34.00			− 55	
	1.53142n										+ 7.69	
((δ) − D) $\frac{d'}{100}$											+ 35	
											−13.70	
δ_2											1 16.46	
					8							
	+3534	3 14.2	35.1	49.3	3	24.65	14	23.70		5	49 57 39.57	
	1.54827						49 58	9.92			− 33	+7.12
d	9.80834							− 30.35			− 41	
	1.48276n										+ 7.57	
((δ) − D) $\frac{d'}{100}$											+ 35	
											−12.80	
δ_1											57 33.89	
					8							
	+3084	3 16.9	38.2	55.1	3	27.55	14	20.80		5	57 39.96	
	1.48911						49 58	6.45			− 26	+7.32
d	9.80837							− 26.49			− 41	
	1.42380n										+ 7.64	
((δ) − D) $\frac{d'}{100}$											+ 35	
											−13.70	
δ_2											57 33.58	
					10							
	+506	0 16.4	39.1	55.5	0	27.75	12	20.60		10	49 56 2.47	55 15.72
	0.70415	49.56 2.47					49 56	6.82			− 1	− 0
d	9.80867	+7.76						− 4.35			− 5	− 15
	0.63834n										+ 7.47	+ 7.47
((δ) − D) $\frac{d'}{100}$	+24h	1 6.6	26.9	33.5	1	16.75	11	31.60		10	+ 35	+ 35
	0.38739	55 15.72					49 55	17.82			−12.80	−12.80
δ_1	9.80882	+ 7.67						− 2.10			55 ~~57.43~~	55 10.59
	0.32173n										57.43	
					10							
	+774	0 12.3	34.4	46.7	0	23.35	12	25.00		10	56 4.00	55 18.87
	0.88874	56 4.00					49 56	10.65			− 2	− 6
d	9.80867	+7.88						− 6.65			− 5	− 17
	0.82293n										+ 7.60	+7.60
((δ) − D) $\frac{d'}{100}$	− 15.3	1 17.9	39.8	57.7	1	28.85	11	19.50		18	+ 35	+ 35
	1.18469n	55 18.87					49 55	5.72			−13.70	−13.80
δ_2	9.80882	+ 7.72						+ 13.15			55 58.18	53 12.79
	1.19904											
	3											

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Date$_1$ = 1875 Sept. 8. 430 Observer W.A.R. Recorder J.F.M. Date$_2$ = 1875, Sept. 14 431 Observer W.A.R. Recorder J.F.M. 10 Ru

Star.	α	δ	Mag.	T_a	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
19	35	8 49 54	8.9	19 35 9.6	35 38.0	41.2	44.5	47.7	50.9	35	44.46		
	34	43.4 52.5	9.0	13.3							- 25.73		
	κ			15.4							- 67		
	((δ) — D) $\frac{\kappa'}{100}$			12.9					- 26.42		- 2		
										35	18.04		
	a_1										- 1.96		
										35	16.08		
			9.0	35 16.1	35 41.6	44.5	47.8	51.2	54.4	35	47.90		
				19.4							- 29.58		
	κ			22.3							- 58		
	((δ) — D) $\frac{\kappa'}{100}$			19.3					- 30.18		- 2		
										35	17.72		
	a_2										- 1.80		
										35	15.92		
	κ												
	((δ) — D) $\frac{\kappa'}{100}$												
	a_1												
Sept. 8													
19	8	25 54 53	9.4	19 8 48.3	8 47.4	51.5	54.7	58.0	1.9	8	54.70		
	8	1.5 51.2	9.4								- 25.71		
	κ										- 80		
	((δ) — D) $\frac{\kappa'}{100}$								- 26.54		- 3		
										8	28.16		
	a_2										- 1.71		
										8	26.45		
Sept. 8													
	10	58 52 26	9.0	19 11 3.6	11 24.9	28.2	31.5	34.9	38.3	11	31.58		
	10	34.4 24.4	9.0	6.7							- 25.71		
	κ			9.9							- 732		
	((δ) — D) $\frac{\kappa'}{100}$			6.7					- 26.45		- 2		
										11	5.1		
	a_1										- 1778		
										11	3.33		
	κ												
	((δ) — D) $\frac{\kappa'}{100}$												
	a_2												
	κ												
	((δ) — D) $\frac{\kappa'}{100}$												
	a_1												
	κ												
	((δ) — D) $\frac{\kappa'}{100}$												
	a_2												
	κ												
	((δ) — D) $\frac{\kappa'}{100}$												
	a_1												
	κ												
	((δ) — D) $\frac{\kappa'}{100}$												
	a_2												

Single Observations

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1875phae.proj.15988

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
d	+3156	0 42.4	4.1	106.8	10 0 53.40	11	54.95		10	49 55 14.05	
((δ) — D) $\frac{d'}{100}$	1.49914					49 55	41.14			− 27	+7.42
δ₁	9.80864						−27.12			− 11	
	1.43333 m									+ 7.45	
										+ 35	
										−12.80	
										55 8.64	
d	+28.60	0 42.9	5.3	108.2	10 0 54.10	11	54.25		10	55 15.32	
((δ) — D) $\frac{d'}{100}$	1.45637					49 55	39.90			− 22	+7.60
δ₂	9.80864						−24.58			− 11	
	1.39056 m									+ 7.58	
										+ 35	
										−13.80	
										55 9.12	
d											
((δ) — D) $\frac{d'}{100}$											
δ₁											
d	+640	4 23.0	43.0	66.0	14 4 33.00	8	15.35		10	54 51 56.65	
((δ) — D) $\frac{d'}{100}$	0.80618					54 52	1.54			− 1	+12.48
δ₂	9.76003						− 4.92			− 55	
	0.69173 m									+12.45	
										+ 59	
										−12.50	
										51 56.83	
d	+24.86	4 36.6	55.8	92.4	~~11~~ 4 46.20	~~8~~ 43	2.15		~~35~~ 35	~~57~~ 52 ~~51~~ 26 ~~29.27~~ 17	~~28.14~~ +10.14 +9.66
((δ) — D) $\frac{d'}{100}$	~~1.39550~~				39	52 ~~54~~ 26	48.37			− 57	
δ₁	~~9.76003~~ 9.78494						~~−19.10~~			~~+993~~ ~~+10.39~~	
	~~+28105~~ m 1.30596 m						20.23			+ 487	
										−12.50	
										26 25.50	
d											
((δ) — D) $\frac{d'}{100}$											
δ₂											
d											
((δ) — D) $\frac{d'}{100}$											
δ₁											
d											
((δ) — D) $\frac{d'}{100}$											
δ₂											
d											
((δ) — D) $\frac{d'}{100}$											
δ₁											
d											
((δ) — D) $\frac{d'}{100}$											
δ₂											
d											
((δ) — D) $\frac{d'}{100}$											
δ₁											
d											
((δ) — D) $\frac{d'}{100}$											
δ₂											

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1875phae.proj.1598R

Date$_1$ = 1875, Oct. 13 $n = -.31$ Observer W.A.R. Recorder J.F.M.

Date$_2$ = 1875 Oct. 14 $n = -.24$ $C = -.12$ Observer W.A.R.
Oct. 17 $n = -.30$ $C = -.10$ Recorder J.F.M.

12

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
Oct. 13	m s	° ′		m s	m s					m s			
0	6 30	50 59	8.5	20 7 9.1	7 19.7	23.0	26.3	29.6	32.9	7 26.30			
	6 33	55.9	8.3	13.2						− 48.12			
κ				16.2						− 38			
									− 48.52	− 2			
((δ) − D) $\frac{\kappa'}{100}$				12.8						6 37.78			
										− 1.12			
c_1										6 36.66			
Oct. 14													
			8.5	7 12.6	7 19.7	23.1	26.2	29.7	32.9	7 26.82			
				14.3						− 48.09			
κ				17.3						− 30			
										− 19			
((δ) − D) $\frac{\kappa'}{100}$				14.7					− 48.60	− 2			
										37.72			
Oct. 13 c_2										− 1.09			
										6 36.63			
	7 15	52 0	7.5	7 52.1	7 53.8	57.1	0.3	3.7	7.4	8 0.46			
	6 38.3	51 57.1	7.5	55.4						−48.12			
κ				57.5						− 40			
										− 2			
((δ) − D) $\frac{\kappa'}{100}$				55.0					− 48.54	7 11.92			
										−1.09			
a_1										7 10.83			
Oct. 14													
			7.7	8 7.7	7 54.0	57.3	0.7	3.8	7.3	8 0.62			
				10.5						−48.09			
κ				13.2						− 31			
										− 19			
((δ) − D) $\frac{\kappa'}{100}$				10.5					− 48.61	− 2			
										120			
a_2										−1.06			
Oct. 17										7 8 10.95			
			7.5	8 4.1	7 55.8	59.1	2.3	5.7	9.1	8 2.40			
				8.0						−49.93			
κ				10.6						− 38			
										− 16			
((δ) − D) $\frac{\kappa'}{100}$				7.6					− 50.49	− 2			
										9 11.91			
a_1										− 0.96			
13		51								9 10.95			
	9 25	52 52	9.0	9 48.6	9 57.7	1.0	4.5	7.7	11.1	10 4.40			
	8 58.1	49.0	8.9	54.7						−48.12			
κ				56.5						− 41			
										− 2			
((δ) − D) $\frac{\kappa'}{100}$				52.3					− 48.55	9 15.85			
										−1.07			
a_2										9 14.78			
14													
			8.8	9 55.8	9 57.6	1.0	4.6	7.6	11.3	10 4.42			
				58.0						−48.09			
κ				0.3						− 32			
				2.7						− 20			
((δ) − D) $\frac{\kappa'}{100}$				59.1					− 48.63	− 2			
										9 15.79			
a_1										− 1.04			
17										9 14.75			
			8.7	9 57.8	9 59.4	3.0	6.3	9.7	13.0	10 6.28			
				1.4						−49.93			
κ				3.8						− 40			
										− 17			
((δ) − D) $\frac{\kappa'}{100}$				61.0					− 50.52	− 2			
										9 15.76			
a_2										− 94			
13										9 14.82			
	12 0	53 0	8.4	12 35.4	12 49.2	53.0	56.0	59.6	3.1	12 58.18			
	11 33.7	52 57.4	8.5	39.2						− 48.12			
κ				42.6						− 41			
									− 48.56	− 3			
((δ) − D) $\frac{\kappa'}{100}$				39.1						12 7.62			
										−1.08			
a_1										12 6.54			
14													
			8.7	12 33.4	12 49.5	52.7	56.3	59.6	3.0	12 58.92			
				36.7						−48.09			
κ				40.2						− 32			
										− 20			
((δ) − D) $\frac{\kappa'}{100}$				36.8					− 48.64	− 3			
										12 7.58			
a_2										−1.05			
										12 6.53			

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1875phae.proj.1598R

Oct. 13 −16′ 14.″22 −.″13
Oct. 14 −16 14.38 −.13
Oct. 17 −16 15.65 −.13

Runs

13

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+13,50	1 45.9	1.1	107.0	6 / 1 53.50	15	54.85		5	50 59 29.29	
	1.13033					50 59	40.63			− 5	+9.16
d	9.79887						− 11.34			− 25	
$((\delta) - D)\frac{d'}{100}$	1.05472 m									+ 9.06	
										+ 40	
δ_1					6					−18.90	
										59 19.55	
	+11,62	1 45.9	4.9	110.8	1 55.40	15	52.95		5	59 28.81	
	1.06521					50 59	38.57			− 4	+9.05
d	9.79887						− 9.76			− 25	
$((\delta) - D)\frac{d'}{100}$	0.98960 m									+ 8.94	
										+ 40	
δ_2					5					−19.00	
										59 18.86	
	+ 5,46	0 25.8	42.1	67.9	0 33.95	14	14.40		5	52 0 55.69	
	0.73719					52 1	0.18			− 1	+10.52
d	9.78918						− 4.49			− 8	
$((\delta) - D)\frac{d'}{100}$	0.65189 m									+10.16	
										+ 45	
δ_1					5					−19.00	
										0 47.21	
	− 4.3	0 37.7	54.9	92.6	0 46.30	17	2.05		5	55.80	
0.99563	0.68347 m					52 0	47.67			− 0	+10.38
9.78918	9.78918						+ 8.05			− 10	
.91010	0.54817						8.13			+10.03	
$((\delta) - D)\frac{d'}{100}$										+ 45	
δ_2					5					−19.10	
										4248 47.08	
	− 5,20	0 32.6	49.9	82.5	0 41.25	17	7.10		5	0 55.72	
	0.71600 m					52 0	51.45			− 1	+10.32
d	9.78918						+ 4.27			− 9	
$((\delta) - D)\frac{d'}{100}$	0.63070									+ 10116 9.97	
										+ 45	
δ_1					17					−19.30	
										0 46.74	
	+12,10	2 52.0	6.4	118.4	2 59.20	4	49.15		15	52 48 25.17	Ex δ°
	1.08279					52 48	31.03			− 4	+11,06
d	9.78130						− 9.76			− 39	
$((\delta) - D)\frac{d'}{100}$	0.78961 m									+ 11.00	
										+ 49	
δ_2					18					−19.20	
										48 17.03	
	+ 5,32	2 54.4	11.4	125.8	3 2.90	4	45.45		15	48 26.78	
	0.72591					52 48	31.04			− 1	+10.95
d	9.78130						− 4.29			− 39	
$((\delta) - D)\frac{d'}{100}$	0.63273 m									+ 10.86	
										+ 49	
δ_1					18					−19.30	
										48 18.43	
	+ 5,28	2 53.0	10.0	123.0	3 1.50	4	46.85		15	48 26.94	
	0.72263					52 48	31.20			− 1	+10.89
d	9.78130						− 4.26			− 39	
$((\delta) - D)\frac{d'}{100}$	0.62945 m									+ 10.80	
										+ 49	
δ_2					5					−19.50	
										48 18.33	
	+17,08	0 21.0	37.4	58.4	0 29.20	17	19.15		5	53 0 51.21	
	1.23249					53 1	4.93			− 8	+11.59
d	9.77936						−13.72			− 6	
$((\delta) - D)\frac{d'}{100}$	1.13731 m									+ 11.23	
										+ 50	
δ_1					5					−19.40	
										0 43.40	
	+19,42	0 16.7	34.1	50.8	0 25.40	17	22.95		5	0 52.97	
	1.28825					53 1	8.54			− 9	+11.45
d	9.77930						−15.60			− 5	
$((\delta) - D)\frac{d'}{100}$	1.19307 m									+ 11.09	
										+ 50	
δ_2										−19.50	
										0 44.92	

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Date$_1$ = 1875, Oct. 13 (4 32) Observer W.A.R. Recorder J.F.M.

Date$_2$ = 1875, Oct. 14 (4 33) Oct. 17 (4 34) Observer W.A.R. Recorder J.F.M.

14

Ru

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
Oct. 17													
12	12 0	58 0	6.4	20 12 38.4	12 51.2	54.7	58.3	1.8-	5.1	17	m s 58.16		
11	33.7	02 57.4	8.5	41.5-							-49.94		
κ				44.4							- 40		
											- 17		
((δ) — D) $\frac{\kappa'}{100}$				41.5					- 50.54		- 3		
										12	7.62		
α_1											-.95		
13										12	16.67		
13	13 3	51 5	9.0	13 31.0	13 53.4	56.8	0.2	3.3	6.9	14	0.12		
12	86.4	2.9	9.0	34.7							-48.12		
κ				38.1							- 38		
											- 2		
((δ) — D) $\frac{\kappa'}{100}$				34.8					- 48.52				
										13	11.60		
α_2											-1.18		
14										13	10.42		
			9.0	13 36.3	13 53.6	56.8	0.2	3.4	6.7	14	0.14		
κ				39.4							-48.09		
				42.0							- 30		
											- 19		
((δ) — D) $\frac{\kappa'}{100}$				39.2					- 48.60		- 2		
										13	11.54		
α_1											-1.14		
17										13	10.40		
			9.0	13 32.4	13 55.5	58.8	1.9	5.1	8.6	14	1.98		
κ				35.2							-49.94		
				39.9							- 37		
											- 16		
((δ) — D) $\frac{\kappa'}{100}$				35.2					- 50.49		- 2		
										13	11.49		
α_2											-1.05		
13										13	10.44		
14	11	51 37	9.0	14 50.3	15 1.5	4.9	8.3	11.8	15.2	15	8.34		
13	44.7	54.4	8.9	53.6							-48.12		
κ				57.8							- 40		
											- 2		
((δ) — D) $\frac{\kappa'}{100}$				53.9					- 48.54				
										14	19.80		
α_1											-1.15		
14										14	18.65		
			8.8	14 58.7	15 1.8-	5.0	8.4	11.7	15.0	15	8.32		
κ				55.8-							-48.09		
				58.8							- 31		
											- 19		
((δ) — D) $\frac{\kappa'}{100}$				56.0					- 48.61		- 2		
										14	19.71		
α_2											-1.12		
17										14	18.59		
			8.8	14 47.1	15 3.4	6.8	10.3	13.4	17.0	15	10.18		
κ				50.0							-49.94		
				54.1							- 38		
											- 16		
((δ) — D) $\frac{\kappa'}{100}$				50.4					- 50.50		- 2		
										14	19.68		
α_1											-1.02		
13										14	18.66		
15	13	51 49	9.1	15 46.0	16 3.1	6.3-	10.2	13.6	16.3-	16	9.98		
14	46.3	45.1	9.2								-48.12		
κ											- 39		
											- 2	15	21.45
((δ) — D) $\frac{\kappa'}{100}$			9.2						- 48.53				-1.16
14 49.2		51 45.1		15 48.0	16 5.8	9.3	12.9	16.0	19.4	16	12.68	15	20.29
α_2											-48.12		
14											- 39		
									- 48.53		- 2	15	24.15
			8.7	15 54.0	16 3.2	6.6	9.8	13.2	16.5-	16	9.86		-1.16
κ											-48.09	15	23.99
											- 30		2
									- 48.60		- 19		
((δ) — D) $\frac{\kappa'}{100}$			8.9	15 55.8	16 5.8	9.2	12.6	16.0	19.5-	16	12.62	15	21.26
											-48.09		-1.13
α_1											- 30	15	20.13
17									- 48.60		- 19		
			8.8	15 49.5-	16 4.9	8.3	12.0	15.0	18.3	16	11.70	15	24.02
κ											-49.94		-1.13
											- 38	15	22.89
									- 50.56		- 16		
((δ) — D) $\frac{\kappa'}{100}$			8.9	15 52.3	16 7.9	11.6	14.6	17.7	21.1	16	14.58	15	21.20
											-49.94		-1.04
α_2											- 38	15	20.16
									- 50.50		- 16		
											- 2	15	24.08
													-1.04
												15	23.04

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+16.66	0 17.2	35.1	52.3	5 0 26.15	17	22.20		5-	53 0 53.17	
	1.22167				53	1	6.55			− 8	+11.41
d	9.77930						−13.38			− 5	
	1.12649n									+11.04	
$((\delta) - D)\frac{d'}{100}$										+ 50	
										−19.70	
δ_1										0 44.88	
	+25.32	4 25.3	40.9	66.2	59 4 33.10	23	15.25		5-	51 6 39.81	
	1.40346				51	7	1.03			− 17	+8.86
d	9.79778						−21.22			− 57	
	1.32676n									+ 9.27	
$((\delta) - D)\frac{d'}{100}$										+ 41	
										−19.30	
δ_2										6 29.37	
	+20.94	4 27.1	44.0	71.1	59 4 35.55	23	12.80		5-	6 40.87	
	1.32098				51	6	58 48.42			− 12	+8.72
d	9.79778						−17.55			− 60	
	1.24428n									+9.08	
$((\delta) - D)\frac{d'}{100}$										+ 41	
										−19.30	
δ_1										6 30.34.29	
	+26.78	4 20.9	38.7	59.6	59 4 29.80	23	18.55		5-	6 40.46	
	1.42781				51	7	2.90			− 19	+8.69
d	9.79778						−22.44			− 58	
	1.35111n									+9.05	
$((\delta) - D)\frac{d'}{100}$										+ 41	
										−19.50	
δ_2										6 29.65	
	+14.44	3 8.0	22.9	30.9	8 3 15.45	14	32.90		5-	57 58 6.80	
	1.15957				51	58	18.68			− 5	+10.10
d	9.78967						−11.88			− 42	
	1.07476n									+10.12	
$((\delta) - D)\frac{d'}{100}$										+ 45	
										−19.40	
δ_1										57 57.50	
	+12.32	3 10.8	26.2	37.0	8 3 18.50	14	29.85		5-	58 5.34	
	1.09061				51	58	15.47			− 4	+9.96
d	~~9.90128~~						−10.13			− 42	
	9.78967									+9.97	
$((\delta) - D)\frac{d'}{100}$	1.00580n									+ 45	
										−19.50	
δ_2										57 55.80	
	+19.78	3 1.2	18.4	19.6	8 3 9.80	14	38.55		5-	58 6.63	
	1.29623				51	58	22.90			− 11	+9.87
d	9.78967						−16.27			− 41	
	1.21142n									+9.94	
$((\delta) - D)\frac{d'}{100}$										+ 45	
										−19.70	
δ_1										57 56.80	
	+23.98	2 14.2	29.0	43.2	17 2 21.60	5	26.75		15-	51 48 52.74	48 52.16
	1.34985	51 48 52.74			51	49	12.53			− 15	− 16
d	9.79111	+ 9.94					−19.79			− 30	− 30
	1.29648n									+ 9.95	+ 9.95
$((\delta) - D)\frac{d'}{100}$	+24.68	2 14.2	29.0	43.2	17 2 21.60	5	26.75		15-	+ 44	+ 44
	1.39235	51 48 52.16			51	49	12.53			−19.50	−19.50
δ_2	9.79111	+ 9.93					−20.37			48 43.18	48 42.59
	1.30898n										
	+15.86	2 18.1	34.9	53.0	17 2 26.50	5	21.85		15-	48 54.38	48 53.59
	1.20030	48 54.38			51	49	7.44			− 7	− 8
d	9.79111	+ 9.87					−13.09			− 31	− 31
	1.11693n									+ 9.81	+ 9.81
$((\delta) - D)\frac{d'}{100}$	+16.82	2 18.1	34.9	53.0	17 2 26.50	5	21.85		15-	+ 44	+ 44
	1.22583	48 53.59			51	49	7.47			−19.50	−19.50
δ_1	9.79111	+ 9.86					−13.88			48 44.75	48 43.95
	1.14246n										
	+22.20	2 11.4	28.0	39.4	17 2 19.70	5	28.65		15-	48 54.68	48 54.61
	1.34635	51 48 54.68			51	49	13.00			− 13	− 13
d	9.79111	+ 9.79					−18.32			− 30	− 30
	1.26298n									+ 9.78	+ 9.78
$((\delta) - D)\frac{d'}{100}$	+22.28	2 11.4	28.0	39.4	17 2 19.70	5	28.65		15-	+ 44	+ 44
	1.34792	48 54.61			51	49	13.00			−19.70	−19.70
δ_2	9.79111	+ 9.79					−18.39			48 44.77	48 44.70
	1.26455n										

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Date$_1$ = 1875, Oct. 13 432 Observer W.A.R. Recorder J.F.M.

Date$_2$ = 1875, Oct. 14 433 Oct. 17 434 Observer W.A.R. Recorder J.F.M.

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
13													
0	16 23	51 4	8.8	20 16 41.6	17 13.8	17.4	20.7	23.9	27.3	17 20.62			
	15 56.3	0.6	8.5	44.6						-48.12			
	κ			48.1					- 48.52	38			
				44.7						- 2			
	((δ) — D) $\frac{\kappa'}{100}$		8.9								16 32.10		
	15 57.8	51 2.1		17 11.0	17 15.2	18.7	21.9	25.1	28.5	17 21.88		16 30.89	
	α_1								- 48.52	-48.12			
14										- 38			
										- 2		16 33.28	
			8.4	16 43.0	17 13.9	17.4	20.6	23.9	27.0	17 20.56		- 1.21	
				45.3						-48.09		16 32.15	
	κ			48.4					- 48.60	- 30			
				45.6	17 15.2	18.7	21.9	25.0	28.6	- 19			
	((δ) — D) $\frac{\kappa'}{100}$		8.5							- 2		16 31.96	
										17 21.88		- 1.17	
	α_2								- 48.60	-48.09		16 30.79	
17										- 30			
										- 19			
										- 2		16 33.28	
			8.8	16 56.8	17 15.7	19.0	22.3	25.7	29.1			- 1.17	
				6.1						17 22.36			
	κ			3.6					- 50.49	-49.94		16 32.11	
				60.2						- 37			
	((δ) — D) $\frac{\kappa'}{100}$		8.8							- 16			
										- 2		16 31.87	
				17 21.6	17 16.8	20.4	23.6	27.0	30.5	17 23.66		- 1.09	
	α_1									-49.94		16 30.78	
									- 50.49	- 37			
13										- 16			
										- 2		16 33.17	
	17 31	51 18	8.8	18 10.2	18 22.3	25.7	29.0	32.3	35.4			- 1.09	
	17 4.8	14.6	8.9	13.8						18 28.94			
	κ			17.0						-48.12		16 32.08	
				13.7					- 48.52	- 38			
	((δ) — D) $\frac{\kappa'}{100}$									- 2			
										17 40.42			
	α_2									- 1.21			
										17 39.21			
14													
			8.5	18 04	18 22.4	25.6	29.0	32.3	35.6				
				2.9						18 28.98			
	κ			5.9						-48.09			
				3.81						- 30			
	((δ) — D) $\frac{\kappa'}{100}$								- 48.60	- 19			
										- 2			
										17 40.38			
	α_1									- 1.17			
17										17 39.21			
			8.7	18 3.1	18 24.1	27.3	30.9	34.1	37.4				
				6.4						18 30.76			
	κ			9.6						-49.94			
				6.3						- 37			
	((δ) — D) $\frac{\kappa'}{100}$								- 50.49	- 16			
										- 2			
										17 40.27			
	α_2									- 1.08			
13										17 39.19			
	18 51	52 27	8.6	19 12.5	19 41.0	44.4	47.6	51.4	54.6				
	18 24.7	24.4	8.8	15.6						19 47.80			
	κ			19.4						-48.12			
				15.8					- 48.54	- 40			
	((δ) — D) $\frac{\kappa'}{100}$									- 2			
										18 59.26			
	α_1									- 1.17			
14										18 58.09			
			9.2	19 40.8	19 54.6	57.8	1.3	4.8	8.1				
				43.7						20 1.32			
	κ			46.8						-48.09			
				43.8					- 48.62	- 37			
	((δ) — D) $\frac{\kappa'}{100}$									- 20			
										- 2			
										19 12.70			
	α_2									- 1.14			
17										19 11.56			
			8.7	19 22.2	19 42.6	46.0	49.6	52.8	56.5				
				25.0						19 49.50			
	κ			27.1						-49.94			
				24.9					- 50.51	- 39			
	((δ) — D) $\frac{\kappa'}{100}$			25.0						- 16			
										- 2			
										18 58.99			
	α_1									- 1.04			
13										18 57.95			
	20 18	52 4	7.9	20 56.7	21 6.8	9.9	13.3	16.9	20.2				
	19 51.0	3.9	8.2	59.2						21 13.42			
	κ			2.0						-48.12			
				59.3					- 48.54	- 40			
	((δ) — D) $\frac{\kappa'}{100}$									- 2			
										20 24.88			
	α_2									- 1.20			
										20 23.68			

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1875phae.proj.15988

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+3582	0 523	8.8	121.1	1′ 0″55	21	47.80		0	51 5 3.55	5 49.61
	1.554413	51 5 3.55				51 5	33.58			− 35	− 3
d	9.79793	+ 9.08					−30.03			− 13	− 8
	1.477588n									+ 9.16	+ 9.16
((δ) − D) $\frac{d'}{100}$	+10.88	0 26.9	43.9	70.8	0 25.40	22	12.95		0	+ 40	+ 40
	1.03663	5 49.61				51 5	58.73			−19.50	− 19.50
δ_1	9.79793	+ 9.45					− 9.12			4 53.13	5 39.56
	0.96008n										
	+32.16	0 50.1	9.1	119.2	0 59.60	21	48.75		0	5 7.40	no δ
	1.50732	5 7.40				51 5	34.37			− 27	−
d	9.79793	+9.04					−26.97			− 13	− 13
	1.43087n									+ 9.04	+ 9.04
((δ) − D) $\frac{d'}{100}$	+36.28	0 50.1	9.1	119.2	0 59.60	21	48.75		0	+ 40	+ 40
	1.55967					51 5	34.37	✓		−19.60	−19.60
δ_2	9.79793						−30.42			4 56.84 ?	
	1.48312n										
+22.16	+~~18.76~~	1 0.8	18.4	19.2	1 9.60	21	38.75		0	5 4.51	5 48.62
	1.34554	51 5 4.51				51 5	28.10			− 13	− 0
d	9.79869	+ 9.13					− 18.59			− 15	− 9
	1.26918n									+ 9.01	+ 9.01
((δ) − D) $\frac{d'}{100}$	+26.~~26~~ ~~42.50~~	0 33.1	51.6	84.7	0 42.35	22	6.00		0	+ 40	+ 40
	0.31387	5 48.62				51 5	50.35			−19.70	−19.70
δ_1	9.79793	+ 9.32					− 1.73			4 53.94	5 38.24
	0.23732n				47						
+15.24	+~~11.41~~	2 36.9	53.0	89.9	2 44.95	35	3.40		48	51 18 36.46	
	1.18298	~~51 18 36.46~~				51 18	49.18			− 6	+9.402
d	9.79589						− 12.72			− 36	
	1.10439n									+ 9.42	
((δ) − D) $\frac{d'}{100}$										+ 42	✓
										−19.60	
δ_2										18 26.28	
	+25.88	2 25.7	43.7	69.4	47 2 34.70	35	13.65		48	18 37.67	
	1.41296	~~18 37.67~~				51 18	59.27			− 18	+9.18
d	9.79589						− 21.60			− 34	
	1.33437n									+ 9.28	
((δ) − D) $\frac{d'}{100}$										+ 42	
										−19.60	
δ_1										18 27.25	
	+24.46	2 26.2	43.9	70.1	47 2 35.05	35	13.30		45	18 37.24	
	1.38846					51 18	57.65			− 16	+9.17
d	9.79589						− 20.41			− 34	
	1.30987n									+ 9.25	
((δ) − D) $\frac{d'}{100}$										+ 42	
										−19.80	
δ_2										18 26.61	
	+32.00	2 35.6	50.8	86.4	37 2 43.20	45	5.15		35	52 28 24.91	
	1.50515					52 28	50.93			− 27	+10.49
d	9.78461						− 26.02			− 36	
	1.41528n									+10.65	
((δ) − D) $\frac{d'}{100}$										+ 47	
										−19.80	
δ_1										28 15.60	
	+17.52	1 55.9	13.0	128.9	3 18.7 2 4.45	4.25	13.90		35	29 15.27	
	1.24353					52 29	29.52			− 8	+10.64
d	9.78461						− 14.25			− 27	
	1.15366n									+10.52	
((δ) − D) $\frac{d'}{100}$										+ 47	
										−19.80	
δ_2										29 6.11	
	+24.50	2 38.5	54.7	93.2	37 2 46.60	45	1.75		35	28 26.19	
	1.38917					52 28	46.10			− 16	+10.40
d	9.78461						− 19.91			− 36	
	1.29930n									+10.45	
((δ) − D) $\frac{d'}{100}$										+ 47	
										−20.00	
δ_1										28 16.59	
	+11.12	~~1 55.9 13.0~~			58	24	11.50		55	52 7 45.71	
	1.14983	3 29.0	44.7	73.7	3 36.85	52 7	57.28			− 5	+10.22
d	9.78805						− 11.57			− 47	
	1.06340n									+10.28	
((δ) − D) $\frac{d'}{100}$										+ 46	
										−19.80	
δ_2										4 36.13	

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1875phae.proj.1598R

Date$_1$ = 1875, Oct. 13 — 432 — Observer W.A.R. — Recorder J.F.M.

Date$_2$ = 1875, Oct. 14 — 433 — Oct. 17 — 434 — Observer W.A.R. — Recorder J.F.M.

18

Run

Oct. 14 Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
	m 20	° ′ 18 52 4	7.5	20 20 59.3	21 6.7	10.1	13.4	16.8	20.2	21	m s 13.44		
	19	51.0 3.9	8.2	1.9							−48.09		
	κ			5.6							− 31		
	((δ) — D) $\frac{\kappa'}{100}$			62.2					− 48.62		− 20		
											− 2		
										20	24.82		
	a_1										−1.17		
										20	23.65		
17			8.0	20 42.0	21 8.8	11.9	15.3	18.9	22.2	21	13.42		
				46.0							−49.94		
	κ			48.0							− 38		
	((δ) — D) $\frac{\kappa'}{100}$			45.3					− 50.50		− 16		
											− 2		
										20	24.92		
	a_2										−1.07		
13										20	23.85		
	21	23 52 52	9.0	21 59.2	22 12.8	16.1	19.8	23.2	26.6	22	19.70		
	20	56.9 49.2	8.9	2.2							−48.12		
	κ			5.0							− 41		
	((δ) — D) $\frac{\kappa'}{100}$			62.1					− 48.55		− 2		
										21	31.15		
	a_1										−1.17		
										21	29.98		
14			9.0	22 9.3	22 12.7	16.1	19.5	23.0	26.4	22	19.54		
				10.7							−48.09		
	κ			13.3							− 32		
	((δ) — D) $\frac{\kappa'}{100}$			10.4					− 48.63		− 20		
											− 2		
	a_2									21	30.91		
											−1.14		
17										21	29.77		
			8.8	21 57.3	22 14.4	18.0	21.2	24.7	28.1	22	21.28		
				0.3							−49.94		
	κ			3.3							− 40		
	((δ) — D) $\frac{\kappa'}{100}$			60.3					− 50.53		− 17		
											− 2		
	a_1									21	30.75		
											−1.04		
13										21	29.71		
	22	28 52 17	8.6	23 9.6	23 17.4	20.7	23.9	27.4	31.8	23	24.04		
	22	1.2 14.3	8.6	9.7							−48.12		
	κ			13.1							− 40		
	((δ) — D) $\frac{\kappa'}{100}$			10.1					− 48.54		− 2		
										22	35.50		
	a_2										−1.21		
										22	34.29		
14													
			8.8	23 0.0	23 17.3	20.8	24.0	27.4	30.8	23	24.06		
				3.5							−48.09		
	κ			6.9							− 31		
	((δ) — D) $\frac{\kappa'}{100}$			8.5					− 48.62		− 20		
											− 2		
	a_1									22	35.44		
											−1.18		
17										22	34.26		
			8.5	23 4.6	23 19.2	22.4	25.8	29.3	32.7	23	25.88		
				7.2							−49.94		
	κ			10.5							− 39		
	((δ) — D) $\frac{\kappa'}{100}$			7.4					− 50.51		− 16		
											− 2		
	a_2									22	35.37		
											−1.08		
13										22	34.29		
	23	43 52 36	8.8	24 14.0	24 33.6	37.1	40.3	43.8	47.1	24	40.38		
	23	16.8 32.8	8.5	18.8							−48.12		
	κ			21.8							− 40		
	((δ) — D) $\frac{\kappa'}{100}$			18.2					− 48.54		− 2		
										23	51.84		
	a_1										−1.21		
										23	50.63		
14													
			8.4	24 15.4	24 33.7	37.0	40.5	43.7	47.3	24	40.44		
				18.0							−48.09		
	κ			20.3							− 31		
	((δ) — D) $\frac{\kappa'}{100}$			17.9					− 48.62		− 20		
											− 2		
	a_2									23	51.82		
											−1.18		
										23	50.64		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+11.24	3 ~~29.0~~	~~44.7~~		58 "				55	52 7 46.86	
	1.050777	3 29.7	46.1	75.8	3 37.90	24	10.45			− 3	+10.11
d	9.978805					52 7	56.07			− 47	
	0.964345						− 9.21			+10.15	
$((\delta) - D)\frac{d'}{100}$										+ 46	
										−1990	
δ_1										7 37.07	
					58						
	+30.12	3 13.2	29.4	42.6	3 21.30	24	27.05		55	7 46.72	
	1.477885					52 8	11.40			− 24	+9.89
d	9.978805						−24.68			− 43	
	1.392421									+10.10	
$((\delta) - D)\frac{d'}{100}$										+ 46	
										−2010	
δ_2										7 36.51	
					13						
	+17.60	3 6.8	21.1	27.9	3 13.95	9	34.40		10	52 53 6.00	
	1.245511					52 53	20.18			− 8	+11.08
d	9.978063						−14.18			− 44	
	1.151663									+11.11	
$((\delta) - D)\frac{d'}{100}$										+ 49	
										−2000	
δ_1										52 57.08	
					13						
	+9.14	3 10.7	27.3	38.0	3 19.00	9	29.35		10	52 53 7.61	
	0.960955					52 53	14.97			− 2	+10.99
d	9.978063						− 7.36			− 43	
	0.867018									+10.95	
$((\delta) - D)\frac{d'}{100}$										+ 49	
										−2010	
δ_2										52 58.50	
					13		D			7	
	+20.98	2 5.99	16.4	126.3	3 8.15	9	45.20		10	53 ~~+~~2.65	
	1.321815					52 53	24.55			− 12	+10.87
d	9.978063						−16.90			− 40	
	1.227960									+10.90	
$((\delta) - D)\frac{d'}{100}$										+ 49	
										−2030	
δ_1										52 ~~58~~ 58.22	
					47						
	+13.94	2 4.76	3.0	110.6	2 55.30	34	53.05		45	52 18 27.45	
	1.144266					52 18	38.83			− 5	+10.51
d	9.978625						−11.38			− 38	
	1.056031									+10.47	
$((\delta) - D)\frac{d'}{100}$										+ 47	
										−2000	
δ_2										18 17.96	
					47						
	+20.56	2 40.1	57.0	97.1	2 48.55	34	59.80		45	18 28.64	
	1.313022					52 18	45.42			− 11	+10.33
d	9.978625						− 16.78			− 36	
	1.224794									+10.33	
$((\delta) - D)\frac{d'}{100}$										+ 47	
										−2010	
δ_1										18 18.87	
					47						
	+18.48	2 38.8	~~55.5~~	94.3	2 47.15	35	1.20		45	18 30.47	
	1.266702					52 18	45.55			− 7	+10.32
d	9.978625						− 15.08			− 36	
	1.178477									+10.~~27~~	
$((\delta) - D)\frac{d'}{100}$										+ 30	
										+ 47	
δ_2										−2030	
										18 20.49	
					29						
	+22.18	4 10.3	24.2	34.5	4 17.25	53	31.10		25	52 36 58.90	
	1.345961					52 37	16.88			− 13	+10.62
d	9.978329						− 17.98			− 55	
	1.254777									+10.82	
$((\delta) - D)\frac{d'}{100}$										+ 48	
										− ~~2~~0.10	
δ_1										36 49.42	
					29						
	+22.54	4 7.4	23.1	30.5	4 15.25	53	33.10		25	37 0.45	
	1.352955					52 37	~~18.58~~ 18.72			− 13	+10.47
d	9.978329						− 18.27			− 55	
	1.261761									+10.67	
$((\delta) - D)\frac{d'}{100}$										+ 48	
										−2020	
δ_2										36 50.72	

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Date$_1$ = 1875, Oct. 13 (432) Observer W.A.R. Recorder J.F.M.

Date$_2$ = 1875, Oct. 14 (433) Oct. 17 (434) Observer W.A.R. Recorder J.F.M.

W

Run

Oct. 17 Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
K	m s	° ′								m s			
20	23 43	52 36	8.2	20 24 21.3	24 35.4	38.9	42.4	45.8	49.1	24	42.32		
	23 16.8	32.8	8.5	23.3							−49.95		
				25.1							− 39		
											− 16		
((δ) − D) $\frac{\kappa'}{100}$				23.1					− 50.52		− 2		
										23	51.80		
a_1											−1.08		
13										23	50.72		
	24 24	52 32	9.4	25 13.2	25 14.1	17.5	21.1	24.2	28.0	25	20.98		
	23 57.9	24.0	9.4								−48.12		
K											− 40		
									− 48.54		− 2		
((δ) − D) $\frac{\kappa'}{100}$										24	32.44		
a_2											−1.21		
14										24	31.23		
			9.0		bh f.								
K													
((δ) − D) $\frac{\kappa'}{100}$													
a_1													
17													
			9.8	25 15.1	25 16.1	19.7	23.1	26.2	29.6	25	22.94		
				18.3							−49.95		
K				21.8							− 39		
											− 16		
((δ) − D) $\frac{\kappa'}{100}$				18.4					− 50.52		− 2		
										24	32.42		
a_2											−1.08		
13										24	31.34		
	25 36	52 52	9.6	26 11.5	26 25.8	29.0	~~28.0~~	35.5	39.3	26	32.40		
	25 9.7	48.9	9.4	14.1							−48.12		
K				17.0							− 41		
									− 48.55		− 2		
((δ) − D) $\frac{\kappa'}{100}$				14.2						25	43.85		
											−1.21		
a_1										25	42.64		
17													
			9.3	26 16.5	26 27.3	30.7	34.4	37.4	40.8	26	34.12		
				19.5							−49.95		
K				22.4							− 40		
											− 17		
((δ) − D) $\frac{\kappa'}{100}$				19.5					− 50.54		− 2		
										25	43.58		
a_2											−1.08		
13										25	42.50		
	26 37	52 9	9.6	27 6.4	27 27.8	31.1	34.4	38.1	41.2	27	34.52		
	26 10.6	6.2	8.8	9.4							−48.12		
K				11.7							− 40		
									− 48.54		− 2		
((δ) − D) $\frac{\kappa'}{100}$				9.2						26	45.98		
											−1.25		
a_1										26	44.73		
17													
			8.8	27 7.2	27 29.5	33.1	36.4	40.0	43.5	27	36.50		
				10.2							−49.95		
K				13.3					− 50.51		− 38		
				10.2							− 16	26 45.99	
((δ) − D) $\frac{\kappa'}{100}$			9.3	27 16.6	27 39.5	43.0	46.1	49.5	52.9		− 2	− 1.12	
				20.3						27	46.20	26 44.87	
a_2				23.8					− 50.51		−49.95		
13				20.2	5						− 38		
											− 16	26 55.69	
	28 5	52 47	9.7	28 25.6	28 38.3	~~39.8~~	42.8	46.3	49.5		− 2		
	27 ~~38.3~~	48.7	9.4	28.1		39.0				28	42.~~45.8~~	− 1.12	
K	189			31.7							−48.12	26 54.57	
									− 48.54		− 40	~~53.95~~	
((δ) − D) $\frac{\kappa'}{100}$				28.5							− 2		
										27	54.20		
a_1											−1.24		
17										27	52.~~96~~80		
											38		
			9.2	28 35.5	28 37.5	41.0	44.5	47.9	51.2	28	44.~~42~~		
K											−49.95		
											− 39		
											− 17		
((δ) − D) $\frac{\kappa'}{100}$									− 50.53		− 2		
										27	53.85		
a_2											−1.10		
										27	52.75		

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Runs

21

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+19.22	4	9.0	24.7	33.7″ 24 4 1685	53	31.50		25	52 37 0.27	
	1.28375				52 37		15.85			− 10	+10.45
d	9.78329						− 15.58			− 55	
	1.19256 m									+ 10.62	
$((\delta) - D)\frac{d'}{100}$										+ 48	
										− 2040	
δ_1										36 56.32	
	+7.78	3	19.6	34.1	53.7 33 3 2685	49	21.50		30	52 33 0.96	
	0.89098				52 33		7.28			− 2	+9.77
d	9.78395						− 6.32			− 44	
	0.80045 m									+ 10.745	
$((\delta) - D)\frac{d'}{100}$										+ 48	
										− 2010	
δ_2										32 ~~51.63~~ 50.63	
		3	14.1	29.9	44.0 33 3 2200	49	26.35		30	≠	
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
	+4.54	3	19.2	36.5	55.7 33 3 2785	49	20.50		30	33 1.16	
	0.65706				52 33		4.85			− 1	+10.54
d	9.78395						− 3.69			− 44	
	0.56653 m									+ 10.54	
$((\delta) - D)\frac{d'}{100}$										+ 48	
										− 2040	
δ_2										32 51.33	
	+18.20	3	13.9	27.6	41.5 13 3 2075	9	27.60		10	52 52 58.72	
	1.26007				52 53		13.38			− 8	+11.09
d	9.78063						− 14.66			− 43	
	1.16622 m									+ 11.11	
$((\delta) - D)\frac{d'}{100}$										+ 49	
										− 2020	
δ_1										52 49.61	
	+1.462	3	14.0	30.8	44.8 13 3 2240	9	25.95		10	52 58.43	
	1.16495				52 53		10.30			− 6	+10.90
d	9.78063						− 11.87			− 43	
	1.07110 m									+ 10.90	
$((\delta) - D)\frac{d'}{100}$										+ 49	
										− 2050	
δ_2										52 48.83	
	+25.32	0	47.6	3.1	110.7 55 0 5535	26	53.00		55-	52 10 18.05	
	1.40346				52 10		38.78			− 17	+10.50
d	9.78756						− 20.73			− 12	
	1.31654 m									+ 10.33	
$((\delta) - D)\frac{d'}{100}$										+ 46	
										− 20.20	
δ_1										10 8.35	
	+26.30	0	44.2	1.9	106.1 55 0 5305	26	55.30		55-	10 18.12	10 18.37
	1.41996	52	10	16.32	52 10		39.65			− 18	− 18
d	9.78756			+10.30			− 21.53			− 12	− 12
	1.33304 m									+ 10.14	+ 10.14
$((\delta) - D)\frac{d'}{100}$	+26.00	0	44.2	1.9	106.1 55 0 5305	26	55.30		55-	+ 46	+ 46
	1.41997	52	10	18.37	52 10		39.65			− 20.50	− 20.50
δ_2	9.78756			+10.30			− 21.28			10 7.92	10 8.17
	1.32805 m										
	+14.24	0	2.8	17.9	20.7 15 0 1035	7	38.00		15-	52 51 12.30	
	1.15351				52 51		23.78			− 5	+11.49
d	9.78097						− 11.48			− 2	
	1.06000 m									+ 11.07	
$((\delta) - D)\frac{d'}{100}$										+ 49	
										− 2030	
δ_1										51 13.49	
	+8.88	0	3.4	20.4	238. 15 0 1190	7	36.45		15-	51 13.64	
	0.94841				52 51		20.80			− 2	+11.31
d	9.78097						− 7.16			− 2	
	0.85490 m									+ 10.86	
$((\delta) - D)\frac{d'}{100}$										+ 49	
										− 2060	
δ_2										51 13.35	

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1875phae.proj.1598R

Date$_1$ = 1875, Oct. 13 (432) Observer W.A.R. Recorder J.F.M. Date$_2$ = 1875, Oct. 14 (433) Oct. 17 (434) Observer W.A.R. Recorder J.F.M. 22

Oct. 13 Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
20	m 29	sec 25	51 0	9.4	20 30 11.2	30 16.7	19.4	22.7	26.1	29.9	30 27 59	22.16		
	28	57.8	50 57.2	9.0	12.6							−48.12		
	κ				15.1							− 38		
										− 48.52		− 2		
	((δ) − D) $\frac{\kappa'}{100}$				12.6						29	34.44		
	α_1											−1.33		
14											29	33.11		
			8.8	29 55.8	30 16.3	19.6	23.0	26.2	29.4		30	22.90		
	κ			58.4								−48.09		
				1.4								− 30		
	((δ) − D) $\frac{\kappa'}{100}$			58.6						− 48.60		− 19		
	α_2										29	34.30		
17												−1.30		
											29	33.00		
			9.0	29 57.9	30 18.0	21.4	24.9	27.9	31.2		30	24.68		
	κ			1.0								−49.95		
				3.1								− 37		
	((δ) − D) $\frac{\kappa'}{100}$			60.9						− 50.50		− 16		
	α_1											− 2		
14											29	34.18		
												−1.20		
											29	32.98		
	30	13	51 2	9.4	30 49.0	31 8.2	8.3	11.4	14.9	18.0	31	11.56		
	29	45.5	50 58.5	9.5	52.2							−48.09		
	κ				55.4							− 30		
	((δ) − D) $\frac{\kappa'}{100}$				52.3					− 48.60		− 19		
	α_2											− 2		
17											30	22.96		
												−1.30		
											30	21.66		
			9.5	31 4.5	31 6.9	9.9	13.2	16.8	19.9		31	13.84		
	κ											−49.95		
												− 37		
	((δ) − D) $\frac{\kappa'}{100}$											− 16		
	α_1									− 50.50		− 2		
13											30	22.84		
												−1.21		
											30	21.63		
	31	48	50 10	8.5	32 27.3	32 40.6	43.6	46.7	50.2	53.2	32	46.86		
	31	20.6	6.9	8.5	31.0							−48.12		
	κ				34.3							− 37		
	((δ) − D) $\frac{\kappa'}{100}$				30.9					− 48.51		− 2		
	α_2										31	58.35		
17												−1.38		
											31	56.97		
			8.8	32 31.7	32 42.2	45.4	48.8	51.9	55.3		32	48.72		
	κ			35.4								−49.95		
				39.6								− 36		
	((δ) − D) $\frac{\kappa'}{100}$			35.6						− 50.49		− 16		
	α_1											− 2		
13											31	58.23		
												−1.26		
											31	56.97		
	32	36	50 30	8.8	33 22.8	33 27.0	30.4	33.6	37.1	40.1	33	33.64		
	32	7.8	26.9	9.0	27.5							−48.12		
	κ				30.8							− 38		
	((δ) − D) $\frac{\kappa'}{100}$				27.0					− 48.52		− 2		
	α_2										32	45.12		
17												−1.37		
											32	43.75		
			9.1	33 16.1	33 29.0	32.4	35.6	38.4	42.0		33	33.48		
	κ			19.6								−49.95		
				23.3								− 36		
	((δ) − D) $\frac{\kappa'}{100}$			19.7						− 50.49		− 16		
	α_1										32	44.99		
13												−1.25		
											32	43.74		
	33	56	51 1.	8.3	34 19.3	34 47.5	50.9	54.2	57.3	0.8	34	54.14		
	33	27.9	50 57.3	8.2	22.2							−48.12		
	κ				24.7							− 38		
	((δ) − D) $\frac{\kappa'}{100}$				22.1					− 48.52		− 2		
	α_2										34	5.62		
												−1.37		
											34	4.25		

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1875phae.proj.15988

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
d	+1036	4	37.1	51.6	88.7	¼ 44.35	18	4.00		0	51 1 41.08	
	1.015536					51 1	4.78				− 3	+8.87
	9.799856						− 8.70				− 62	
	0.939444										+ 9.12	
$((\delta) - D)\frac{d'}{100}$											+ 40	
											−2030	
δ_1											1 29.65	
d	+2430	4	23.0	46.0	63.0	4 31.50	18	16.85		0	1 42.07	
	1.385611					51 2	2.47				− 16	+8.66
	9.799856						−20.40				− 58	
	1.309469										+ 9.00	
$((\delta) - D)\frac{d'}{100}$											+ 40	
											−2040	
δ_2											1 36.33	
d	+2378	4	21.6	39.0	60.6	4 30.30	18	18.05		0	1 42.43	
	1.376211					51 2	2.40				− 14	+8.64
	9.799856						−19.97				− 58	
	1.300299										+ 8.96	
$((\delta) - D)\frac{d'}{100}$											+ 40	
											−2060	
δ_1											1 36.47	
d	+1926	3	26.9	44.1	71.0	3 35.50	19	12.85		0	51 2 42.31	
	1.284166					51 2	5.847				− 10	+8.84
	9.799840						− 16.16				− 47	
	1.208058										+ 9.01	
$((\delta) - D)\frac{d'}{100}$											+ 40	
											−2040	
δ_2											2 30.75	
d	+8.84	3	35.2	51.9	87.1	3 43.55	19	4.80		0	2 41.73	
	0.944645					51 2	4.9.15				− 2	+8.86
	9.799840						− 7.42				− 49	
	0.870377										+ 8.97	
$((\delta) - D)\frac{d'}{100}$											+ 40	
											−2060	
δ_1											2 29.99	
d	+15.06	4	5.4.4	14.9	132.3	55 5 6.15	27	42.20		50	50 11 14.33	
	1.203033					50 11	27.98				− 7	+7.85
	9.806411						−13.65				− 66	
	1.134966										+ 8.22	
$((\delta) - D)\frac{d'}{100}$											+ 36	
											−2040	
δ_2											11 1.78	
d	+13.12	4	5.58	15.1	130.9	55 5 5.45	27	42.90		50	50 11 16.03	
	1.117933					50 11	27.25				− 5	+7.72
	9.806411						−11.22				− 66	
	1.049866										+ 8.07	
$((\delta) - D)\frac{d'}{100}$											+ 36	
											−20.70	
δ_1											11 3.05	
d	+6.64	0	24.9	42.1	67.0	35 0 3.350	47	14.85		35	50 30 54.99	
	0.822217					50 31	0.63				− 1	+8.87
	9.803336						− 5.64				− 8	
	0.751053										+ 8.58	
$((\delta) - D)\frac{d'}{100}$											+ 38	
											−2040	
δ_2											30 43.46	
d	+15.78	0	14.7	32.9	47.6	35 0 2.380	47	24.55		35	30 55.51	
	1.198511					50 31	8.90				− 7	+8.68
	9.803336						−13.39				− 5	
	1.126999										+ 8.42	
$((\delta) - D)\frac{d'}{100}$											+ 38	
											−20.70	
δ_1											30 43.49	
d	+32.04	4	8.9	25.1	34.0	4 17.00	18	31.35		0	51 1 50.23	
	1.505699					51 2	17.13				− 27	+8.71
	9.799516						−26.90				− 55	
	1.429777										+ 9.13	
$((\delta) - D)\frac{d'}{100}$											+ 40	
											−2060	
δ_2											1 38.34	

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Date$_1$ = 1875, Oct. 13 — Observer W.A.R. — Recorder J.J.M.

Date$_2$ = Oct. 14 / Oct. 17 — Observer W.A.R. — Recorder J.J.M.

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
2	33	56 51 1	7.7	20 34 25.9	34 47.4	+2.8	56.2	59.3	2.5	34	50.80		
	33	27.9 50 37.3	8.2	29.0							−49.95		37
	κ			31.6							− 10		
	((δ) − D) $\frac{\kappa'}{100}$			28.8					− 50.34		− 2		70
										34	50.71		
	α_1										−1.24		
13										34	49.47		
	34	36 51 52	—	35 53.1	35 25.9	21.1	33.4	36.7	40.0	35	33.22		
	34	8.5 52.1	7.2	56.0							−48.12		
	κ			54.2							− 40		
	((δ) − D) $\frac{\kappa'}{100}$			56.1					− 48.54		− 2		
										34	44.68		
	α_2										−1.34		
17										34	43.34		
			7.4	35 49.6	35 28.3	31.7	35.3	38.4	41.7	35	35.08		
	κ			52.8							−49.95		
				55.7							− 38		
	((δ) − D) $\frac{\kappa'}{100}$			52.7					− 50.51		− 16		
											− 2		
	α_1									34	44.57		
14										34	−1.21		
										34	43.36		
	35	30 51 19	8.4	36 18.0	36 22.3	25.5	28.8	32.1	35.4	36	28.82		
	35	2.7 16.2	8.4								−48.09		
	κ										− 30		
											− 19		
	((δ) − D) $\frac{\kappa'}{100}$								− 48.60		− 2		
										35	40.22		
	α_2										−1.33		
17										35	38.89		
			8.4	36 15.9	36 23.8	27.0	30.7	34.1	37.4	36	30.60		
	κ			19.2							−49.95		
				22.4							− 37		
	((δ) − D) $\frac{\kappa'}{100}$			19.2					− 50.50		− 16		
											− 2		
	α_1									35	40.10		
13										35	−1.25		
										35	38.85		
	38	43 51 20	9.0	39 21.0	39 34.9	38.4	41.4	44.6	47.6	39	41.38		
	38	15.2 17.2	8.8	23.9							−48.12		
	κ			26.9							− 39		
	((δ) − D) $\frac{\kappa'}{100}$			23.9					− 48.53		− 2		
										38	52.85		
	α_2										−1.39		
14										38	51.46		
			8.5	39 9.6	39 34.8	38.0	41.4	44.8	48.2	39	41.44		
	κ			12.2							−48.09		
				14.3							− 30		
	((δ) − D) $\frac{\kappa'}{100}$			12.0					− 48.60		− 19		
											− 2		
	α_1									38	52.84		
17										38	−1.36		
										38	51.48		
			8.9	39 22.0	39 36.5	39.7	43.0	46.4	49.5	39	43.02		
	κ			24.9							−49.95		
				28.4							− 38		
	((δ) − D) $\frac{\kappa'}{100}$		8.7	25.1					− 50.51		− 16		
											− 2		
	α_2									38	52.51		
13										38	−1.27		
										38	51.24		
	39	34 51 5	9.0	40 13.2	40 26.1	29.3	32.7	35.7	38.7	40	32.50		
	39	6.1 2.2	9.0	15.4							−48.12		
	κ			18.2							− 38		
	((δ) − D) $\frac{\kappa'}{100}$			15.6					− 48.52		− 2		
										39	43.98		
	α_1										−1.41		
14										39	42.57		
			8.2	40 8.0	40 26.1	29.3	32.6	35.9	39.2	40	32.62		
	κ			11.0							−48.09		
				13.5							− 30		
	((δ) − D) $\frac{\kappa'}{100}$			10.8					− 48.60		− 19		
											− 2		
	α_2									39	44.02		
											−1.38		
										39	42.64		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+27.24	4 8.9	24.9	33.8	4 16.90	18	31.45		0	51 1 52.93	
	1.43521					51 2	15.80			− 19	+862
d	9.79856						− 22.87			− 55	
	1.35977									+ 8.96	
$((\delta) - D)\frac{d'}{100}$	2									+ 40	
										−20.90	
δ_1										1 40.65	
					10						
	−22.88	0 16.2	33.1	49.3	0 24.65	12	23.70		10	51 56 28.32	
	1.35946					51 56	9.48			− 14	+1035
d	9.78999						+ 18.84			− 5	
	1.27497									+10.09	
$((\delta) - D)\frac{d'}{100}$										+ 45	
										−20.70	
δ_2										56 17.97	
					10						
	−17.62	0 7.6	26.6	34.2	0 17.10	12	31.25		10	51 56 30.11	
	1.24601					51 3	4440			− 9	+1026
d	9.79825					56	15.60			− 3	
	1.16978						+ 14.51			+ 9.83	
	9.78999									+ 45	
$((\delta) - D)\frac{d'}{100}$	1.16152									−21.00	
					46	37				56 19.37	
δ_1											
	+10.82	1 15.1	33.4	48.5	1 24.25	36	24.10		45	51 20 0.69	
	1.03423					51 21	9.72			− 3	+9.52
d	9.79573				45		− 9.03			− 18	
	0.95548									+9.31	
$((\delta) - D)\frac{d'}{100}$										+ 42	
										−20.70	
δ_2										49.51	
					45					20	
	+11.40	0 13.1	31.7	44.8	0 22.40	37	25.95		45	21 0.79	
	1.05690					51 21	10.30			− 3	+9.65
d	9.79558						− 9.51			− 4	
	0.98800									+ 9.30	
$((\delta) - D)\frac{d'}{100}$										+ 42	
										−21.00	
δ_1										20 49.44	
					44						
	+17.48	4 24.2	39.2	63.4	4 31.70	38	16.65		40	51 21 47.86	
	1.24254					51 22	2.43			− 8	+9.24
d	9.79542						−14.57			− 58	
	1.16348									+ 9.48	
$((\delta) - D)\frac{d'}{100}$										+ 42	
										−20.90	
δ_2										21 36.20	
					44						
	+29.44	4 11.8	29.8	39.6	4 19.80	38	28.55		40	21 49.63	
	1.46894					51 22	14.17			− 23	+6.98
d	9.79542						−24.54			− 56	
	1.38988									+ 9.35	
$((\delta) - D)\frac{d'}{100}$										+ 42	
										− 21.00	
δ_1										21 37.61	
					44					5041	
	+17.92	4 4.5	21.1	25.6	4 12.80	38	35.55		40	51 22 4.96	
	1.25334					51 22	19.90			− 9	+9.10
d	9.79542						−14.94			− 55	
	1.17428				44					+ 9.32	− 57
$((\delta) - D)\frac{d'}{100}$	4	18.5	36.2	54.7	4 27.35	38	21.00		40	+ 42	+ 9.32
						51 22	5.35			− 21.20	+ 42
δ_2	9.79542						−14.94			21 5286	− 21.20
	4				5849				55	38.31	
	+16.90	4 41.8	56.5	98.3	4 49.15	22	59.20		50	51 6 30.84	
	1.22789	1.22789				51 6	44.98			− 8	+8.91
d	9.79699	9.79793					−14.16			− 63	
	1.15044	1.15134								+ 9.22	
$((\delta) - D)\frac{d'}{100}$										+ 40	
										− 20.90	
δ_1										6 18.83	
					59						
	+21.82	4 37.0	53.0	90.0	4 45.00	23	3.35		55	51 6 30.68	
	1.33885					51 6	48.97			− 13	+8.741
d	9.79778						−18.29			− 62	
	1.26215									+ 9.09	
$((\delta) - D)\frac{d'}{100}$										+ 40	
										− 20.90	
δ_2										6 18.52	

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Date$_1$ = 1875. Oct. 13. 432 Observer W.A.R. Recorder J.F.M.

Date$_2$ = 1875. Oct. 14 / Oct. 17 432 434 Observer W.A.R. Recorder J.F.M.

26

Star.	α	δ	Mag.	T_s	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
	m sec.	° ′		h m s						m s			
κ	39 34	51 5	8.4	20 40 10.7	40 27.7	81.3	34.4	37.8	41.0	40	34.44		
	39 6.1	2.2	9.0	13.4							-49.95		
				17.4							- 37		
((δ) — D) $\frac{\kappa'}{100}$				14.0					-50.50		- 16		
											- 2		
c_1										39	43.94		
13											-1.29		
										39	42.65		
κ	41 2	51 33	9.0	41 34.8	41 54.4	57.5	9.7	4.3	7.4	42	08.6		
	40 34.9	30.0	9.0	37.5							-48.12		
				40.6							- 39		
((δ) — D) $\frac{\kappa'}{100}$				37.5					-48.53		- 2		
										41	12.33		
a_2											-1.41		
14										41	10.92		
κ			8.8	41 29.3	41 54.1	57.4	0.7	4.1	7.4	42	0.74		
				33.2							-48.09		
				36.6							- 30		
((δ) — D) $\frac{\kappa'}{100}$				33.0					-48.60		- 19		
											- 2		
a_1										41	12.14		
17											-1.38		
										41	10.76		
κ			9.0	41 38.9	41 55.8	59.4	2.5	5.8	8.8	42	2.46		
				41.7							-49.96		
				44.8							- 38		
((δ) — D) $\frac{\kappa'}{100}$				41.7					-50.52		- 16		
											- 2		
a_2										41	11.94		
13											-1.29		
										41	10.75 65		
	42 53	51 41	9.0	43 24.3	43 45.2	48.7	~~42.3~~	—	—	43	~~52.03~~ 51.90		
	42 25.6	38.1	8.3	28.2			52.0				-48.12		
κ				30.9			51.8				- 39		
((δ) — D) $\frac{\kappa'}{100}$				27.7					-48.53		- 2		
										43	3.50		
a_1											-1.42		
14										43	~~2.08~~ 1.95		
κ			8.0	43 26.8	43 45.1	48.4	51.9	55.2	58.4	43	57.80		
				30.9							-48.09		
				33.4							- 30		
((δ) — D) $\frac{\kappa'}{100}$				30.4					-48.60		- 19		
											- 2		
a_2										43	3.20		
17											-1.39		
										43	1.81		
κ			8.5	43 18.9	43 46.8	50.4	53.7	57.0	0.4	43	53.66		
				24.2							-49.96		
				26.3							- 38		
((δ) — D) $\frac{\kappa'}{100}$				23.1					-50.52		- 16		
											- 2		
a_1										43	3.14		
14											-1.30		
										43	1.84		
κ	43 52	50 28	8.6	44 20.7	44 45.6	48.7	52.1	55.4	58.6	44	52.08		
	43 24.5	24.6	8.6	24.3							-48.09		
				27.0							- 29		
((δ) — D) $\frac{\kappa'}{100}$				24.0					-48.59		- 19		
											- 2		
a_2										44	3.49		
17											-1.45		
										44	2.04		
κ			8.7	44 25.2	44 47.5	50.6	53.8	57.1	0.4	44	53.88		
				29.0							-49.96		
				31.8							- 36		
((δ) — D) $\frac{\kappa'}{100}$				28.7					-50.50		- 16		
											- 2		
a_1										44	3.38		
											-1.36		
										44	2.02		
κ													
((δ) — D) $\frac{\kappa'}{100}$													
a_2													

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+20.44	4 35.1	52.2	87.3	59 4 4365	23	4.70		55	51 6 31.92	
d	1.31048				51 6	49.05				− 11	+8.73
	9.79778					−17.13				− 62	
((δ) − D) $\frac{d'}{100}$	1.23378n									+ 9.06	
										+ 40	
δ_1										−21.20	
										6 19.45	
	+23.56	1 20.5	37.3	57.8	31 1 2890	51	19.45		30	51 34 45.69	
d	1.37218				51 35	5.23				− 15	+9.81
	9.79335					−19.54				− 19	
((δ) − D) $\frac{d'}{100}$	1.29105n									+ 9.72	
										+ 43	
δ_2										−21.00	
										34 34.50	
	+27.74	1 16.2	34.5	50.7	31 1 2585	51	23.00		30	34 45.60	
d	1.44311				51 35	8.62				− 20	+9.62
	9.79357					−23.02				− 18	
((δ) − D) $\frac{d'}{100}$	1.36214n									+ 9.57	
										+ 43	
δ_1					1.10					−21.10	
										34 34.12	
	+20.76	1 20.7	38.9	59.6	31 1 2980	51	18.55		30	34 45.78	
d	1.31723				51 35	2.90				− 12	+9.68
	9.79335					−17.22				− 19	
((δ) − D) $\frac{d'}{100}$	1.23610n									+ 9.56	
										+ 43	
δ_2										−21.40	
										34 34.06	
	+24.3	3 17.3	32.1	49.4	23 3 2470	59	23.65		20	57 42 49.33	
d	1 8.38561				51 43	9.43				− 15	+9.71
	9.79208					−26.10				− 44	
((δ) − D) $\frac{d'}{100}$	1 7.30321n									+9.86	
										+ 44	
δ_1										−21.10	
										42 37.94	
	+21.40	3 17.8	34.7	52.5	23 3 2625	59	22.10		20	57 42 50.02	
d	1.33041				51 43	7.72				− 12	+9.60
	9.79208					−17.70				− 44	
((δ) − D) $\frac{d'}{100}$	1.24801n									+ 9.72	
										+ 44	
δ_2										−21.20	
										42 38.42	
	+30.56	3 8.4	23.9	32.3	23 3 1615	59	32.20		20	42 51.27	
d	1.48515				51 43	16.55				− 25	+9.47
	9.79208					−25.28				− 42	
((δ) − D) $\frac{d'}{100}$	1.40275n									+ 9.70	
										+ 44	
δ_1										−21.50	
										42 39.24	
	+28.08	1 57.8	14.8	132.6	37 2 630	45	42.05		35	50 29 3.81	
d	1.44840				50 29	27.64				− 21	+8.31
	9.80366					−23.86				− 27	
((δ) − D) $\frac{d'}{100}$	1.37758n									+8.42	
										+ 37	
δ_2										−21.10	
										28 51.02	
	+25.18	1 57.9	15.9	133.8	37 2 690	45	41.45		35	29 4.41	
d	1.40106				50 29	25.80				− 17	+8.33
	9.80366					−21.39				− 27	
((δ) − D) $\frac{d'}{100}$	1.33024n									+ 8.40	
										+ 37	
δ_1										−21.40	
										28 51.34	
d											
((δ) − D) $\frac{d'}{100}$											
δ_2											

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Date$_1$ = 1875, Oct. 14 (433) Observer W.A.R. Recorder J.T.M. Date$_2$ = 1875, Oct. 17 (434) Observer W.A.R. Recorder J.T.M.

Star.	α	δ	Mag.	T_s	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
	44 48	50 38	9.0	20 45 21.4	45 40.4	43.7	46.8	50.2	53.3	45	46.88		
	44 19.6	34.8	9.2	25.5							−48.09		
	κ			27.8							− 29		
									− 48.59		− 19		
	((δ) — D) $\frac{\kappa'}{100}$			24.9							− 2		
										44	58.29		
	α_1										−1.45		
										44	56.84		
			9.3	45 22.1	45 42.3	45.8	48.7	51.9	55.1	45	48.76		
				25.3							−49.96		
	κ			29.8							− 36		
									− 50.50		− 16		
	((δ) — D) $\frac{\kappa'}{100}$			25.7							− 2		
										44	58.26		
	α_2										−1.36		
										44	56.90		
	45 59	50 55	9.0	46 29.8	46 51.0	54.3	57.7	0.8	4.3	46	57.62		
	45 30.7	51.8	9.0	33.3							−48.09		
	κ			36.1							− 29		
									− 48.59		− 19		
	((δ) — D) $\frac{\kappa'}{100}$			33.0							− 2		
										46	9.03		
	α_1										−1.45		
										46	7.58		
			9.0	46 32.3	46 52.7	56.1	59.4	2.7	6.0	46	59.38		
				35.4							−49.96		
	κ			39.3							− 37		
									− 50.51		− 16		
	((δ) — D) $\frac{\kappa'}{100}$			35.7							− 2		
										46	8.87		
	α_2										−1.36		
										46	7.51		
	46 54	52 49	8.7	47 23.1	47 24.6	28.0	31.5	34.7	38.2	47	31.40		
	46 25.9	46.0	8.7	26.3							−48.09		
	κ 57			28.7							− 31		
				26.0					− 48.62		− 20		
	((δ) — D) $\frac{\kappa'}{100}$		8.4	47 37.3	47 45.2	48.5	52.1	55.6	59.0		− 2	46 42.78	−1.38
	46 25.9									47	52.08		
	α_1								− 48.62		−48.09	46 41.40	
											− 31		
											− 20	47	
											− 2	1 3.46	
			9.0	47 34.3	47 26.8	29.8	33.7	36.8	40.0	47	33.42		−1.38
											−49.96	47 2.08	
	κ								− 50.54		− 39		
											− 17		
	((δ) — D) $\frac{\kappa'}{100}$		8.6	47 43.9	47 47.2	50.7	54.0	57.0	0.9		− 2	46 42.88	
				47.9						47	53.96		−1.29
	α_2			51.3							−49.96	46 42.59	41.59
				47.7					− 50.54		− 39		
											− 17		
											− 2	47 3.42	
	47 59	51 25	8.6	48 18.4	48 21.0	24.7	27.8	31.0	34.6	48	27.82		−1.29
	47 30.4	21.6	9.2	20.2							−48.09	47 2.13	
	κ 59.8	22.4		23.0							− 30		
				20.5					− 48.60		− 19		
	((δ) — D) $\frac{\kappa'}{100}$		8.7	48 47.8	48 50.0	53.5	56.7	0.2	3.5		− 2	47 39.22	
	47 30.4	51 21.6								48	58.78		−1.44
	α_1										−48.09	47 37.78	
											− 30		
									− 48.60		− 19		
											− 2	48 8.18	
	47 30.4		8.9	48 36.4	48 51.8	55.0	58.4	2.1	5.2	48	58.50		−1.48
				39.4							−49.96	48 6.73	
	κ			41.3							− 38		
									− 50.52		− 16		
	((δ) — D) $\frac{\kappa'}{100}$			39.0							− 2		
										48	7.98		
	α_2										−1.36		
										48	6.62		
	49 50	50 46	8.5	50 22.8	50 42.1	45.4	48.7	51.8	55.2	50	48.84		
	49 21.2	42.3	8.8	26.4							−48.09		
	κ			28.7							− 29		
									− 48.59		− 19		
	((δ) — D) $\frac{\kappa'}{100}$			26.0							− 2		
										50	0.05		
	α_1										−1.45		
										49	58.56		
			9.0	50 21.1	50 44.0	47.1	50.4	53.5	56.7	50	50.34		
				23.4							−49.96		
	κ			25.3							− 36		
									− 50.50		− 16		
	((δ) — D) $\frac{\kappa'}{100}$			23.3							− 2		
										49	59.84		
	α_2										−1.40		
										49	58.44		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+21.98	1 59.1	17.2	136.3	27 2 8.15	55	40.20		25	50 39 7.21	
	1.342203				50 39		25.82			− 13	+8.57
d	9.802213						− 18.61			− 28	
	8.269685									+ 8.60	
$((\delta) - D)\frac{d'}{100}$	1									+ 38	
										− 21.20	
δ_1										38 54.58	
	+23.06	1 57.1	14.7	131.8	27 2 5.90	55	42.45		25	39 7.28	
	1.362286				50 39		26.80			− 14	+8.55
d	9.802213						− 19.52			− 27	
	1.290514									+ 8.58	
$((\delta) - D)\frac{d'}{100}$										+ 38	
										− 21.50	
δ_2										38 54.33	
	+24.52	4 39.3	5-5.5	94.8	9 4 47.40	13	0.95		5	50 56 25.95	
	1.38952				50 56		46.54			− 16	+8.51
d	9.79934						− 20.62			− 62	
	1.31438									+ 8.89	
$((\delta) - D)\frac{d'}{100}$										+ 40	
										− 21.30	
δ_1										56 13.16	
	+23.68	4 38.8	5-4.3	93.1	9 4 46.55	13	1.80		5	56 26.23	
	1.37438				50 56		46.15			− 15	+8.50
d	9.79934						− 19.92			− 62	
	1.29924									+ 8.87	
$((\delta) - D)\frac{d'}{100}$										+ 40	
										− 21.60	
δ_2										56 13.13	
										3327	
	+5.40	0 47.9	4.8	112.7	15 0 56.35	6	52.00		15	52 50 ~~34.87~~	50 27.31
	0.73239	50 ~~32.87~~			52 50		37.62			− 1	− 5
d	9.78097	+11.28					− ~~2.75~~ 3.35			− 12	− 12
	0.51388									+ 10.92	+ 10.92
$((\delta) - D)\frac{d'}{100}$	+12.78	0 47.9	4.8	112.7	15 0 56.35	6	52.00		15	+ 49	+ 49
	1.10653	50 27.81			52 50		37.62			− 21.50	− 21.50
δ_1	9.78097	+13.24					− 10.31			50 ~~24.65~~ 2.205	50 17.05
	1.01302				16						
	−0.88	0 52.7	9.7	122.4	1 1.20	6	47.15		15	50 32.50	50 26.45
	0.09445	50 ~~32.50~~			52 50		31.50			− 0	− 1
d	9.78097	+11.24					+ 1.00			− 13	− 13
	0.00094									+ 10.88	+ 10.88
$((\delta) - D)\frac{d'}{100}$	.+ 6.26	0 52.7	9.7	122.4	16 1 1.20	6	47.15		15	+ 49	+ 49
	0.79657	50 26.45			52 50		31.50			− 21.80	− 21.90
δ_2	9.48097	+11.23					− 5.05			50 21.94	50 15.78
	0.70306				39 ×12.2						
−7.32	+25.77	4 12.3	28.0	40.3	4 20.15	43	28.20		35	51 27 19.91	25 ~~3.19~~
	0.86451	51 27	10.91		51 27		13.82			− 2	56.90
d	9.79463		+9.28				+ 6.09			− 56	− 2
	0.78466									+ 9.42	− 6
$((\delta) - D)\frac{d'}{100}$	+ 8.98	0 20.1	39.1	59.2	40 0 29.60	42	18.75		40	+ 42	+ 9.44
	0.95328	25	56.90		51 26		4.34			− 21.40	+ 42
δ_1	9.79463		+9.78				− ~~1.17~~ 7.47			27 7.79	− 21.40
	0.87343				40						25 45.28
	~~+10.50~~	0 9.7	27.9	37.6	0 18.80	42	29.55		40		25 57.67
	1.29003				51 26		13.90				− 10
d	9.79463						− 16.23				− 4
	1.21018										+ 9.40
$((\delta) - D)\frac{d'}{100}$		25 57.67									+ 42
		+ 9.68									− 21.80
δ_3											25 45.55
					19						
	+22.64	3 55.1	12.6	127.7	4 3.85	3	44.50		15	50 47 11.02	
	1.354488				50 47		30.12			− 14	+8.46
d	9.80074						− 19.10			− 53	
	1.28114									+ 8.74	
$((\delta) - D)\frac{d'}{100}$										+ 39	
										− 21.00	
δ_1										46 57.98	
					18						
	+27.04	3 48.5	6.3	114.8	3 57.40	3	50.95		15	47 12.48	
	1.43201				50 47		35.30			− 20	+8.40
d	9.80074						− 22.82			− 51	
	1.35827									+ 8.72	
$((\delta) - D)\frac{d'}{100}$										+ 39	
										− 21.80	
δ_2										46 59.08	

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Date$_1$ = 1875, Oct. 14 — 433 — Observer W.A.R. — Recorder J.J.M.

Date$_2$ = 1875, Oct. 17 — 434 — Observer W.A.R. — Recorder J.J.M.

30

Ru

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
52	52. 18	50 34	5.0	28 52 35.9	53 0.9	4.1	7.3	10.4	13.8	53	7.30		
51	39.1	30.9	6.2	39.1							−48.09		
κ				41.0							− 29		
											− 19		
((δ) − D) $\frac{\kappa'}{100}$				38.7					− 48.59		− 2		
										52	18.71		
a_1											−1.52		
										52	17.19		
			5.0	52 40.6	53 2.7	5.9	9.1	12.5	15.8	53	9.20		
				43.0							−49.96		
κ				46.4							− 36		
											− 16		
((δ) − D) $\frac{\kappa'}{100}$				43.3					− 50.50		− 2		
										52	18.70		
a_2											−1.43		
										52	17.27		
53	40	49 55	8.7	54 10.9	54 33.8	36.8	40.1	43.3	46.5	54	40.10		
53	12.5	57.6	9.0	13.3							−48.09		
κ				15.7							− 29		
											− 19		
((δ) − D) $\frac{\kappa'}{100}$				13.3					− 48.59		− 2		
										53	51.51		
a_1											−1.56		
										53	49.95		
			8.8	54 10.2	54 35.3	38.6	41.8	45.1	48.5	54	41.90		
				12.9							−49.96		
κ				16.3							− 36		
											− 16		
((δ) − D) $\frac{\kappa'}{100}$				13.1					− 50.50		− 2		
										53	51.40		
a_2											−1.47		
										53	49.93		
55	28	49 57	9.0	56 6.1	56 21.1	24.3	27.5	30.8	34.2	56	27.58		
55	0.0	54.1	9.0	9.4							−48.09		
κ				12.6							− 29		
											− 19		
((δ) − D) $\frac{\kappa'}{100}$				9.4					− 48.59		− 2		
										55	38.99		
a_1											−1.57		
										55	37.42		
			5.4	56 6.7	56 22.9	26.2	29.4	32.6	35.7	56	29.36		
				9.3							−49.96		
κ				12.4							− 36		
											− 16		
((δ) − D) $\frac{\kappa'}{100}$			9.1	9.5					− 50.50		− 2		
										55	38.86		
a_2											−1.48		
										55	37.38		
56	26	49 59	9.1	57 9.8	57 20.0	23.2	26.5	29.7	32.8	57	26.44		
55	57.7	56.0	9.0	12.1							−48.09		
κ				14.5							− 29		
											− 19		
((δ) − D) $\frac{\kappa'}{100}$				12.1					− 48.59		− 2		
										56	37.85		
a_1											−1.58		
										56	36.27		
			9.3	57 6.2	57 22.3	25.4	28.6	31.8	35.0	57	28.82		
				9.8							−49.97		
κ				11.5							− 36		
											− 16		
((δ) − D) $\frac{\kappa'}{100}$				9.2					− 50.51		− 2		
										56	38.11		
a_2											−1.49		
										56	36.62		
57	9	51 38	6.8	57 51.1	58 0.2	3.7	7.1	10.2	13.6	58	6.96		
56	40.0	34.2	7.0	54.0							−48.09		
κ				57.0							− 36		
											− 19		
((δ) − D) $\frac{\kappa'}{100}$				54.0					− 48.60		− 2		
										57	18.36		
a_1											−1.53		
										57	16.83		
			7.4	57 58.0	58 2.1	5.4	8.8	12.3	15.4	58	8.80		
											−49.97		
κ											− 36		
											− 16		
((δ) − D) $\frac{\kappa'}{100}$									− 50.53		− 2		
										57	18.27		
a_2											−1.44		
										57	16.83		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+28.60	0 5.0	23.0	28.0	30 0 14.00	52	34.35		30	50 35 55.73	
	1.456 37				50	36	19.97			− 22	+8.67
d	9.802 59						− 24.84/2			− 3	
	1.384 48 n									+ 8.54	
((δ) − D) $\frac{d'}{100}$										+ 38	
										− 21.60	
δ_1										35 42.80	
	+25.90	0 5.9	24.2	30.1	30 0 15.05	52	33.30		30	35 55.70	
	1.413 30				50	36	17.65			− 18	+8.69
d	9.802 59						− 21.95			− 3	
	1.341 41 n									+ 8.52	
((δ) − D) $\frac{d'}{100}$										+ 38	
										− 21.90	
δ_2										35 42.49	
	+26.80	4 42.8	58.1	100.9	9 4 50.45	12	57.90		5	49 56 20.50	
	1.428 13				49	56	43.52			− 19	+7.38
d	9.808 52						− 23.02			− 63	
	1.362 17 n									+ 7.85	
((δ) − D) $\frac{d'}{100}$										+ 35	
										− 21.60	
δ_1										56 6.28	
	+28.80	4 39.3	55.3	94.6	9 4 47.30	13	1.05		5	56 20.66	
	1.459 39				49	56	48.40			− 22	+7.32
d	9.808 52						− 24.74			− 63	
	1.393 43 n									+ 7.82	
((δ) − D) $\frac{d'}{100}$										+ 35	
										− 22.00	
δ_2										56 5.98	
	+18.2	2 29.0	46.5	75.5	7 2 37.75	15	10.60		5	49 58 40.59	
	1.260 07				49	58	56.22			− 8	+7.83
d	9.808 22						− 15.63			− 34	
	1.193 81 n									+7.90	
((δ) − D) $\frac{d'}{100}$										+ 35	
										− 21.70	
δ_1										58 26.72	
	+19.86	2 26.3	43.9	70.2	7 2 35.10	15	13.25		5	49 58 40.55	
	1.297 98				49	58	57.60			− 11	+7.757
d	9.808 22						− 19.05			− 34	
	1.231 72 n									+ 7.87	
((δ) − D) $\frac{d'}{100}$	2	26.3	43.9	70.2	7 2 35.10	15	13.25		5	+ 35	
					49	58	57.60			− 22.10	
δ_2	~~9.808 22~~									58 26.22	
	+14.34	0 20.5	38.4	59.9	5 0 29.95	17	18.40		3	50 0 51.72	
	1.156 55				50	1	4.02			− 5	+8.18
d	9.807 92						− 12.30			− 6	
	1.089 99 n									+ 7.94	
((δ) − D) $\frac{d'}{100}$										+ 35	
										− 21.80	
δ_1										0 38.10	
	+19.42	0 14.3	31.1	45.4	5 0 22.70	17	25.65		3 −	0 ~~56.27~~ 53.35	
	1.288 25				50	1	10.00			− 10	+8.10
d	9.807 92						− ~~13.23~~ 16.65			− 5	
	1.221 49 n									+ 7.90	
((δ) − D) $\frac{d'}{100}$										+ 35	
										− 22.10	
δ_2										0 ~~42.77~~ 39.35	
	+12.96	2 13.9	32.9	48.8	27 2 24.40	55	23.95		25 −	51 38 58.83	
	1.112 61				51	39	9.57			− 5	+9.73
d	9.792 72						− 10.74			− 31	
	1.030 85 n									+ 9.66	
((δ) − D) $\frac{d'}{100}$										+ 43	
										− 21.90	
δ_1										38 46.66	
	+10.80	2 14.3	30.9	46.2	27 2 22.60	55	25.75		25	39 1.15	
	1.033 42				51	39	10.10			− 3	+9.72
d	9.792 72						− 8.95			− 31	
	0.951 66 n									+ 9.63	
((δ) − D) $\frac{d'}{100}$										+ 43	
										− 22.30	
δ_2										38 48.57	

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433

Date$_1$ = 1875, Oct. 14 Observer W.A.R. Recorder J.F.M.

434

Date$_2$ = 1875, Oct. 17 Observer W.A.R. Recorder J.F.M.

32

Ru

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
20	58 24	52 4	8.5	20 58 44.9	59 15.7	18.8	22.3	25.9	29.2	59	22.38		
	57 55.8	0.3	7.8	48.1							-48.09		
	κ			50.8							- 31		
	((δ) — D) $\frac{\kappa'}{100}$			47.9					- 48.62		- 20		
											- 2		
										58	33.76		
	c_1										-1.52		
										58	32.24		
			8.0	58 48.4	59 17.6	21.1	24.3	28.0	31.1	59	24.47		
				51.9							-49.97		
	κ			55.2							- 38		
											- 16		
	((δ) — D) $\frac{\kappa'}{100}$			51.9					- 50.53		- 2		
										58	33.89		
	c_2										-1.43		
										58	~~37.46~~	32.46	
21	0 22	51 53	7.5	21 1 3.3	1 24.1	27.4	30.8	34.1	37.4	1	31.76		
	0 8.5	49.8	7.3	6.6							-48.09		
	κ			10.2							- 31		
	((δ) — D) $\frac{\kappa'}{100}$			6.7					- 48.61		- 19		
											- 2		
										0	42.15		
	a_1										-1.55		
										0	~~48.60~~		
			7.2	1 0.3	1 26.4	29.5	32.8	36.1	39.4	1	32.84		
				3.2							-49.97		
	κ			5.7							- 38		
											- 16		
	((δ) — D) $\frac{\kappa'}{100}$			3.1					- 50.53		- 2		
										0	42.31		
	a_2										-1.46		
										0	40.85		
	1 8	49 59	9.2	1 54.6	2 3.4	6.8	9.8	13.1	16.2	2	9.88		
	0 39.7	55.8	9.0	57.8							-48.09		
	κ			0.7							- 29		
											- 19		
	((δ) — D) $\frac{\kappa'}{100}$			57.7					- 48.59		- 2		
										1	21.27		
	a_1										-1.62		
										1	19.65		
			9.5	2 7.4	2 5.7	9.1	12.2	15.4	18.3	2	12.14		
	κ										-49.97		
											- 36		
											- 16		
	((δ) — D) $\frac{\kappa'}{100}$								- 50.51		- 2		
										1	20.63		
	a_2										-1.54		
										1	20.09		
	2 32	49 54	9.0	3 3.0	3 26.3	29.7	32.8	36.1	39.3	3	32.84		
	2 8.0	50.4	8.8	6.6							-48.09		
	κ			9.1							- 29		
											- 19		
	((δ) — D) $\frac{\kappa'}{100}$			6.2					- 48.59		- 2		
										2	44.25		
	a_1										-1.64		
										2	~~42.61~~	42.61	
			9.2	3 9.0	3 28.4	31.9	34.9	38.4	41.3	3	~~34.88~~	34.98	
				11.5							-49.97		
	κ			13.6							- 36		
											- 16		
	((δ) — D) $\frac{\kappa'}{100}$			11.4					- 50.57		- 2		
										2	44.47		
	a_2										-1.55		
										2	42.92		
	3 55	53 13	9.2	4 32.5	4 46.4	50.1	53.6	57.4	0.9	4	53.68		
	3 27.9	9.9		38.4							-48.09		
	κ			41.4							- 32		
											- 20		
	((δ) — D) $\frac{\kappa'}{100}$			37.4					- 48.64		- 3		
										4	5.04		
	a_1										-1.48		
										4	3.56		
			9.3	4 34.4	4 48.6	52.0	55.6	59.0	2.6	4	55.56		
				37.0							-49.97		
	κ			40.4							- 40		
											- 17		
	((δ) — D) $\frac{\kappa'}{100}$			37.3					- 50.57		- 3		
										4	4.99		
	a_2										-1.39		
										4	3.60		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+3448	0	48.3	4.3	112.6	0′ 56.30	21	51.05	0	52 5 14.39	
d	1.53754					52 5	26.67			− 31	+10.14
	9.78834						− 28.28			− 12	
((δ) − D) $\frac{d'}{100}$	1.45146n									+10.12	
										+ 45	
δ_1										− 2200	
										4 57.53	
	+32.52	0	48.1	4.9	113.0	0 56.50	21	51.85	0	5 9.53	
d	1.51215					52 5	36.20			− 28	+10.13
	9.78837						− 26.67			− 12	
((δ) − D) $\frac{d'}{100}$	1.42684n									+10.08	
										+ 45	
δ_2										− 2250	
										4 57.26	
	+24.06	1	47.1	8.4	110.5	5525	10	53.10	10	51 55 18.91	
d	1.38130					51 55	38.72			− 15	+9.97
	9.78999						− 19.81			− 25	
((δ) − D) $\frac{d'}{100}$	1.29681n									+ 9.92	
										+ 45	
δ_1										− 2220	
										54 6.68	
	+29.74	1	40.2	5.6	96.8	1 48.40	10	59.95	10	54 19.81	
d	1.47334					51 54	44.30			− 24	+9.88
	9.79015						− 24.49			− 23	
((δ) − D) $\frac{d'}{100}$	1.38901n									+ 9.90	
										+ 45	
δ_2										− 2250	
										54 7.19	
	+12.16	0	28.2	4.65	74.7	0 37.35	17	11.00	5	50 0 46.19	
d	1.08493					50 0	56.62			− 4	+8.16
	9.80792						− 10.43			− 8	
((δ) − D) $\frac{d'}{100}$	1.01837n									+ 7.93	
										+ 35	
δ_1										− 2200	
										0 32.35	
	+4.74	0	28.5	5.15	85.0	0 42.50	17	5.85	5	0 46.12	
d	0.67578					50 0	50.20			− 1	+8.16
	9.80792						− 4.08			− 8	
((δ) − D) $\frac{d'}{100}$	0.60922n									+ 7.90	
										+ 35	
δ_2										− 2240	
										0 37.88	
	+26.64	0	47.2	5.1	112.3	0 56.15	11	52.20	10	49 55 14.93	
d	1.42553					49 55	37.82			− 19	+7.87
	9.80867						− 22.89			− 12	
((δ) − D) $\frac{d'}{100}$	1.35972n									+ 7.83	
										+ 35	
δ_1										− 2210	
										55 0.70	
	+23.58	0	46.5	4.6	111.1	0 55.55	11	52.80	10	49 55 16.89	
d	1.37254					49 55	37.15			− 15	+7.88
	9.80867						− 20.26			− 12	
((δ) − D) $\frac{d'}{100}$	1.30673n									+ 7.80	
										+ 35	
δ_2										− 2240	
										55 2.37	
	+16.28	0	19.4	3.65	56.2	50 0 28.10	32	20.25	50	53 15 52.87	
d	1.21165					53 16	5.87			53 − 7	+11.74
	9.77677						− 13.00			− 4	
((δ) − D) $\frac{d'}{100}$	1.11394n									+ 11.37	
										+ 50	
δ_1										− 2240	
										15 42.21	
	+18.26	0	17.1	3.4.4	51.5	50 0 25.75	32	22.60	50	15 52.37	
d	1.26150					53 16	6.95			− 8	+11.71
	9.77677						− 14.58			− 5	
((δ) − D) $\frac{d'}{100}$	1.16379n									+ 11.34	
										+ 50	
δ_2										− 2290	
										15 41.18	

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Date$_1$ = 1875, Oct. 14 Observer W.A.R. Recorder J.F.M.

434

Date$_2$ = 1875, Oct. 17 Observer W.A.R. Recorder J.F.M.

34

Ru

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
5	5 47	51 1	8.8	21 6 11.3	6 38.2	41.4	44.7	48.0	51.3	6	4472		
5	15.7	57.1	8.8	15.0							−48.09		
κ				18.8							− 30		
((δ) − D) $\frac{\kappa'}{100}$				15.2					− 48.60		− 19		
a_1											− 2		
										5	56.12		
											−1.63		
										5	54.49		
			8.9	6 14.6	6 40.1	43.3	46.6	49.7	53.3	6	4460		
				18.3							−49.97		
κ				20.9							− 37		
((δ) − D) $\frac{\kappa'}{100}$				17.9					− 50.52		− 16		
a_2											− 2		
										5	56.08		
											−1.54		
										5	54.54		
6	29	49 57	8.3	7 6.8	7 24.0	27.1	30.4	33.6	36.9	7	30.40		
5	58.5	52.9	8.1	9.9							−48.09		
κ				12.5							− 29		
((δ) − D) $\frac{\kappa'}{100}$				9.7					− 48.54		− 19		
a_1											− 2		
										6	41.81		
											−1.67		
										6	40.2~~8~~14		
			8.8	7 13.4	7 25.8	29.0	32.5	35.7	38.4	7	32.28		
				15.9							−49.97		
κ				19.1							− 36		
((δ) − D) $\frac{\kappa'}{100}$				16.1					− 50.51		− 16		
a_2											− 2		
										6	41.77		
											−1.58		
										6	40.0~~7~~19		
κ													
((δ) − D) $\frac{\kappa'}{100}$													
a_1													

Single Observations

Oct. 14 2nd ∴ 57 Obs. δ > 5°

20	8 12	58!17	9.2	20 8 46.9	8 54.4	0.6	4.0	7.1	10.7	9	3.96		
	43.6	14.7	8.2								−48.09		
κ											− 31		
((δ) − D) $\frac{\kappa'}{100}$									− 48.62		− 20		
a_2											− 2		
										8	15.34		
											−1.05		
										8	14.29		

Oct. 13 1 ∴ 57 Obs. δ > 5°

20	10 24	58? 3.1	8.9	20 10 51.5	10 54.6	58.2	1.9	5.1	8.1	11	1.54		
	~~10 0.5~~	~~28.4~~	9.1	53.6							−48.12		
	9 39.7	52 23.3		56.9							− 40		
κ											− 2		
((δ) − D) $\frac{\kappa'}{100}$				54.0					− 48.54				
a_1										10	13.00		
											−1.10		
										10	11.90		
κ													
((δ) − D) $\frac{\kappa'}{100}$													
a_2													
κ													
((δ) − D) $\frac{\kappa'}{100}$													
a_1													
κ													
((δ) − D) $\frac{\kappa'}{100}$													
a_2													

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Runs

35

	$T'_m - T_c$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+29.52	4	12.2	28.2	40.4	4′ 2020″	18	28.15		0	51 1 48.98	8.61
d	1.470122					51 2	13.77				− 23	+8.61
	9.79856						−24.79				− 56	
$((\delta) - D)\frac{d'}{100}$	1.394200n										+ 8.00	
											+ 40	
δ_1											−2250	
											1 34.29	35.29
	+28.70	4	11.8	27.8	39.6	4 1980	18	28.55		0	1 48.80	
d	1.457888					51 2	12.90				− 22	+8.61
	9.79856						−24.10				− 56	
$((\delta) - D)\frac{d'}{100}$	1.381960n										+ 8.99	
											+ 40	
δ_2											−2270	
											1 34.71	
	+20.70	3	25.1	42.0	67.1	8 3 3355	14	14.80		5−	49 57 42.64	
d	1.315997					49 58	0.42				− 12	+7.64
	9.808377						−17.78				− 47	
$((\delta) - D)\frac{d'}{100}$	1.249846n										+ 7.88	
											+ 35	
δ_1											−2250	
											57 27.98	
	+16.18	3	28.1	45.4	73.5	8 3 3675	14	1160		5−	57 42.05	
d	1.208988					49 57	55.95				− 07	+7.66
	9.808377						−13.90				− 47	
$((\delta) - D)\frac{d'}{100}$	1.142877n										+ 7.85	
											+ 35	
δ_2											−2270	
											57 27.01	
d												
$((\delta) - D)\frac{d'}{100}$												
δ_1												
	+17.06	3	16.9	33.6	50.2	48 3 2510	34	23.25		45−	52 17 54.94	Ex degree
d	1.231988					52 18	8.87				− 8	+10.27
	9.786422						−13.93				− 44	
$((\delta) - D)\frac{d'}{100}$	1.143922n										+ 1.33	
											+ 46	
δ_2											−19.20	
											17 46.01 (?)	
	+7.54	4	23.1	37.7	60.8	39 4 3040	43	17.95		85−	52 26 57.59	Ex degree
d	0.877377					52 27	3.73				− 2	
	9.784944						−6.14				− 58	+10.50
$((\delta) - D)\frac{d'}{100}$	0.787832n										+10.63	
											+ 47	
δ_1											−19.20	
											26 48.89 (?)	
d												
$((\delta) - D)\frac{d'}{100}$												
δ_2												
d												
$((\delta) - D)\frac{d'}{100}$												
δ_1												
d												
$((\delta) - D)\frac{d'}{100}$												
δ_2												

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435

Date$_1$ = 1875, Oct. 18 n = −.35 c = −.08 Observer W.A.R. Recorder J.F.M.

436

Date$_2$ = 1875, Oct. 19 n = −.38 c = −.07 Observer W.A.R. Recorder J.F.M.

36

Run

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
2	0 32 51 53		7.4	21 1 3.0	1 26.7	29.9	33.2	36.6	40.0	1	33.28		
	0 8.5		7.3	5.5							−50.50		
	κ			7.9							− 45		
	((δ) − D) $\frac{\kappa'}{100}$			5.8					− 51.10		− 13		
											− 2		
										0	42.18		
	c_1										−1.44		
										0	40.74		
			8.0	1 15.3	1 27.0	30.3	33.6	36.9	40.5	1	33.66		
				18.1							−50.95		
	κ			21.7							− 49		
	((δ) − D) $\frac{\kappa'}{100}$			18.4					− 51.57		− 11		
											− 2		
	c_2									0	42.09		
											−1.41		
										0	40.68		
	1 40	52.6	7.9	2 11.2	2 32.9	36.2	39.7	43.0	46.4	2	39.64		
	1 9.8	2.4	8.0	13.2							−50.50		
	κ			16.3							− 45		
	((δ) − D) $\frac{\kappa'}{100}$			13.2					− 51.10		− 13		
											− 2		
	a_1									1	48.54		
											−1.44		
										1	47.10		
			8.5	2 9.0	2 33.1	36.7	40.0	43.3	46.8	2	39.98		
				12.6							−50.95		
	κ			16.8							− 49		
	((δ) − D) $\frac{\kappa'}{100}$			12.8					− 51.57		− 11		
											− 2		
	a_2									1	48.41		
											−1.41		
										1	47.00		
	2 17	52 37	9.1	2 59.7	3 8.6	12.0	15.5	18.6	22.0	3	1534		
	1 46.9	33.2	8.8								−50.50		
	κ										− 46		
	((δ) − D) $\frac{\kappa'}{100}$								− 51.11		− 13		
											− 2		
	a_1									2	24.23		
											−1.42		
										2	22.81		
			9.4	3 15.5	3 9.2	12.6	16.0	19.1	22.5	3	1588		
				3.9							−50.95		
	κ			7.1							− 49		
	((δ) − D) $\frac{\kappa'}{100}$			4.1					− 51.58		− 12		
											− 2		
	a_2									2	24.30		
											−1.40		
										2	22.90		
	5 18	53 50	9.0	5 47.1	6 10.6	14.0	17.5	20.8	24.6	6	17.50		
	4 47.9	46.0	8.0	50.2							−50.50		
	κ			50.6							− 48		
	((δ) − D) $\frac{\kappa'}{100}$			50.3					− 51.15		− 14		
											− 3		
	a_1									5	26.35		
											−1.48		
										5	24.94		
			9.2	5 46.2	6 10.7	14.8	18.0	21.2	24.9	6	17.92		
				49.4							−50.96		
	κ			52.4							− 52		
	((δ) − D) $\frac{\kappa'}{100}$			49.3					− 51.63		− 12		
											− 3		
	a_2									5	26.29		
											−1.48		
										5	24.81		
	7 28	53 54	7.5	8 3.7	8 19.1	22.8	26.2	29.4	33.2	8	24.20		
	6 57.4	50.5	7.5	4.4							−50.50		
	κ			9.3							− 48		
	((δ) − D) $\frac{\kappa'}{100}$			6.8					− 51.15		− 14		
											− 3		
	a_1									7	35.05		
											−1.42		
										7	33.63		
			8.2	7 59.6	8 20.2	23.0	26.6	30.2	33.4	8	2664		
				2.8							−50.95		
	κ			5.4							− 52		
	((δ) − D) $\frac{\kappa'}{100}$			8 2.6					− 51.64		− 12		
											− 3		
	a_2									7	35.00		
											−1.39		
										7	33.61		

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Oct. 18 −16′ ~~14.97~~ 15.23 −.13
Oct. 19 −16 14.56 40 −.13

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
d	+2778	1	40.7	59.9	100.6	11′ 50.30	10	58.05	10	51 54 20.25	
	1.443973				1	51 54	43.13			− 0.31	
	9.779015						− 22.88			− 20	+9.73
	1.359940 n									− 24	
((δ) − D) $\frac{d'}{100}$										+ 9.72	
										+ 45	
										−2260	
δ_1										~~54~~ 407	
					12					+ 0.16	
d	+1526	1	53.8	12.8	126.6 2	3.30	10	45.05	10	54 17.92	
	1.183555					51 54	30.49			− 6	+9.96
	9.779015						− 12.57			− 27	
	1.099222 n									+ 9.84	
((δ) − D) $\frac{d'}{100}$										+ 45	
										−2270	
δ_2										54 5.34	
					58				[55]		
d	+2644	3	42.7	1.8	104.5 3	34.83	23	56.10	5	52 7 19.51	
	1.422226					52 ~~57~~	41.18			− 18	+9.72
	9.778805						− 21.67			− 51	
	1.335583 n									+ 9.95	
((δ) − D) $\frac{d'}{100}$										+ 46	
										−22.70	
δ_1										7 6.22	
					58						
d	+2718	3	44.5	1.1	105.6 3	35.20	23	55.55	5	7 18.71	
	1.434255					52 7	40.99			− 19	+9.82
	9.778805						− 22.28			− 51	
	1.347827 n									+10.06	
((δ) − D) $\frac{d'}{100}$										+ 46	
										−22.80	
δ_2										7 5.89	
					28						
d	+1564	3	29.3	47.2	76.5 3	38.25	54	10.10	25	52 37 42.51	
	1.194247					52 37	55.18			− 6	+10.43
	9.778313						− 12.67			− 47	
	1.102891 n									+ 10.48	
((δ) − D) $\frac{d'}{100}$										+ 48	
										−22.80	
δ_1										37 29.83	
					28						
d	+1178	3	34.6	57.8	86.4 3	43.20	54	5.15	25	37 40.82	
	1.071115					52 37	50.59			− 4	+10.55
	9.778313						− 9.77			− 49	
	0.989280 n									+ 10.60	
((δ) − D) $\frac{d'}{100}$										+ 48	
										−22.90	
δ_2										37 28.63	
					15						
d	+2720	4	58.0	17.3	135.3 5	7.65	7	10.70	10	53 51 4.36	
	1.434557					53 51	25.78			− 19	+11.42
	9.779078						− 21.42			− 66	
	1.330877 n									+11.77	
((δ) − D) $\frac{d'}{100}$										+ 50	
										~~−2250~~ 23.00	
δ_1										50 52.47	
					15						
d	+2862	0	0.8	18.5	19.3 0	9.65	7	38.70	15	51 1.60	
	1.456677					53 51	24.14			− 21	+12.16
	9.779078						− 22.54			− 2	
	1.357297 n									+11.89	
((δ) − D) $\frac{d'}{100}$										+ 50	
										−23.~~00~~ 20	
δ_2										50 50.72	
					11						
d	+1940	1	6.2	24.8	31.0 1	15.50	11	32.85	10	53 55 2.68	
	1.287807					53 55	17.93			− 9	+12.09
	9.779009						− 15.25			− 16	
	1.183417 n									+11.84	
((δ) − D) $\frac{d'}{100}$										+ 50	
										−23.20	
δ_1										54 51.26	
					11						
d	+2404	1	4.6	22.4	27.0 1	13.50	11	34.85	10	55 1.39	
	1.380937					53 55	20.26			− 15	+12.15
	9.779009						− 18.96			− 16	
	1.276514 n									+11.96	
((δ) − D) $\frac{d'}{100}$										+ 50	
										−23.30	
δ_2										54 50.40	

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435

Date$_1$ = 1875, Oct. 18 Observer W.A.R. Recorder J.F.M.

436

Date$_2$ = 1875, Oct. 19 Observer W.A.R. Recorder J.F.M.

38.

Star.	α	δ	Mag.	T_δ	T_m	T_o	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
2	8 18 53 18		7.0	21 8 55.6	9 10.9	14.2	17.6	21.1	24.6	9 m s 17.68			
	7 47.8	14.2	7.0	58.0						-50.50			
	κ			1.9						- 46			
										- 13			
	((δ) — D) $\frac{\kappa'}{100}$			58.5					- 57.12	- 3			
	c_1									8 26.56			
										-1.46			
										8 25.10			
			7.4	8 55.3	9 11.4	14.8	18.3	21.8	25.0	9 18.26			
				59.2						-50.98			
	κ			3.0						- 50			
									- 57.62	- 12			
	((δ) — D) $\frac{\kappa'}{100}$			59.2						- 3			
	c_2									8 26.64			
										-1.43			
										8 25.21			
	9 16 52 8		9.1	2 2 9 42.0	9 58.3	1.7	5.0	8.6	12.0	10 5.12			
	8 48.0	4.1	8.6	44.5						-50.50			
	κ 33.3	5.0		48.0 8						- 45			
				44.9					- 51.10	- 13			
	((δ) — D) $\frac{\kappa'}{100}$		8.0	1 1 8 19.9	10 9.2	12.7	15.9	19.2	22.6	- 2	9 14.02	-1.51	
	8 45.0	52 4.1								10 15.92			
	a_1									-50.50	9 12.51		
									- 57.10	- 45			
										- 13			
										- 2	9 24.82		
			9.2	2 2 9 55.0	9 58.7	2.4	6.4	9.0	12.2	10 5.74		-1.61	
				58.0						-50.98	9 23.31		
	κ			1.3						- 49			
									- 57.59	- 11			
	((δ) — D) $\frac{\kappa'}{100}$		8.5	58.1	10 9.7	13.1	16.2	19.5	23.8	- 2	9 14.15		
										10 16.26		-1.48	
	a_2									-50.98	9 12.64		
									- 57.59	- 44			
										- 11			
										- 2	9 24.67		
	10 16 53 47		8.7	10 45.0	11 7.0	10.8	14.3	17.6	21.8	11 14.20		-1.48	
	9 45.7	40.1	8.6	48.2						-50.51	9 23.19		
	κ			51.1						- 47			
									- 57.15	- 14			
	((δ) — D) $\frac{\kappa'}{100}$			48.1						- 3			
	a_1									10 23.05			
										-1.46			
										10 21.59			
			8.8	10 5 45	11 7.7	11.3	14.7	18.3	21.8	11 14.76			
				57.6						-50.98			
	κ			0.9						- 51			
										- 12			
	((δ) — D) $\frac{\kappa'}{100}$			57.6					- 57.64	- 3			
	a_2									10 23.12			
										-1.43			
										10 21.69			
	11 10 53 12		9.0	11 44.3	12 2.7	5.8	9.3	13.0	16.3	12 9.42			
	10 38.0	7.8	8.0	47.3						-50.51			
	κ			50.0						- 47			
										- 13			
	((δ) — D) $\frac{\kappa'}{100}$			47.2					- 57.14	- 3			
	a_1									11 18.28			
										-1.49			
										11 16.79			
			9.2	11 52.4	12 2.6	6.6	9.8	12.8	16.7	12 9.70			
				54.7						-50.98			
	κ			59.6						- 51			
										- 12			
	((δ) — D) $\frac{\kappa'}{100}$			55.6					- 57.64	- 3			
	a_2									11 18.06			
										-1.46			
										11 16.60			
	12 26 52 47		9.0	12 56.1	13 19.0	22.2	25.7	29.0	32.4	13 25.66			
	11 54.1	42.6	9.1	58.6						-50.51			
	κ			1.3						- 44			
										- 13			
	((δ) — D) $\frac{\kappa'}{100}$			58.7					- 57.12	- 2			
	a_1									12 34.54			
										-1.52			
										12 33.02			
			8.5	13 10.0	13 19.3	22.8	26.1	29.5	33.4	13 26.22			
				13.7						-50.98			
	κ			18.0						- 49			
										- 12			
	((δ) — D) $\frac{\kappa'}{100}$			13.9					- 57.61	- 2			
	a_2									12 34.61			
										-1.49			
										12 33.12			

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Runs

	$T_m - T_\delta$		A	C	Sum		Mean		Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+19.18	1	54.9	14.0	128.9	47 2	44.5		35	43.90		45	53 19 13.68	
	1.28285								53 19	28.98			− 0.31	
d	9.77626									− 15.30			− 9	+11.35
	1.18463 m												− 27	
((δ) − D) $\frac{d'}{100}$													+11.21	
													+ 50	
δ_1													−23.10	
													19 1.62	
													+ 0.16	
	+19.06	1	58.2	15.5	133.7	47 2	6.85		35	41.50		45	19 11.74	
	1.28012								53 19	26.94			− 9	+11.47
d	9.77626									− 15.20			− 27	
	1.18190 m												+11.33	
((δ) − D) $\frac{d'}{100}$													+ 50	
													−23.30	
δ_2													19 8.03 7	
− 14.8?	+20.32	1	42.5	1.6	104.1	56 1	52.05		25	56.30		55	52 9 53.50	9 15.91
	1.17026 m	52	9 53.50	+10.16	52 9 15.91		+ 9.91		52 9	41.38			− 5	− 25
d	9.78772									+ 12.12			− 24	− 24
	1.08350												+ 9.99	+ 9.94
((δ) − D) $\frac{d'}{100}$	1.21−3.98	1	42.5	1.6	104.1	56 1	52.05		25	56.30		55	+ 46	+ 46
	1.49276								52 9	41.38			−23.10	−23.10
δ_1	9.78772									− 25.47			9 40.25	9 2.41
	1.40600 m													
	? +7.64	1	53.8	12.9	129.7	57 2	4.85		25	43.50		55		9 14.03
					2 14.03				52 9	28.94			−	− 9
d	9.78788				+10.21					−			− 27	− 27
													+10.11	+10.11
((δ) − D) $\frac{d'}{100}$	+18.2	1	53.8	13.9	129.7	57 2	4.85		25	43.50		55	+ 46	+ 46
	1.26007								52 9	28.94			−23.20	−23.20
δ_2	9.78788									− 14.91				9 1.04 20
	1.17347 m													
	+26.10	2	82.2	50.1	82.3	17 2	41.15		5	7.20		15	53 48 31.71	
	1.41664	53	48 31.71	+11.70					53 48	52.28			− 18	
d	9.77112									− 20.57			− 35	
	1.31328 m												+11.73	
((δ) − D) $\frac{d'}{100}$													+ 50	
													−23.30	
δ_1													48 19.80	
	+17.16	2	42.9	8.4	102.3	17 2	51.15		4	57.20		15	48 29.11	
	1.23452								53 48	42.64			− 8	+11.91
d	9.77112									− 13.53			− 37	
	1.13116 m												+11.86	
((δ) − D) $\frac{d'}{100}$													+ 50	
													−23.40	
δ_2													48 17.78	
	+22.22	3	1.5	19.5	21.0	53 3	10.50		29	37.85		30	53 13 5.17	
	1.34674								53 13	22.93			− 13	+11.06
d	9.77728									− 17.76			− 41	
	1.24954 m												+ 11.10	
((δ) − D) $\frac{d'}{100}$													+ 50	
													−23.30	
δ_1													12 52.03	
													52.62	
	+14.10	3	10.9	25.7	36.6	53 3	18.30		29	30.05		30	13 4.22	
	1.14922								53 13	15.49			− 8	+11.24
d	9.77728									− 11.27			− 43	
	1.08202 m												+11.22	
((δ) − D) $\frac{d'}{100}$													+ 50	
													−23.40	
δ_2													12 52.20	
	+26.96	3	8.0	18.4	18.4	18 3	9.20		4	39.15		15	52 48 2.47	
	1.43072								52 48	24.23			− 17	+10.55
d	9.78147									− 21.76			− 41	
	1.33771 m												+10.66	
((δ) − D) $\frac{d'}{100}$													+ 49	
													−23.30	
δ_1													47 49.41	
	+12.32	3	18.9	32.4	48.3	18 3	24.15		4	24.20		15	47 59.69	
	1.09061								52 48	9.64			− 4	+10.80
d	9.78147									− 9.95			− 44	
	0.99760 m												+10.79	
((δ) − D) $\frac{d'}{100}$													+ 49	
													−23.50	
δ_2													47 47.15	

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435

Date$_1$ = 1875, Oct. 18 — Observer W.A.R. — Recorder J.F.M.

436

Date$_2$ = 1875, Oct. 19 — Observer W.A.R. — Recorder J.F.M.

40

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
	13 18	53 50	8.3	21 13 55.0	14 7.8	11.3	15.0	18.7	22.2	14	1500		
	12 46.1	46.5	8.1	58.2							−50.51		
	κ			0.6							− 48		
											− 14		
	((δ) − D) $\frac{\kappa'}{100}$			57.9					− 51.16		− 3		
										13	23.84		
	c_1										−1.49		
										13	22.35		
			8.2	13 57.8	14 8.5	11.9	15.3	18.9	22.4	14	1540		
				59.9							−50.98		
	κ			2.2							− 52		
											− 12		
	((δ) − D) $\frac{\kappa'}{100}$			60.0 ~~59.7~~					− 51.65		− 3		
										13	23.75		
	c_2										−1.46		
										13	22.29		
	14 36	54 3	8.5	15 2.8	15 27.7	31.1	34.7	38.2	41.7	15	3468		
	14 4.7	58 59.1	8.6	5.9							−50.51		
	κ			8.4							− 48		
											− 14		
	((δ) − D) $\frac{\kappa'}{100}$			5.7					− 51.16		− 3		
										14	43.52		
	α_1										−1.50		
										14	42.02		
			9.0	15 2.3	15 27.7	31.5	35.2	38.4	41.8	15	3492		
				5.2							−50.98		
	κ			8.0							− 52		
											− 12		
	((δ) − D) $\frac{\kappa'}{100}$			5.2					− 51.65		− 3		
										14	43.27		
	α_2										−1.46		
										14	41.81		
	15 26	52 31	9.0	15 56.6	16 21.0	24.4	28.0	31.1	34.6	16	2782		
	14 54.6	27.1	8.7	59.6							−50.51		
	κ			3.0							− 46		
				~~59.7~~ ~~57.7~~					− 51.12		− 13		
	((δ) − D) $\frac{\kappa'}{100}$		6.9	16 2.39	16 2.55	29.0	32.3	35.7	39.0	16	− 2	15	36.70
	15 1.5	52 26.8		269							32.30		−1.55
	α_1			25.4					− 51.12		−50.51	15	35.15
											− 46		
											− 13	15	41.18
	15 1.5		5.0	16 2.8	16 26.0	29.2	32.8	35.9	39.7	16	3272		−1.56
				5.1							−50.98	15	39.62
	κ			8.4							− 49		
											− 12		
	((δ) − D) $\frac{\kappa'}{100}$			5.4					− 51.61		− 2		
										15	41.11		
	α_2										−1.53		
										15	39.58		
	16 14	53 38	7.7	16 59.5	17 4.2	7.7	11.2	14.7	18.3	17	1122		
	15 41.5	34.3	7.8	2.5							−50.51		
	κ			5.4							− 47		
											− 13		
	((δ) − D) $\frac{\kappa'}{100}$			62.5					− 51.13		− 2		
										16	20.09		
	α_1										−1.53		
										16	18.56		
			8.2	16 58.0	17 4.8	8.3	12.0	15.3	18.7	17	1182		
				1.0							−50.99		
	κ			4.0							− 51		
											− 12		
	((δ) − D) $\frac{\kappa'}{100}$			61.0					− 51.64		− 2		
										16	20.18		
	α_2										−1.50		
										16	18.68		
	17 17	54 3	8.0	17 52.0	18 6.3	9.8	13.5	17.0	20.5	18	1349		
	16 44.3	53 39.2	8.3	54.9							−50.61		
	κ			57.4							− 48		
											− 14		
	((δ) − D) $\frac{\kappa'}{100}$			54.8					− 51.16		− 3		
										17	22.26		
	α_1										−1.53		
										17	20.73		
			8.3	17 59.0	18 6.8	10.6	13.9	17.3	20.0	18	1392		
				1.8							−50.99		
	κ			5.6							− 52		
											− 12		
	((δ) − D) $\frac{\kappa'}{100}$			62.1					− 51.66		− 3		
										17	22.26		
	α_2										−1.50		
										17	20.76		

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Runs

	$T_m - T_0$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
					14					− 0.31	
d	+17.10	4	47.7	69	1146	4 57.30	7	51.05	10	53 51 22.67	
	1.23300					53 51	36.13			− 8	+11.56
((δ) − D) $\frac{d'}{100}$	9.77061						− 13.46			− 64	
	1.12913n									+ 11.78	
										+ 50	
δ₁										−23.50	
										51 11.04	10.42
										+ 0.16	
					15						
d	+15.40	4	52.1	10.2	122.3	5 1.15	7	47.20	10	51 20.52	
	1.18752					53 51	32.64			− 6	+11.69
((δ) − D) $\frac{d'}{100}$	9.77061						− 12.12			− 65	
	1.08365n									+ 11.90	
										+ 50	
δ₂										−23.60	
										51 8.77	
	+28.98	1	88.7	57.2	84.9	1 42.45	21	5.90	0	54 4 28.28	
d	1.46210					54 4	50.98			− 22	+12.06
((δ) − D) $\frac{d'}{100}$	9.76835						− 22.70			− 22	
	1.35597n									+ 11.99	
										+ 51	
δ₁										−23.50	
										4 16.53	
	+29.72	1	84.8	57.1	86.9	1 43.45	21	4.90	0	4 27.06	
d	1.47305					54 4	50.34			− 23	+12.17
((δ) − D) $\frac{d'}{100}$	9.76835						− 23.28			− 23	
	1.36692n									+ 12.12	
										+ 57	
δ₂										−23.70	
										4 15.69	
					34					4	1 59
	+ 2.4	3	38.4	15.9	124.8	4 3.40	7	45.95	30	52 32 29.08	32 4.56
	0.38021		52 32 29.08		52 32	4.56	48			− 0	− 28
d	9.78395					+10.06	52 32	31.03		− 53	− 53
	0.28968n		+10.34					− 1.95		+10.39	+10.39
((δ) − D) $\frac{d'}{100}$										+ 48	+ 48
	+6.90	3	58.9	15.9	124.8	34 4 3.40	7	45.95	30	−23.40	−23.40
	+ 32.6						48			32 19.71	31 40.91
	1.51322					52 32	31.03				N.
	9.78395						− 26.47				
	1.42269n										
					34						
	+27.32	4	49	20.7	25.6	4 12.80	48	35.55	30	31 58.80	
d	1.43648					52 32	20.99			− 20	+10.24
	9.78412						− 22.19			− 54	
((δ) − D) $\frac{d'}{100}$	1.36612n									+ 10.50	
										+ 48	
δ₂										−23.50	
										31 45.70	
					26						
	+ 8.72	1	30.4	8.9	119.3	1 59.65	55	48.70	25	53 39 26.88	
d	0.94052					53 39	33.78			− 2	+11.79
	9.77268						− 6.90			− 26	
((δ) − D) $\frac{d'}{100}$	0.83872n									+ 11.57	
										+ 50	
δ₁										−23.60	
										39 14.96	
					27						
	+10.82	1	52.9	8.4	122.3	2 1.15	55	47.20	25	53 39 24.08	
d	1.03423					53 39	32.64			− 3	+11.90
	9.77268						− 8.56			− 26	
((δ) − D) $\frac{d'}{100}$	0.93243n									+ 11.69	
										+ 50	
δ₂										−23.70	
										39 12.44	
	+18.62	1	88.5	11.9	125.4	2 2.70	20	45.65	0	54 4 16.15	
d	1.26998					54 4	30.73			− 9	+12.15
	9.76835						− 14.58			− 26	
((δ) − D) $\frac{d'}{100}$	1.16385n									+ 11.99	
										+ 57	
δ₁										−23.70	
										4 4.29	
	+11.82	2	8.3	20.1	23.4	2 11.70	20	36.65	0	4 12.83	
d	1.07262					54 4	22.09			− 4	+12.31
	9.76852						− 9.26			− 28	
((δ) − D) $\frac{d'}{100}$	0.96666n									+ 12.12	
										+ 57	
δ₂										−23.80	
										4 1.50	

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Date$_1$ = 1875, Oct. 18 435 Observer W.A.R. Recorder J.F.M.

Date$_2$ = 1875, Oct. 19 436 Observer W.A.R. Recorder J.F.M.

42

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
21	18 40	53 44	8.9	21 19 12.0	19 31.6	35.3	38.6	42.0	45.5	m 19	s 38.60		
	18 7.7	40.5	8.6	15.0							− 50.51		
	κ			18.5							− 47		
				15.2							− 13		
	((δ) − D) $\frac{\kappa'}{100}$								− 51.14		− 3		
										18	47.46		
	a_1										− 1.54		
										18	45.92		
	18 7.0	53 36.7	7.5	19 7.3	19 32.0	35.7	39.0	42.4	46.0	19	39.02		
				9.5							− 50.99		
	κ			12.2							− 51		
				9.7							− 12		
	((δ) − D) $\frac{\kappa'}{100}$								− 51.65		− 3		
										18	47.37		
	a_2										− 1.52		
										18	45.85		
	19 48	51 31	8.5	20 5.9	20 41.2	44.4	47.6	51.0	54.4	20	47.72		
	19 15.3	27.1	8.8	9.1							− 50.51		
	κ			11.8							− 44		
				8.9							− 13		
	((δ) − D) $\frac{\kappa'}{100}$								− 51.10		− 2		
										19	56.62		
	a_1										− 1.64		
										19	54.98		
			8.8	20 26.9	20 41.6	44.8	48.0	51.6	54.7	20	48.14		
				30.8							− 50.99		
	κ			34.6							− 48		
				30.8							− 11		
	((δ) − D) $\frac{\kappa'}{100}$								− 51.60		− 2		
										19	56.54		
	a_2										− 1.61		
										19	54.93		
	20 34	53 4	8.9	21 42.4	21 27.4	30.9	34.2	37.7	41.0	21	34.24		
	20 1.7	0.4	8.9	45.4							− 50.51		
	κ			48.6							− 46		
				45.5							− 13		
	((δ) − D) $\frac{\kappa'}{100}$								− 51.13		− 3		
										20	43.31		
	a_1										− 1.54		
										20	41.52		
			8.5	21 12.4	21 27.7	31.3	34.4	38.0	41.5	21	34.58		
				18.3							− 51.00		
	κ			21.7							− 50		
				17.5							− 12		
	((δ) − D) $\frac{\kappa'}{100}$								− 51.65		− 3		
										20	42.933		
	a_2										− 1.56		
										20	41.37		
	21 29	53 56	8.0	22 14.2	22 20.5	23.9	27.4	31.0	34.6	22	27.48		
	20 56.8	52.1	8.5	17.3							− 50.51		
	κ			19.7							− 48		
				17.1							− 14		
	((δ) − D) $\frac{\kappa'}{100}$								− 51.16		− 3		
										21	36.32		
	a_1										− 1.57		
										21	34.75		
			8.4	22 12.5	22 20.8	24.5	27.9	31.6	34.8	22	27.92		
				15.8							− 51.00		
	κ			19.0							− 52		
				15.8							− 12		
	((δ) − D) $\frac{\kappa'}{100}$								− 51.67		− 3		
										21	36.25		
	a_2										− 1.54		
										21	34.71		
	22 31	52 21	6.0	23 2.0	23 23.8	27.1	30.6	33.9	37.3	23	30.54		
	21 56.6	16.1	5.8	6.2							− 50.51		
	κ			8.5							− 46		
				5.6							− 13		
	((δ) − D) $\frac{\kappa'}{100}$								− 51.12		− 2		
										22	39.42		
	a_1										− 1.64		
										22	37.78		
			5.8	23 5.4	23 24.0	27.5	30.9	34.2	37.5	23	30.82		
				7.8							− 51.00		
	κ			10.8							− 49		
				8.0							− 11		
	((δ) − D) $\frac{\kappa'}{100}$								− 51.62		− 2		
										22	39.20		
	a_2										− 1.61		
										22	36.59		37.59

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+23.40	0 12.8	38.4	59.2	20 0 29.60	2	18.75		20	53 45 45.36	
	1.36922					53 46	3.83			− 14	+11.99
d	9.77164						−18.47			− 6	
$((\delta) - D)\frac{d'}{100}$	1.26638									+ 11.69	
										+ 50	
δ_1										− 23.70	
										45 33.34 ?	
										+ 0.16	
	+29.32	4 5.1	12.9	25.0	21 4 12.50	58	35.85		20	41 58.11	her record +19
	1.46716					53 42	21.29			22	+11.48
d	9.77233						−23.18			− 54	
$((\delta) - D)\frac{d'}{100}$	1.36501									+ 11.74	
										+ 50	
δ_2										− 23.90	
										41 45.85 ?	
	+38.82	3 0.8	19.1	19.9	33 3 9.95	49	38.40		20	51 32 51.25	
	1.58906					57 33	23.48			− 40	+8.99
d	9.76364						−32.23			− 41	
$((\delta) - D)\frac{d'}{100}$	1.50825									+ 9.37	
										+ 43	
δ_1										− 23.60	
										32 36.33	
	+17.34	3 21.9	32.9	61.8	33 3 30.90	49	17.45		20	32 48.49	
	1.23905					57 33	2.89			− 8	+9.38
d	9.79367						−14.40			− 45	
$((\delta) - D)\frac{d'}{100}$	1.15824									+ 9.48	
										+ 43	
δ_2										− 23.70	
										32 34.33	
	−11.26	0 52.8	10.7	123.5	1 1.75	21	46.60		0	53 5 40.71	
	1.05154					53 5	31.68			− 3	+11.33
d	9.77846						+ 9.03			− 13	
$((\delta) - D)\frac{d'}{100}$	0.95552									+ 10.99	
										+ 50	
δ_1										− 23.70	
										5 28.03	
	+17.08	0 31.3	42.1	80.4	0 40.20	22	8.15		0	5 39.90	
	1.23249					53 5	53.59			− 8	+11.45
d	9.77846						−13.69			− 9	
$((\delta) - D)\frac{d'}{100}$	1.13647									+11.12	
										+ 50	
δ_2										− 23.90	
										5 27.61	
	+ 10.38	4 4.1	20.8	24.9	9 4 12.45	13	35.90		5	53 57 12.82	
	1.01620					53 57	20.98			− 3	+11.81
d	9.76974						− 8.16			− 54	
$((\delta) - D)\frac{d'}{100}$	0.91146									+11.88	
										+ 50	
δ_1										− 23.80	
										57 0.52	
	+ 12.12	4 4.9	20.3	25.2	9 4 12.60	13	35.75		5	57 11.67	
	1.08350					53 57	21.19			− 4	+11.95
d	9.76974						− 9.52			− 54	
$((\delta) - D)\frac{d'}{100}$	0.97876									+12.03	
										+ 50	
δ_2										−24.00	
										56 59.78	
	+ 24.94	4 28.2	44.9	73.1	111 4 36.55	38	11.80		40	52 21 36.55	
	1.39690					52 21	56.88			− 16	+9.92
d	9.78576						−20.33			− 60	
$((\delta) - D)\frac{d'}{100}$	1.30818									+10.21	
										+ 47	
δ_1										− 23.80	
										21 22.36	
	+ 22.82	4 31.9	47.4	79.3	111 4 39.65	38	8.70		40	21 35.54	
	1.35832					52 21	54.14			− 14	+10.05
d	9.78576						−18.60			− 61	
$((\delta) - D)\frac{d'}{100}$	1.26960									+10.33	
										+ 47	
δ_2										− 23.80	
										21 21.85	

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436

Date$_2$ = 1875, Oct. 19 — Observer W. A. R. — Recorder J. F. M.

44

Ru

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
23	23 47 52 44		6.4	21 24 12.6	24 39.3	42.8	46.1	49.6	53.0	24	4616		
23	14.5	39.8	6.7	14.9							−50.51		
κ				17.7							− 46		
											− 13		
((δ) − D) $\frac{\kappa'}{100}$				15.1					− 51.12		− 2		
										23	55.04		
α_1											−1.64		
										23	53.40		
			7.5	24 19.3	24 39.7	43.1	46.7	50.2	53.6	24	4666		
				23.0							−51.01		
κ				25.7							− 49		
											− 12		
((δ) − D) $\frac{\kappa'}{100}$				22.7					− 51.64		− 2		
										23	55.02		
α_2											−1.61		
										23	53.41		
24	55 53 14		8.3	25 21.8	25 47.5	51.0	54.5	58.0	1.2	25	5444		
24	22.1	9.6	8.1	25.4							−50.51		
κ				28.3							− 46		
											− 13		
((δ) − D) $\frac{\kappa'}{100}$				25.2					− 51.13		− 3		
										25	3.31		
α_1											−1.63		
										25	1.68		
			8.6	25 31.5	25 48.3	51.7	55.0	58.3	1.6	25	5498		
				33.3							−51.01		
κ				34.4							− 50		
											− 12		
((δ) − D) $\frac{\kappa'}{100}$				33.4					− 51.66		− 3		
										25	3.32		
α_2											−1.60		
										25	1.72		
26	4 52 19		8.5	26 23.2	26 39.3	42.7	46.0	49.3	52.7	26	4600		
~~26~~	~~0.4~~	~~14.2~~		27.3							−50.51		
25 κ	13.4	52 11.8	~~8.8~~	29.9							− 45		
											− 13		
((δ) − D) $\frac{\kappa'}{100}$				26.8					− 51.11		− 2		
										25	54.89		
α_1											−1.67		
										25	53.~~82~~22		
			8.6	26 25.6	26 40.0	43.3	46.7	~~50.0~~	53.3	26	4666		
				28.3							−51.01		
κ				32.3							− 49		
											− 11		
((δ) − D) $\frac{\kappa'}{100}$				28.7					− 51.63		− 2		
										25	55.03		
α_2											−1.65		
										25	53.38		
27	9 52 4		9.3	27 48.0	28 2.8	6.0	9.3	12.9	16.1	28	9.46		
26	25.1	~~58.9~~	9.5	50.0							−50.51		
κ	8	57.5		52.8							− 45		
											− 13		
((δ) − D) $\frac{\kappa'}{100}$				50.3					− 51.11		− 2		
										27	18.35		
α_1											−1.70		
										27	16.65		
			9.5	27 40.5	28 3.5	6.7	9.8	13.4	16.9	28	1006		
				45.0							−51.02		
κ				47.8							− 49		
											− 11		
((δ) − D) $\frac{\kappa'}{100}$				44.4					− 51.64		− 2		
										27	18.42		
α_2											−1.67		
										27	16.75		
28	16 53 12		9.1	29 3.8	29 9.5	13.1	16.7	20.0	23.6	29	1658		
27	43.8	7.6	9.2	6.5							−50.52		
κ				8.9							− 46		
											− 13		
((δ) − D) $\frac{\kappa'}{100}$				6.4					− 51.14		− 3		
										28	25.44		
α_1											−1.67		
										28	23.77		
			8.8	28 51.8	29 10.4	13.8	17.4	20.6	24.0	29	17.24		
				55.5							−51.02		
κ				57.0							− 50		
											− 12		
((δ) − D) $\frac{\kappa'}{100}$				55.4					− 51.67		− 3		
										28	25.57		
α_2											−1.64		
										28	23.93		

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Runs

	$T_m - T_\odot$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+31.06	1	4.2	21.8	26.0	21 1 13.00	1	35.35	20	52 44 58.33	
	1.49220					52 45	20.43			− 0.31 − 25	+10.69
d	9.78197						− 25.10			− 16	
	1.39969n									+ 10.61	
$((\delta) - D)\frac{d'}{100}$										+ 49	
										− 23.80	
δ_1										44 41.91	
										+ 0.16	
	+23.96	1	12.6	28.5	41.1	21 1 20.55	1	27.80	20	44 53.88	
	1.37949					52 45	13.24			− 15	+10.90
d	9.78197						− 19.36			− 17	
	1.28698n									+ 10.73	
$((\delta) - D)\frac{d'}{100}$										+ 49	
										− 24.00	
δ_2										44 40.94	
	+29.24	1	0.5	18.6	19.1	51 1 9.55	31	38.80	30	53 15 0.52	
	1.46598					53 15	23.88			− 23	+11.27
d	9.77694						− 23.36			− 15	
	1.36844n									+ 11.15	
$((\delta) - D)\frac{d'}{100}$										+ 50	
										− 24.00	
δ_1										14 47.48	
	+21.58	1	9.0	25.9	34.9	51 1 17.45	31	30.90	30	14 59.10	
	1.33405					53 15	16.34			− 12	+11.60
d	9.77694						− 17.24			− 16	
	1.23651n									+ 11.28	
$((\delta) - D)\frac{d'}{100}$										+ 50	
										− 24.10	
δ_2										14 46.66	
	+19.20	4	21.1	39.0	60.1	49 4 30.05	33	18.30	45	52 16 47.70	
	1.28330					52 17	3.38			− 10	+9.92
d	9.78658						− 15.68			− 58	
	1.19540n									+ 10.14	
$((\delta) - D)\frac{d'}{100}$										+ 46	
										− 24.00	
δ_1										16 33.31	
	+17.96	4	25.7	42.3	68.0	49 4 34.00	33	14.35	45	16 45.12	
	1.25431					52 16	59.79			− 9	
d	9.78658						− 14.67			− 60	+9.88
	1.16641n									+ 10.11	
$((\delta) - D)\frac{d'}{100}$										+ 46	
										− 24.20	
δ_2										16 30.96	
	+19.16	1	0.0	18.3	18.3	1 9.15	21	39.20	0	52 5 8.56	
	1.28240					52 5	2.428			− 10	+10.13
d	9.78853						− 15.72			− 15	
	1.19645n									+ 9.93	
$((\delta) - D)\frac{d'}{100}$										+ 45	
										− 23.90	
δ_1										4 54.48	
	+25.66	0	18.1	16.5	134.6	1 7.30	21	41.05	0	5 5.44	
	1.40926					52 5	26.49			− 18	+10.16
d	9.78853						− 21.05			− 14	
	1.32331n									+ 10.03	
$((\delta) - D)\frac{d'}{100}$										+ 45	
										− 24.10	
δ_2										4 ~~5.28~~ 51.66	
	+10.18	3	13.1	31.5	44.6	53 3 23.30	29	25.05	30	53 13 1.99	
	1.00775					53 13	10.13			− 3	+11.15
d	9.77728						− 8.14			− 44	
	0.71055n									+ 11.12	
$((\delta) - D)\frac{d'}{100}$										+ 50	
										− 24.10	
δ_1										12 ~~48.74~~ 48.73	
	+21.84	3	8.9	24.0	32.9	53 3 16.45	29	31.90	30	12 59.88	
	1.33925					53 13	17.34			− 13	+11.19
d	9.77728						− 17.46			− 42	
	1.24205n									+ 11.24	
$((\delta) - D)\frac{d'}{100}$										+ 50	
										− 24.20	
δ_2										12 47.03	

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Date$_1$ = 1875, Oct, 18 435 Observer W.A.R. Recorder J.F.M. Date$_2$ = 1875, Oct. 19 436 Observer W.A.R. Recorder J.F.M. 46

Star.	α	δ	Mag.	T_s	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
29	24 50 11	9.2	21	30 0.4 29 53.5 54.4	30 19.6	23.0	26.4	29.3	32.7	30	26.20		
28	52.0 6.1	8.8									- 50.52		
κ											- 42		
((δ) — D) $\frac{\kappa'}{100}$		9.0		29 54.1 53.8					- 51.09		- 13		
a_1											- 2		
										29	35.11		
											-1.78		
										29	33.33		
		9.2	21	30 29	30 20.5	23.6	26.7	30.2	33.0	30	26.80		
κ											- 51.02		
((δ) — D) $\frac{\kappa'}{100}$		8.8							- 51.60		- 45		
a_2											- 11		
											- 2		
										29	35.20		
											-1.75		
										29	33.45		
31	19 52 34	8.5	31	54.1	32 13.0	16.6	19.7	23.2	26.6	32	19.82		
30	45.1 30.0	8.5		58.4							-50.52		
κ				0.3							- 46		
((δ) — D) $\frac{\kappa'}{100}$									- 51.13		- 13		
a_1				57.6							- 2		
										31	28.69		
											-1.72		
										31	26.97		
		8.3	31	58.9	32 13.7	17.0	20.4	24.0	27.5	32	20.52	32 32.78	
κ									- 51.65		- 51.02	- 51.02	
((δ) — D) $\frac{\kappa'}{100}$		9.2	31	52.0	32 26.1	29.5	32.7	36.1	39.5	32	- 49	- .49	
30 57.5											- 12	- .12	
a_2											- 2	- .2	
									- 51.65	31	28.87	31 41.13	
											-1.70	- 1.70	
										31	27.17	31 39.43	
32	53 52 10	9.1	33	18.1	33 47.3	50.8	54.0	57.4	1.0	31	41.13		
32	19.6 5.3	9.0		21.6							- 1.70		
κ				25.4							5410		
((δ) — D) $\frac{\kappa'}{100}$									- 57.12		- 50.52		
a_1				21.7							- 45		
											- 13		
											- 2		
										33	2.98		
											-1.75		
										33	1.23		
		9.2	33	24.5	33 48.2	51.3	54.7	57.9	1.2	33	5466		
κ				27.9							-51.02		
((δ) — D) $\frac{\kappa'}{100}$				30.4							- 49		
a_2				27.6					- 51.64		- 11		
											- 2		
										33	3.02		
											-1.73		
										33	1.29		
33	24 53 28	5.0	34	19.9	34 15.0	18.6	21.9	25.4	29.0	34	21.98		
32	50.0 23.8	6.5		24.4							-50.52		
κ				24.0							- 47		
((δ) — D) $\frac{\kappa'}{100}$									- 51.15		- 13		
a_1				23.8							- 3		
										33	30.83		
											-1.72		
										33	29.11		
		5.0	34	23.1	34 15.6	18.9	22.6	25.9	29.4	34	2248		
κ				26.5							-51.02		
((δ) — D) $\frac{\kappa'}{100}$				28.5							- 51		
a_2				26.0					- 51.68		- 12		
											- 3		
										33	30.80		
											-1.69		
										33	29.11		
34	53 53 34	8.9	35	27.0	35 46.3	49.7	53.3	56.8	0.1	35	5324		
34	19.4 29.8	9.0		30.2							-50.52		
κ				33.0							- 47		
((δ) — D) $\frac{\kappa'}{100}$									- 51.15		- 13		
a_1				30.1							- 3		
										35	2.09		
											-1.73		
										35	0.36		
		9.0	35	25.6	35 46.9	50.3	53.8	57.3	0.8	35	53.82		
κ				29.3							-51.03		
((δ) — D) $\frac{\kappa'}{100}$				33.5							- 51		
a_2				29.5					- 51.69		- 12		
											- 3		
										35	2.13		
											- 1.70		
										35	0.43		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	5.52 δ′ 11 59.88
	+2.580	3 53.9	15.2	131.1	54 4 555	28	42.80		30	50 12 0.31	12 0.19
	1.41162					50 12	27.68 ,57			− 3.01	+7.56 − .28 +7.51
	9.80625 d						−24.87 −2.05			− 18	+7.61 − .53
	1.34339									− 53	+ 7.96
((δ) − D) $\frac{d'}{100}$	+3240	3 55.9	15.2	131.1	54 4 555	28	42.80		30	+ 7.96	+ .36
	1.51055					50 12	27.68 ,57			+ 36	− 23.90
δ_1	9.80625						− 27.69			− 23.90	11 43.54
	1.44232									11 49.18	.49
										+ 0.16	23
	+23.90	4 15	18.0	19.5	54 4 9.75	28	38.60		30	12 3.61	
	1.37840					50 12	24.04			− 15	+7.73
d	9.80625						− 20.43			− 54	
	1.31017									+ 8.96	
((δ) − D) $\frac{d'}{100}$		4 15	18.0	19.5	54 4 9.75	28	38.60		30	+ 36	
						50 12	24.04			− 24.00	
δ_2	9.80625									11 47.50	
	+22.22	0 27.5	46.5	74.0	30 0 37.00	52	11.35		30	52 35 38.41	
	1.34674					52 35	56.43			− 13	+10.73
d	9.78346						− 18.02			− 8	
	1.25572									+ 10.46	
((δ) − D) $\frac{d'}{100}$										+ 48	
										− 24.20	
δ_1										35 24.64	
										24.63	
	+29.62	0 25.0	43.7	68.7	30 0 34.35	52	14.00		30	35 35.42	35 26.35
	1.47159					52 35	59.44			− 23	+10.76 − .45 +10.54
d	9.78346						− 24.02			− 8	− 8
	1.38057									+ 10.59	+ 10.59
((δ) − D) $\frac{d'}{100}$	+40.8	0 25.0	43.7	68.7	30 0 34.35	52	14.00		30	+ 48	+ 48
	1.61066					52 35	59.44			− 24.30	− 24.30
δ_2	9.78346						− 33.09			35 22.04	35 12.75
	1.51964										
	+32.40	0 3.1	23.7	28.8	55 0 1440	27	33.95		33	52 10 52.51	
	1.51055					52 11	19.03			− 28	+10.18
d	9.78756						− 26.52			− 3	
	1.42363									+ 10.03	
((δ) − D) $\frac{d'}{100}$										+ 46	
										− 24.20	
δ_1										10 38.18	
	+27.06	0 10.6	28.9	39.5	55 0 19.75	27	28.60		33	10 51.89	
	1.43233					52 11	14.04			− 19	+10.38
d	9.78756						− 22.15			− 4	
	1.34541									+ 10.15	
((δ) − D) $\frac{d'}{100}$										+ 46	
										− 24.40	
δ_2										10 38.03	
		[25.5]		68.8	34 34.40						
	− 1.82	2 13.3	43.2	58.8	2 29.40	45	18.95 13.95		35	53 29 5.48	
	0.26007					53 29	4.03 28 59.03			0.48	
d	9.77456						+ 1.45 + 1.45			− 0	+11.58
	0.16015									− 32	
((δ) − D) $\frac{d'}{100}$										+ 11.40	
										+ 50	
δ_1										− 24.30	
										28 47.45	
	− 3.52	2 27.3	44.5	71.8	37 2 35.90	45	12.45		35	29 0.69	
	0.54654					53 28	57.89			− 0	+11.69
d	9.77456						+ 2.80			− 34	
	0.44662									+ 11.53	
((δ) − D) $\frac{d'}{100}$										+ 50	
										− 24.50	
δ_2										28 48.04	
	+23.14	0 37.5	53.4	92.9	30 0 46.45	52	1.90		30	53 36 5.31	
	1.36436					53 35	46.98			− 14	+11.78
d	9.77336						+ 18.33			− 10	
	1.26324									+ 11.52	
((δ) − D) $\frac{d'}{100}$										+ 50	
										− 24.40	
δ_1										35 52.38	35 15.7
	+24.32	0 38.7	55.3	94.0	30 0 47.00	52	1.35		30	36 6.06	
	1.38596					53 35	46.79			− 15	+11.91
d	9.77336						+ 19.27			− 10	
	1.28484									+ 11.66	
((δ) − D) $\frac{d'}{100}$										+ 50	
										− 24.50	
δ_2										52.63	35 15.1

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435

Date$_1$ = 1875, Oct. 18 — Observer W. A. R. — Recorder J. F. M.

436

Date$_2$ = 1875, Oct. 19 — Observer W. A. R. — Recorder J. F. M.

48

Star.	α	δ	Mag.	T_s	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
25	52 51 41		9.2	21 36 29.7	36 46.4	49.9	53.2	56.6	59.8	36	53.18		
35	18.7	37.8	9.1	33.9							− 50.52		
κ				37.3							− 44		
											− 13		
((δ) − D) $\frac{\kappa'}{100}$				33.6					− 51.11		− 2		
										36	2.07		
a_1											−1.80		
										36	0.27		
			9.2	36 29.3	36 47.2	50.5	53.6	57.0	0.5	36	53.76		
				32.0							− 51.03		
κ				36.9							− 48		
											− 11		
((δ) − D) $\frac{\kappa'}{100}$				32.4					− 51.64		− 2		
										36	2.12		
a_2											−1.77		
										36	0.35		
37	45 52 43		9.0	38 16.6	38 38.6	42.9	45.5	48.8	52.2	38	45.42		
27	11.8	38.1	9.0	20.3							− 50.52		
κ				23.6							− 46		
											− 13		
((δ) − D) $\frac{\kappa'}{100}$				20.1					− 51.13		− 2		
										37	54.29		
a_1											−1.79		
										37	52.80		
			8.9	38 17.6	38 39.2	42.7	46.2	48.6	52.8	38	46.08		
				20.4							− 51.04		
κ				24.0							− 49		
											− 12		
((δ) − D) $\frac{\kappa'}{100}$				20.7					− 51.67		− 2		
										37	54.41		
a_2											−1.76		
										37	52.65		
38	81 53 11		7.5	39 9.3	39 23.6	27.0	30.5	33.9	37.5	39	30.50		
37	56.7	6.4	7.6	13.2							− 50.52		
κ				16.4							− 47		
											− 13		
((δ) − D) $\frac{\kappa'}{100}$				13.00 12.9					− 51.15		− 3		
										38	39.35		
a_1											−1.78		
										38	37.57		
			7.7	39 10.7	39 24.3	27.7	31.3	34.6	38.1	39	31.20		
				13.4							− 51.04		
κ				16.5							− 50		
											− 12		
((δ) − D) $\frac{\kappa'}{100}$				13.5					− 51.69		− 3		
										38	39.51		
a_2											−1.75		
										38	37.76		
42	0 53 0		8.5	42 31.4	42 54.5	57.8	1.3	4.7	8.2	43	1.30		
41	25.5 52 58.3		9.0	34.4							− 50.52		
κ				38.2							− 46		
											− 13		
((δ) − D) $\frac{\kappa'}{100}$				34.7					− 51.14		− 3		
										42	10.16		
a_1											−1.83		
										42	8.33		
			8.8	42 30.8	42 55.0	58.4	1.8	5.3	8.9	43	1.94		
				34.0							− 51.095		
κ				37.8							− 50		
											− 12		
((δ) − D) $\frac{\kappa'}{100}$				34.2					− 51.70		− 3		
										42	10.24		
a_2											−1.80		
										42	8.44		
43	34 52 53		8.5	44 8.5	44 26.0	29.4	33.0	36.2	39.7	44	32.86		
42	59.0 48.9		8.6	9.5							− 50.52		
κ				11.7							− 46		
											− 13		
((δ) − D) $\frac{\kappa'}{100}$				8.9					− 51.13		− 2		
										43	41.73		
a_1											−1.85		
										43	39.88		
			8.9	43 55.3	44 26.5	30.0	33.2	36.8	40.0	44	33.30		
				58.6							− 51.05		
κ				1.4							− 50		
											− 12		
((δ) − D) $\frac{\kappa'}{100}$				58.5					− 51.69		− 2		
										43	41.61		
a_2											−1.82		
										43	39.79		

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Runs

	$T_m - T_s$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+19.58	2	39.2	57.8	97.0	22 2 48.50	59	59.85		20	51 43 28.74	
	1.29181					51 43	44.93				− 11	+9.51
d	9.79192						− 16.19				− 36	
	1.20925 m										+ 9.54	
((δ) − D) $\frac{d'}{100}$											+ 44	
											− 24.30	
δ_1											43 13.64	
											+ 0.16	
	+21.36 +~~20.36~~	2	40.3	57.9	98.2	22 2 49.10	59	59.25		20	43 27.03	
	1.32960					51 43	44.69				− 12	+9.61
d	9.79192						− 17.66				− 37	
	1.24704 m										+ 9.66	
((δ) − D) $\frac{d'}{100}$											+ 44	
											− 24.40	
δ_2											43 12.40	
	+25.32	2	9.8	27.1	36.9	22 2 18.45	0	29.90		20	52 43 54.51	
	1.40346					52 44	14.98				− 17	+10.62
d	9.78213						− 20.47				− 30	
	1.31111 m										+10.60	
((δ) − D) $\frac{d'}{100}$											+ 49	
											− 24.40	
δ_1											43 40.42	
	+25.38	2	12.8	29.0	41.8	22 2 20.90	0	27.45		20	43 52.37	
	1.40449					52 44	12.89				− 17	+10.76
d	9.78213						− 20.52				− 30	
	1.31214 m										+10.74	
((δ) − D) $\frac{d'}{100}$											+ 47	
											− 24.60	
δ_2											43 38.69	
	+17.50	4	11.1	27.7	38.8	521 4 19.40	28	28.95		~~50~~	53 12 0.03	+10.96
	1.24304					53 12	14.03				− 8	+~~11.06~~
d	9.77744						− 14.00				− 56	
	1.14600 m										+11.10	
((δ) − D) $\frac{d'}{100}$											+ 50	
											− 24.50	
δ_1											11 46.18	
	+17.70	4	12.7	28.0	40.7	54 4 20.35	28	28.00		30	11 59.28	
	1.24797					53 12	13.44				− 8	+11.09
d	9.77744						− 14.16				− 56	
	1.15093 m										+11.23	
((δ) − D) $\frac{d'}{100}$											+ 50	
											− 24.70	
δ_2											11 45.83	
	+26.60	4	26.3	44.0	70.3	4 35.15	18	13.20		0	53 1 36.92	
	1.42488					53 1	58.28				− 19	+10.65
d	9.77913						− 21.36				− 60	
	1.32953 m										+10.94	
((δ) − D) $\frac{d'}{100}$											+ 50	
											− 24.70	
δ_1											1 22.56	
	+27.74	4	28.5	45.1	73.6	4 36.80	18	11.55		0	1 34.72	
	1.44311					53 1	56.99				− 20	+10.73
d	9.77913						− 22.27				− 60	
	1.34776 m										+11.03	
((δ) − D) $\frac{d'}{100}$											+ 50	
											− 24.80	
δ_2											1 20.81	
	+23.96	0	34.4	52.9	87.3	10 0 43.65	12	4.70		10	52 55 30.50	
	1.37949					52 55	49.78				− 15	+11.07
d	9.78013						− 19.28				− 10	
	1.28514 m										+10.82	
((δ) − D) $\frac{d'}{100}$											+ 50	
											− 24.70	
δ_1											55 16.56	
	+34.80	0	28.2	45.1	73.3	10 0 36.65	12	14.70		10	55 29.14	
	1.54158					52 55	54.14				− 32	+11.03
d	9.78013						− 28.00				− 8	
	1.44723 m										+10.93	
((δ) − D) $\frac{d'}{100}$											+ 50	
											− 24.90	
δ_2											55 15.43	

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Date$_1$ = 1875, Oct. 18 — Observer W. A. R. — Recorder J. F. M.

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Date$_2$ = 1875, Oct. 19 — Observer W. A. R. — Recorder J. F. M.

52

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
1	44 08	52 52	9.0	21 45 7.4	45 27.4	30.6	34.2	37.8	41.0	45	34.14		
	44 3.8	47.7	8.5	10.4							−50.53		
	κ 0.9	44.1		13.1							− 46		
											− 13		
	((δ) − D) $\frac{\kappa'}{100}$			10.3					− 51.14		− 2		
										44	43.00		
	a_1										−1.86		
										44	41.14		
			8.4	45 13.0	45 28.0	31.5	34.8	38.0	41.6	45	34.78		
	κ										−51.05		
											− 50		
											− 12		
	((δ) − D) $\frac{\kappa'}{100}$								− 51.69		− 2		
										44	43.09		
	a_2										−1.83		
										44	41.26		
	45 24	52 9	8.5	46 5.5	46 27.4	30.8	34.0	37.4	40.7	46	34.06		
	44 59.6	51 39.5	9.0	8.7							−50.53		
	κ	52 46		11.9							− 45		
											− 13		
	((δ) − D) $\frac{\kappa'}{100}$			8.7					− 51.13		− 2		
										45	42.93		
	a_1										−1.89		
										45	41.04		
			8.8	46 13.8	46 29.9	31.2	34.5	37.8	41.0	46	34.48		
	κ			19.4							−51.05		
				20.0							− 49		
											− 11		
	((δ) − D) $\frac{\kappa'}{100}$			17.1					− 51.67		− 2		
										45	42.81		
	a_2										−1.86		
										45	40.95		
	47 9	50 18	9.0	47 40.4	48 4.0	7.1	10.3	13.7	17.0	48	10.42		
	46 32.7	13.1	9.0	48.5							−50.53		
	κ			51.6							− 42		
											− 13		
	((δ) − D) $\frac{\kappa'}{100}$			48.5					− 51.10		− 2		
										47	19.32		
	a_1										−1.95		
										47	17.37		
			9.2	47 42.6	48 4.6	7.7	11.0	14.0	17.4	48	10.94		
	κ			46.2							−51.06		
				49.2							− 45		
											− 11		
	((δ) − D) $\frac{\kappa'}{100}$			46.0					− 51.64		− 2		
										47	19.30		
	a_2										−1.93		
										47	17.37		
	49 26	51 43	7.8	50 1.6	50 26.6	29.8	33.0	36.4	39.7	50	33.10		
	48 56.8	38.8	8.3	4.3							−50.53		
	κ			7.3							− 44		
											− 13		
	((δ) − D) $\frac{\kappa'}{100}$			4.4					− 51.12		− 2		
										49	41.98		
	a_1										−1.94		
										49	40.04		
			8.4	50 5.4	50 26.8	30.1	33.7	37.0	40.3	50	33.58		
	κ			9.7							−51.07		
				12.0							− 48		
											− 11		
	((δ) − D) $\frac{\kappa'}{100}$			9.0					− 51.68		− 2		
										49	41.90		
	a_2										−1.91		.99
										49	39.99		
	51 1	52 38	6.0	51 52.2	51 53.1	56.6	0.2	3.5	6.9	52	0.06		
	50 25.0	33.9	6.5	55.2							−50.53		
	κ			58.3							− 46		
											− 13		
	((δ) − D) $\frac{\kappa'}{100}$			55.2					− 51.14		− 2		
										51	8.92		
	a_1										−1.93		
										51	6.99		
			6.0	51 43.2	51 53.6	57.0	0.5	4.0	7.4	52	0.50		
+	κ			46.3							−51.07		
				49.6							− 49		
											− 12		
	((δ) − D) $\frac{\kappa'}{100}$			46.4					− 51.70		− 2		
										51	8.80		
	a_2										−1.91		
										51	6.89		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+23.84	1 25.4	48.1	68.5	16 1 34.25	6	14.10		15	52 49 39.95	85
d	1.37731				52 49	59.18				− 15	+10.76
	9.48113					−19.23				− 21	
$((\delta) - D)\frac{d'}{100}$	1.28396n									+ 10.72	
										+ 49	
δ_1										−24.70	
										49 25.79	
										+ 0.16	
	+21.78	1 30.0	47.1	77.1	16 1 38.55	6	9.80		15	49 37.67	
d	1.33806				52 49	55.24				− 13	+10.98
	9.78113					−17.57				− 21	
$((\delta) - D)\frac{d'}{100}$	1.24471n									+ 10.83	
										+ 49	
δ_2										−24.90	
										49 23.91	
	+25.36	4 80.2	47.7	77.9	674 4 38.95	28	9.40 37		30	52 11 33.70	39
d	1.40415				52 11	54.48				− 17	+9.75
	9.78739					−20.75				− 60	
$((\delta) - D)\frac{d'}{100}$	1.31706n									+ 10.06	
										+ 46	
δ_1										−24.70	
										11 18.44	
	+17.38	4 39.3	47.9	94.2	574 4 47.10	28	1.25		30	11 32.47	
d	1.24005				52 11	46.69				− 8	+9.92
	9.78739					−14.22				− 62	
$((\delta) - D)\frac{d'}{100}$	1.15296n									+ 10.16	
										+ 46	
δ_2										−24.90	
										11 17.65	
	+21.92	2 35.5	54.2	89.7	47 2 44.85	35	3.50		45	50 18 29.89	
d	1.34084				50 18	48.58				− 13	+7.96
	9.80519					−18.69				− 36	
$((\delta) - D)\frac{d'}{100}$	1.27155n									+ 8.09	
										+ 36	
δ_1										−24.60	
										12.94	
	+24.94	2 36.0	53.9	89.9	47 2 44.95	35	3.40		45	18 27.58	
d	1.39490				50 18	48.84				− 17	+8.00
	9.80519					−21.26				− 36	
$((\delta) - D)\frac{d'}{100}$	1.32761n									+ 8.17	
										+ 36	
δ_2										−24.80	
										18 10.94	
	+28.40	1 15.8	35.2	51.0	21 1 25.50	1	22.85		20	51 44 44.21	
d	1.45788				51 45	7.93				− 22	+9.63
	9.79176					−23.72				− 18	
$((\delta) - D)\frac{d'}{100}$	1.37516n									+ 9.59	
										+ 44	
δ_1										−24.80	
										44 28.73	
	+24.58	1 20.4	39.0	59.4	21 1 29.70	1	18.65		20	44 43.77	
d	1.39058				51 45	4.09				− 16	+9.79
	9.79176					−20.32				− 19	
$((\delta) - D)\frac{d'}{100}$	1.30786n									+ 9.70	
										+ 44	
δ_2										−26.00	
										28.72	
	+486	2 4.0	21.9	25.9	27 2 12.95	55	35.40		25	52 39 16.54	
d	0.68664				52 39	20.48				− 1	+10.71
	9.78296					− 3.94				− 29	
$((\delta) - D)\frac{d'}{100}$	0.59512n									+ 10.53	
										+ 48	
δ_1										−24.90	
										39 2.04	
	+14.10	1 58.2	75.1	133.3	24 2 6.65	55	41.70		25	39 15.72	
d	1.14922				52 39	27.14				− 5	+10.80
	9.78296					−11.42				− 27	
$((\delta) - D)\frac{d'}{100}$	1.05770n									+ 10.64	
										+ 48	
δ_2										−25.10	
										39 1.58	

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1875phae.proj.15988

Date$_1$ = 1875, Oct. 18 435 Observer W.A.R. Recorder J.M. Date$_2$ = 1875, Oct. 19 436 Observer W.A.R. Recorder J.M. 52 Ru

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
2	53 15	50 16	8.5	21 53 26.7	53 45.2	48.4	51.7	54.8	58.1	53	51.64		
	52 38.4	47	8.9	2.2							-50.53		
	κ 13.5	9.6									- 42		
									- 51.10		- 13		
											- 2	53 0.54	
	((δ) — D) $\frac{\kappa'}{100}$		8.6	53 29.3	54 0.2	3.3	6.6	9.9	13.2	54	6.60	-2.01	
	52 26.5	50 9.0		2.5							-50.53	52 58.53	
	c_1										- 42		
									- 51.10		- 13		
											- 2	53 15.50	
	52 26.5	50 9.0	8.5	53 54.6	54 4.9	4.0	7.91	10.4	13.7	54	7.022	-2.01	
				56.8							-51.08	53 13.49	
	κ			57.4							- 45		
											- 11		
	((δ) — D) $\frac{\kappa'}{100}$			56.9					- 51.65		- 2		
										53	15.65		
	a_2										-1.99		
										53	13.66		
	54 28	50 14	8.5	54 52.5	55 22.1	25.4	28.4	31.6	34.9	55	28.48		
	53 51.6	8.5	8.7	55.2							-50.53		
	κ			57.3							- 42		
											- 13		
	((δ) — D) $\frac{\kappa'}{100}$		~~8.6~~	55.0					- 51.10		- 2		
										54	37.38		
	a_1										-2.03		
										54	35.35		
			8.1	55 15.1	55 22.5	24.0	28.8	32.2	35.4	55	28.98	+03	
				18.1							-51.08		
	κ			21.0							- 45		
											- 11		
	((δ) — D) $\frac{\kappa'}{100}$			18.1					- 51.66		- 2		
										54	37.32	5	
	a_2										-2.00		
										54	35.35		
	56 2	50 37	8.4	56 33.4	56 37.3	0.5	3.8	6.9	10.3	57	3.74		
	55 25.3	32.3	8.3	36.7							-50.53		
	κ			39.3							- 43		
											- 13		
	((δ) — D) $\frac{\kappa'}{100}$			36.5					- 51.11		- 2		
										56	12.63		
	a_1										-2.04		
										56	10.59		
			8.5	56 30.9	56 37.7	1.1	4.2	7.5	10.7	57	4.24		
				33.8							-51.08		
	κ			36.0							- 46		
											- 11		
	((δ) — D) $\frac{\kappa'}{100}$			33.6					- 51.67		- 2		
										56	12.57		
	a_2										-2.01		
										56	10.56		
	56 59	50 5	9.0	57 29.8	57 34.1	37.4	0.5	3.9	7.0	58	0.58		
	56 22.4	0.1	9.0	33.3							-50.53		
	κ			35.8							- 42		
											- 12		
	((δ) — D) $\frac{\kappa'}{100}$			33.0 32.9					- 51.09		- 2		
										57	9.49		
	a_1										-2.06		
										57	7.43		
			9.0	57 37.1	57 34.9	37.7	1.1	4.1	7.8	58	1.12		
				39.8							-51.09		
	κ			42.5							- 45		
											- 11		
	((δ) — D) $\frac{\kappa'}{100}$			39.8					- 51.67		- 2		
										57	9.45		
	a_2										-2.03		
										57	7.42		
	58 5	52 25	9.5	58 32.3	58 39.6	3.2	~~4.2~~	9.8	13.5	59	6.~~46~~	38	
	57 28.5	20.6	9.4	34.9							-50.53		
	κ			37.7							- 46		
											- 13		
	((δ) — D) $\frac{\kappa'}{100}$			35.0 34.9					- 51.14		- 2		
										58	15.32	24	
	a_1										-2.01		
										58	~~14.31~~	13.31 23	
			~ 9.3	58 57.7	59 0.3	3.5	~~6.6~~	~~9.6~~	13.4	59	6.~~66~~	80	
					7.1	6.9	6.6		6.6		-51.09		
	κ										- 49		
											- 11		
	((δ) — D) $\frac{\kappa'}{100}$								- 51.71		- 2		
										58	~~14.97~~	15.09	
	a_2										-1.99		
										58	~~12.98~~		
											13.10		

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1875phae.proj.1598R

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	$-\delta'_{31}$
	? +22.3				50						6.76
	? ~~+24.94~~	0 42.7	2.5	105.2	0' 52.60	31	55.75		50	50 15 21.79	15 ~~8.77~~
	1.34830	50 15 21.79			50	15 40.83				− 13	− 43
d	9.80580	+8.15				−	19.04			− 12	− 12
	1.27962n				50					+ 8.04	+ 8.04
$((\delta) - D)\frac{d'}{100}$	? ~~+3.70~~	0 42.7	2.5	105.2	0 52.60	31	55.75		50	+ 36	+ 36
	~~+0.93~~	50 15 5.60			50	15 ~~40.55~~ 40.83		52		−2480	−2480
1.60 0897	1.27171	+7.85				− ~~31.84~~				15 4.83	14 49.58
9.80580	9.80580					− 34.06				+ 0.16	
1.53229n	1.50303n				51						
	+10.40	1 10.6	28.0	38.6	1 19.30	31	29.05		50	15 5.60	
	1.01703				50	15 19.49				− 3	+8.29
d	9.80580					−	8.89			− 17	
	0.94835n									+ 8.13	
$((\delta) - D)\frac{d'}{100}$										+ 36	
										−2500	
δ_2										14 49.05	
					51						
	+ 33.48	1 25.7	45.5	71.2	1 35.60	31	12.75		50	50 14 29.25	
	1.52479				50	14 57.83				− 30	+7.87
d	9.80580						− 28.58			− 21	
	1.45611n									+ 8.02	
$((\delta) - D)\frac{d'}{100}$										+ 36	
										−2490	
δ_1										14 11.91	
					51						
	+10.88	1 47.4	5.7	113.1	1 56.55	30	51.80		50	14 27.95	
	1.03663				50	14 37.24				− 3	+8.19
d	9.80580						− 9.29			− 25	
	0.96795n									+ 8.11	
$((\delta) - D)\frac{d'}{100}$										+ 36	
										−2500	
δ_2										14 11.30	
					27						
	+27.24	2 85.7	53.1	90.8	2 45.40	55	2.95		25	50 38 24.97	
	1.43521				50 38	48.03				− 20	+8.25
d	9.80213						− 23.06			− 36	
	1.36286n									+ 8.43	
$((\delta) - D)\frac{d'}{100}$										+ 38	
										−2500	
δ_1										38 7.91	
					27						
	+ 30.64	2 84.5	57.9	86.4	2 43.20	55	5.15		25	38 24.65	
	1.48629				50 38	50.54				− 26	+8.29
d	9.80213						− 25.94			− 36	
	1.41394n									+ 8.53	
$((\delta) - D)\frac{d'}{100}$										+ 38	
										−2510	
δ_2										38 8.06	
					59						
	+27.58	4 48.2	1.5	104.7	4 52.35	22	56.00		~~55~~	50 6 17.47	
	1.44056				50 6	41.08				− 21	+7.37
d	9.80701						− 23.61			− 64	
	1.37312n									+ 7.87	
$((\delta) - D)\frac{d'}{100}$										+ 35	
										−2490	
δ_1										5 59.63	
					54						
	+21.32	4 30.8	8.8	119.6	4 59.80	27	18.55 39		~~55~~ 55.5	~~46~~ 15.77	
	1.32879				50 ~~47~~ 59	33.99				− 12	+7.34
d	9.80625					6	− 18.22			− 65	
	1.26056n									+ 7.76	
$((\delta) - D)\frac{d'}{100}$										+ 35	
										−2510	
δ_2										5 58.01	
					39						
	+31.~~46~~ 38	4 26.1	43.4	69.5	4 34.75	43	13.60		35	52 26 33.~~08~~ 45	
	1.49~~7746~~ 6665				52 26	58.68				− 25	+9.94
d	9.78494						− 25.~~60~~ 53			− 60	
	1.40~~822~~ 711n									+10.32	
$((\delta) - D)\frac{d'}{100}$										+ 47	
										−2520	
δ_1										26 17.5x8	
	910				39						
	+ ~~8.696~~ 8.704	4 46.9	3.7	112.0	4 56.00	42	52.35		35	26 30.~~48~~ 39	
	0.95~~328~~				52 26	34.79				− 2	+10.24
d	9.78494						− 7.~~31~~ 40			− 64	
	0.86~~374~~ 950n									+10.43	
$((\delta) - D)\frac{d'}{100}$										+ 47	
										−2530	
δ_2										15.~~58~~ 49	

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435

Date$_1$ = 1875. Oct. 18 — Observer W.A.R. — Recorder J.F.M.

436

Date$_2$ = 1875, Oct. 19 — Observer W.A.R. — Recorder J.F.M.

54

Ru

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
2	58 56	52 6	7.4	21 59 29.3	59 48.1	51.5	54.9	58.3	1.7	59	54.90		
	58 18.4	1.0	8.0	32.3							− 50.54		
	κ			35.0							− 45		
											− 13		
	((δ) − D) $\frac{\kappa'}{100}$			32.2					− 51.14		− 2		
										59	3.76		
	a_1										− 2.03		
										59	1.73		
			7.8	59 39.4	59 48.9	52.2	55.6	58.8	2.2	59	5532		
				43.0							− 51.09		
	κ			46.2							− 49		
											− 11		
	((δ) − D) $\frac{\kappa'}{100}$			42.9					− 51.71		− 2		
										59	3.81		
	a_2										− 2.01		
										59	1.80		
	κ												
	((δ) − D) $\frac{\kappa'}{100}$												
	a_1												

Single Observations

Oct. 18

21	4 9	52 1	9.6	21 4 48.6	5 3.8	7.0	10.4	14.0	17.3	5	10.50		
	3 38.2	0.5	9.5	52.1							− 50.50		
	κ			56.6							− 45		
											− 13		
	((δ) − D) $\frac{\kappa'}{100}$			52.6					− 51.10		− 2		
										4	19.40		
	a_2										− 1.46		
										4	17.94		

Oct. 18

21	40 48	52 54	8.8	21 41 19.5	41 42.2	45.4	48.8	52.3	5 5.8	41	4890		
	40 13.9	49.3	8.6	23.6							− 50.52		
	κ			27.5							− 46		
											− 13		
	((δ) − D) $\frac{\kappa'}{100}$			23.5					− 51.13		− 2		
										40	57.77		
	a_1										− 1.82		
										40	55.96		

Oct. 19

		52 00 50.0											
21	52 18	51 54	8.5	21 52 40.4	52 50.3	53.7	57.0	0.8	3.5	52	56.96		
	51 27.8	46.9	8.7	42.6							− 50.53		
	κ	20.9		46.5							− 51.08		
		51 50.3									− 49		
	((δ) − D) $\frac{\kappa'}{100}$			43.2							− 11		
									− 51.70		− 2		
	a_2									52	5.26		
											− 1.93		
										52	3.33		
	κ												
	((δ) − D) $\frac{\kappa'}{100}$												
	a_1												
	κ												
	((δ) − D) $\frac{\kappa'}{100}$												
	a_2												
	κ												
	((δ) − D) $\frac{\kappa'}{100}$												
	a_1												
	κ												
	((δ) − D) $\frac{\kappa'}{100}$												
	a_2												

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
d	+22.70	4	20	18.9	20.9	59 4 1045	23	37.90	5	52	− 0.31
	1.35603					52	7	22.98			7 4.37
	9.78821							− 18.61			− 14 +9.75
$((\delta) - D)\frac{d'}{100}$	1.26976n										− 54
											+ 9.97
δ_1											+ 46
											−2520
											6 48.61
											+ 0.16
d	+12.62	4	13.2	28.9	42.1	59 4 2105	23	27.30	5	52	7 2.39
	1.10106					52	7	12.38 74			− 5 +9.94
	9.78821							− 10.85			− 56
$((\delta) - D)\frac{d'}{100}$	1.01479n										+10.09
											+ 46
δ_2											−2530
											6 47.19
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
											− 0.31
	+17.90	0	22.7	39.1	98.8	0 4940	21	58.95	0	52	5 29.35
d	1.25285					52	5	44.03			− 9 +10.16
	9.78837							− 14.68			− 11
$((\delta) - D)\frac{d'}{100}$	1.16674n										+ 9.91
											+ 45
δ_2											−2280
											5 16.40
											− 0.31
	+25.40	4	46.4	35	109.9	9 4 5495	12	53.40	5	52	56 18.05
d	1.40483					52 56		38.48			− 17 +10.51
	9.77997							− 20.43			− 64
$((\delta) - D)\frac{d'}{100}$	1.31032n										+10.82
											+ 50
δ_1											− 2460
											56 3.65
											+ 0.16
	+13.76	4	33.9	10.4	124.3	10 5 2215	12	46.20	5	51	56 20.57 ex degree
d	1.13862					51 56		31.64			− 5 +9.67
	9.77997							− 11.07			− 65
$((\delta) - D)\frac{d'}{100}$	1.04411n										+ 9.92
											+ 45
δ_2											−2450
											56 5.50 (?)
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											

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437

Date$_1$ = 1875, Oct. 20 n = −.38 — Observer W.A.R. Recorder J.F.M.

Date$_2$ = 1875, Oct 25 n = −.43 — Observer W.A.R. Recorder J.F.M.

438

56

Ru

Star.	α		δ		Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
	m	sec	°	′								m			
	56	11	54	42	7.0	20 56 33.6	57 1.7	5.0	8.7	12.3	15.9	57	8.72		
	55	46.0		38.9	6.4	36.4							−51.61		
		41.0		41.0		39.6							− 53		
	κ										− 52.17		− 3		
	((δ) − D) $\frac{\kappa'}{100}$					36.5						56	16.55		
													−1.21		
	a_1											56	15.34		
					6.9	56 49.1	57 4.1	7.8	11.2	14.9	18.6	57	11.32		
						57.8							−54.28		
	κ					53.3							− 60		
											− 54.91		− 3		
	((δ) − D) $\frac{\kappa'}{100}$					52.1						56	16.41		
													−1.04		
	a_2											56	15.37		
21	0	13	54	43	7.3	21 0 33.1	1 2.2	5.6	9.1	12.9	16.3	1	9.22		
	59	42.8		39.5	6.9	35.4							−51.61		
	κ					38.0							− 53		
											− 52.17		− 3		
	((δ) − D) $\frac{\kappa'}{100}$					35.5						0	17.05		
													−1.25		
	a_1											0	15.80		
					7.5	0 41.2	1 4.6	8.3	11.8	15.4	19.0	1	11.28		
						44.1							−54.29		
	κ					47.6							− 60		
											− 54.92		− 3		
	((δ) − D) $\frac{\kappa'}{100}$					44.5						0	16.90		
													−1.09		
	a_2											0	15.81		
	2	8	53	53	8.8	2 49.7	3 3.2	6.8	10.3	13.6	17.0	3	10.18		
	1	57.0		49.7	8.5	53.4							−51.61		
	κ	40.0		47.0		56.0							− 52		
											− 52.16		− 3		
	((δ) − D) $\frac{\kappa'}{100}$					53.0						2	18.02		
													−1.31		
	a_1											2	16.71		
					8.9	2 34.0	3 5.7	9.2	12.8	16.4	20.0	3	12.82		
						37.3							−54.29		
	κ					40.1							− 59		
											− 52.81		− 3		
	((δ) − D) $\frac{\kappa'}{100}$					37.3						2	17.91		
													−1.15		
	a_2											2	16.76		
	2	52	53	26	—	3 39.8	3 45.0	48.4	51.8	55.0	58.4	3	57.78		
	2	21.0		22.5	7.8	42.7							−51.62		
	κ					45.3							− 51		
											− 52.16		− 3		
	((δ) − D) $\frac{\kappa'}{100}$					42.6						2	59.62		
													−1.34		
	a_1											2	58.28		
					8.5	3 38.7	3 47.6	51.0	54.4	57.9	1.6	3	32.28		
						41.8							−54.29		
	κ					44.6							− 58		
													− 3		
	((δ) − D) $\frac{\kappa'}{100}$					41.7					− 54.93		− 3		
												2	59.55		
	a_2												−1.18		
												2	58.37		
	4	30	53	8	9.0	5 14.8	5 22.0	25.8	29.0	32.6	36.0	5	29.08		
	3	59.6		4.0	8.7	17.7							−51.62		
	κ					21.0							− 50		
											− 52.15		− 3		
	((δ) − D) $\frac{\kappa'}{100}$					17.8						4	36.93		
													−1.36		
	a_1											4	36.57		
					8.8	5 3.3	5 24.4	28.2	32.0	35.0	38.6	5	34.70		
						6.7							−54.29		
	κ					9.3							− 57		
											− 52.89		− 3		
	((δ) − D) $\frac{\kappa'}{100}$					6.4						4	36.81		
													−1.21		
	a_2											4	35.60		

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1875phae.proj.1598R

Oct. 20 −16′ 15.″28 −.13
Oct. 25 −16 14.64 −.13

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+32.22	2	0.8	17.5	18.3	22 2 9.″15	0	39.20		20	54 43 59.08	
	1.50813					54 44	23.92				− 27	+12.64
d	9.76146						−24.84				− 28	
$((\delta) - D)\frac{d'}{100}$	1.39511 m										+ 12.62	
											+ 57	
δ_1											−22.90	
											43 48.82	
	+19.22	2	9.7	28.1	37.8	22 2 18.90	0	29.45		20	43 59.99	
	1.28375					54 44	14.81				− 9	+12.56
d	9.76146						−14.82				− 29	
$((\delta) - D)\frac{d'}{100}$	1.17073 m										+ 12.34	
											+ 60	
δ_2											−23.20	
											43 49.35	
	+33.72	1	46.0	2.6	108.6	21 1 54.30	0	54.05		20	54 44 12.79	
	1.52789					54 44	38.77				− 29	+12.65
d	9.76129						−25.88				− 25	
$((\delta) - D)\frac{d'}{100}$	1.41470 m										+12.62	
											+ 57	
δ_1											−23.10	
											44 2.34	
	+27.32	1	49.1	9.1	118.2	21 1 59.10	0	49.25		20	44 13.56	
	1.43648					54 44	34.61				− 19	+12.49
d	9.76129						−21.05				− 26	
$((\delta) - D)\frac{d'}{100}$	1.32329 m										+12.34	
											+ 60	
δ_2											−23.50	
											44 2.55	
	+17.18	4	17.1	33.9	51.0	14 4 25.50	8	22.85		10	53 51 54.04	
	1.23502					53 52	7.57				− 7	+11.57
d	9.77061						−13.53				− 57	
$((\delta) - D)\frac{d'}{100}$	1.13115 m										+11.71	
											+ 50	
δ_1											−23.10	
											51 42.51	
	+35.52	4	2.5	20.4	22.9	14 4 11.45	8	36.90		10	51 54.29	
	1.55047					53 52	22.26				− 33	+11.17
d	9.77061						−27.97				− 54	
$((\delta) - D)\frac{d'}{100}$	1.44660 m										+11.45	
											+ 59	
δ_2											−23.60	
											51 41.86	
+9.18	~~+15.18~~	4	4.0	18.1	23.1	39 4 11.55	43	36.80		35	53 27 14.22	
	0.96284					53 27	21.52				− 2	+11.22
d	9.77490						−7.30				− 54	
$((\delta) - D)\frac{d'}{100}$	0.86326 m										+11.28	
											+ 50	
δ_1											−23.10	
											27 2.34	
	+12.78	3	38.9	16.9	135.8	39 4 7.90	43	40.15		35	27 15.65	
	1.10653					53 27	25.81				− 5	+11.00
d	9.77490						−10.16				− 53	
$((\delta) - D)\frac{d'}{100}$	1.00695 m										+11.03	
											+ 55	
δ_2											−23.50	
											27 3.15	
	+11.28	2	81.2	47.9	79.1	57 2 39.55	25	8.80		35	53 8 44.49	
	1.05231					53 8	53.52				− 3	+11.08
d	9.77795						−9.03				− 35	
$((\delta) - D)\frac{d'}{100}$	0.95578 m										+10.96	
											+ 50	
δ_1											−23.20	
											8 32.37	
	+25.30	2	17.7	36.9	54.6	57 2 27.30	25	21.05		35	8 46.15	
	1.40312					53 9	6.41				− 17	11.74
d	9.77795						−20.26				− 32	
$((\delta) - D)\frac{d'}{100}$	1.30659 m										+11.72	
											f 51	
δ_2											−23.60	
											8 34.29	

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Date$_1$ = 1875 Oct. 20 — Observer W.A.R. — Recorder J.F.M.

Date$_2$ = 1875 Oct 25 — Observer W.A.R. — Recorder J.F.M.

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
2	5 47	54 31	8.8	21 6 16.6	6 38.4	41.9	45.5	49.0	52.7	6	45.50		
	5 16.3	26.7	8.5	20.2							−51.62		
	κ			23.3							− 53		
									− 52.18		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			20.0						5	53.32		
	c_1										−1.32		
										5	52.00		
			8.7	6 15.2	6 40.9	44.7	48.2	51.7	55.3	6	4816		
				18.2							−54.29		
	κ			20.6							− 60		
									− 54.92		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			18.0						5	53.24		
	c_2										−1.16		
										5	52.08		
	7 11	54 45	8.5	7 39.2	8 2.6	6.2	9.8	13.3	17.0	8	978		
	6 40.1	48.7	8.3	43.0							−51.62		
	κ			45.3							− 53		
									− 52.18		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			42.5						7	17.60		
	a_1										−1.32		
										7	16.28		
			8.2	7 39.0	8 8.2	8.8	12.4	15.9	19.7	8	1240		
				42.9							−54.29		
	κ			45.8							− 60		
									− 54.92		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			42.6						7	17.48		
	a_2										−1.16		
										7	16.32		
	8 33	54 10	8.8	8 55.6	9 24.3	27.9	31.4	34.8	38.4	9	31.36		
	8 2.4	6.1	8.3	58.9							−51.62		
	κ			2.0							− 52		
									− 52.17		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			58.8						8	39.19		
	a_1										−1.36		
										8	37.83		
			8.2	9 8.0	9 26.8	30.3	34.0	37.5	41.0	9	3392		
				11.2							−54.29		
	κ			13.9							− 59		
									− 54.91		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			11.0						8	39.01		
	a_2										−1.20		
										8	37.81		
	10 18	53 57	7.8	10 41.4	11 10.6	14.0	17.6	21.0	24.6	11	1758		
	9 47.8	52.9	7.5	46.0							−51.62		
	κ			49.2							− 52		
									− 52.17		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			45.5						10	25.39		
	a_1										−1.39		
										10	24.00		
			7.5	10 49.0	11 13.1	16.5	20.2	23.7	27.3	11	2016		
				51.8							−54.29		
	κ			55.0							− 59		
									− 54.91		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			51.9						10	25.25		
	a_2										−1.23		
										10	24.02		
	14 34	54 22	8.5	15 13.7	15 27.8	31.4	35.0	38.5	42.1	15	34.96		
	14 3.4	28.5	8.4	15.8							−51.63		
	κ			19.2							− 53		
									− 52.19		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			16.2						14	42.77		
	a_1										−1.41		
										14	41.36		
			8.6	15 6.4	15 30.5	34.0	37.6	41.1	44.8	15	3760		
				9.7							−54.29		
	κ			12.3							− 60		
									− 54.92		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			9.5						14	4268		
	a_2										−1.26		
										14	41.42		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+25.50	4 17.6	33.8	51.4	34′ 4 25.70	48	22.65		30	54 31 47.62	
d	1.406544					54 32	7.37			− 17	+12.21
	9.76360						− 19.75			− 67	
$((\delta) - D)\frac{d'}{100}$	1.29566m									+12.40	
										+ 55	
δ_1										−23.40	
										31 36.43	
	+30.16	4 11.9	30.1	42.0	34 4 21.00	48	27.35		30	31 49.35	
d	1.479943					54 32	12.71			− 23	+11.95
	9.76360						− 23.36			− 56	
$((\delta) - D)\frac{d'}{100}$	1.36855m									+12.14	
										+ 60	
δ_2										−23.80	
										31 37.50	
	+24.28	0 9.4	25.7	35.1	20 0 17.55	2	30.80		20	54 45 54.51	
d	1.43584					54 46	15.52			− 19	+13.01
	9.76111						− 21.01			− 3	
$((\delta) - D)\frac{d'}{100}$	1.32247m									+12.65	
										+ 58	
δ_1										−23.40	
										45 44.12	
	+29.80	0 8.1	24.9	30.0	20 0 15.00	2	33.35		20	45 55.76	
d	1.47422					54 46	18.71			− 23	+12.73
	9.76111						− 22.95			− 3	
$((\delta) - D)\frac{d'}{100}$	1.36085m									+12.39	
										+ 60	
δ_2										−23.90	
										45 44.59	
	+32.56	4 38.4	53.2	91.6	54 4 45.80	28	2.55		30	54 11 21.83	
d	1.51268					54 11	47.27			− 27	+11.77
	9.76730						− 25.44			− 62	
$((\delta) - D)\frac{d'}{100}$	1.40550m									+12.14	
										+ 52	
δ_1										−23.50	
										11 10.10	
	+22.92	4 44.1	2.9	107.0	54 4 53.50	27	54.85		30	11 22.30	
d	1.36021					54 11	40.21			− 14	+11.61
	9.76730						− 17.91			− 64	
$((\delta) - D)\frac{d'}{100}$	1.25303m									+11.79	
										+ 60	
δ_2										−23.90	
										11 10.01	
	+32.06	3 6.1	22.0	28.1	8 3 14.05	14	34.30		3	53 57 53.84	
d	1.50596					53 58	19.02			− 27	+11.63
	9.76957						− 25.18			− 42	
$((\delta) - D)\frac{d'}{100}$	1.40105m									+11.82	
										+ 50	
δ_1										−23.60	
										57 47.87	
	+28.26	3 7.6	26.2	33.8	8 3 16.90	14	31.45		3	57 54.61	
d	1.45114					53 58	16.81			− 20	+11.53
	9.76957						− 22.20			− 42	
$((\delta) - D)\frac{d'}{100}$	1.34626m									+11.53	
										+ 60	
δ_2										−24.10	
										57 42.04	
	+18.76	2 23.9	41.0	64.9	32 2 32.45	50	15.90		30	54 33 46.10	
d	1.27323					54 34	0.62			− 9	+12.59
	9.76324						− 14.52			− 33	
$((\delta) - D)\frac{d'}{100}$	1.16199m									+12.45	
										+ 56	
δ_1										−23.80	
										33 34.89	
	+28.10	2 14.4	33.8	48.7	32 2 24.35	50	24.00		30	33 47.61	
d	1.44871					54 34	9.36			− 20	+12.27
	9.76324						− 21.75			− 31	
$((\delta) - D)\frac{d'}{100}$	1.33747m									+12.18	
										+ 60	
δ_2										−24.30	
										33 35.58	

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Date$_1$ = 1875, Oct. 20 Observer W. A. R. Recorder J. F. M.

Date$_2$ = 1875, Oct. 25 Observer W. A. R. Recorder J. F. M.

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
221	15 51	54 54	6.8	21 16 9.0	16 41.0	44.5	48.3	51.9	55.5	18	48.24		
	15 18.1	58.3	7.2	11.6							−51.63		
	κ			14.6							− 54		
				11.7					− 52.20		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									15	56.04		
											−1.41		
	c_1									15	54.63		
			6.2	16 19.8	16 43.5	47.1	50.7	54.3	57.9	16	50.70		
				21.7							−54.30		
	κ			24.3							− 61		
				21.9					− 54.94		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									15	55.76		
											−1.26		
	c_2									15	54.50		
	17 2	54 52	9.0	17 28.6	17 52.6	56.3	59.6	3.4	6.8	17	39.74		
	16 29.1	47.6	9.1	32.3							−51.64		
	κ			35.3							− 53		
				32.1					− 52.20		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									17	7.54		
											−1.44		
	a_1									17	6.10		
			9.2	17 40.5	17 54.9	58.7	2.4	5.8	9.4	18	2.24		
				43.6							−54.30		
	κ			46.8							− 60		
				43.6					− 54.93		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									17	7.31		
											−1.28		
	a_2									17	6.03		
	18 16	54 20	9.0	18 41.4	19 7.9	11.5	15.1	18.4	22.1	19	15.00		
	17 43.7	16.7	9.0	44.1							−51.64		
	κ			47.0							− 53		
				44.2					− 52.20		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									18	22.80		
											−1.46		
	a_1									18	21.34		
			9.2	18 41.6	19 10.6	14.1	17.8	21.1	24.9	19	17.70		
				44.8							−54.30		
	κ			48.2							− 60		
				44.9					− 54.93		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									18	22.77		
											−1.31		
	a_2									18	21.46		
	19 44	54 44	7.7	19 40.7	20 2.3	5.9	9.7	13.1	16.7	20	9.54		
	~~19~~ ~~11.8~~	~~40.2~~	7.0	43.4							−51.64		
	κ			46.8							− 53		
	18 38.2	39.9		43.6					− 52.20		− 3	19	17.34
	((δ) − D) $\frac{\kappa'}{100}$		7.0	20 52.4	20 34.7	38.3	41.6	45.3	49.1	20	4.80		−1.46
	19 11.8	54 40.2		52.7							− 51.64	19	15.88
	a_1			56.4							− 53		
				53.2					− 52.20		− 3	19	49.60
			8.4	19 46.6	20 5.1	8.7	12.3	15.8	19.3	20	12.24		−1.46
				49.4							−54.30	19	48.14
	κ			52.9							− 60		
				49.6					− 54.93		− 3	19	17.31
	((δ) − D) $\frac{\kappa'}{100}$		8.0	20 29.2	20 37.4	41.0	44.6	48.0	51.7	20	44.54		−1.30
				32.8							−54.30	19	16.01
	a_2			35.6							− 60		
				32.5					− 54.93		− 3	19	49.61
	20 34	54 49	7.2	21 13.4	21 24.8	28.1	31.8	35.4	39.0	21	31.82		−1.30
	20 1.8	44.7	7.3	16.6							−51.64	19	48.31
	κ			19.4							− 53		
				16.6					− 52.20		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									20 B	39.62		
											−1.47		
	a_1									20	38.15		
			7.8	21 21.5	21 27.2	30.8	34.4	38.0	41.6	21	34.40		
				23.9							−54.30		
	κ			26.7							− 60		
				24.0					− 54.93		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									20	39.47		
											−1.21		
	a_2									20	38.26		

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Runs

61

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+36.54	0 29.0	45.9	74.9	10 0 37.45	12	10.90		10	54 55 27.58	
	1.56277					54 55	55.62			− 34	+12.99
d	9.75949						− 28.04			− 8	
	1.44778 m									+12.82	
$((\delta)' - D)\frac{d'}{100}$										+ 59	
										−23.90	
δ_1										55 16.67	
	+28.80	0 32.9	32.9	86.8	10 0 43.40	12	4.95		10	55 28.21	
	1.45939					54 55	50.31			− 21	+12.84
d	9.75949						− 22.10			− 10	
	1.34440 m									+12.55	
$((\delta) - D)\frac{d'}{100}$										+ 60	
										−24.40	
δ_2										55 16.65	
	+27.64	3 12.0	27.7	39.7	13 3 19.85	9	2.850		10	54 52 51.99	
	1.44154					54 53	13.22			− 20	+12.74
d	9.75985						− 21.23			− 43	
	1.32691 m									+12.78	
$((\delta) - D)\frac{d'}{100}$										+ 59	
										−24.00	
δ_1										52 40.73	
	+18.64	3 16.9	36.1	53.0	13 3 26.50	9	2.185		10	52 52.89	
	1.27045					54 53	7.21			− 9	+12.58
d	9.75985						− 14.32			− 44	
	1.15582 m									+12.57	
$((\delta) - D)\frac{d'}{100}$										+ 60	
										−24.50	
δ_2										52 40.94	
	+30.80	4 67.4	13.8	131.2	45 5 5.60	37	12.75		40	54 21 3.50	
	1.48855					54 21	27.47			− 25	+11.85
d	9.76554						− 23.97			− 66	
	1.37961 m									+12.22	
$((\delta) - D)\frac{d'}{100}$										+ 54	
										−24.00	
δ_1										20 51.35	
	+32.80	4 88.2	13.4	128.6	45 5 4.30	37	14.05		40	21 3.89	
	1.51587					54 21	29.41			− 28	+11.62
d	9.76554						− 25.52			− 66	
	1.40693 m									+11.96	
$((\delta) - D)\frac{d'}{100}$										+ 60	
										−24.50	
δ_2										20 51.01	
	+25.94	0 53.3	10.4	123.7	21 1 1.85	1	16.50		20	54 45 11.23	45 40.00
	1.41397	54 45 11.23		45 40.00		54 45	31.22			− 18	− 2
d	9.76129	+12.91		+ 13.07			− 19.99			− 13	− 13
	1.30078 m				21					+12.65	+12.65
$((\delta) - D)\frac{d'}{100}$	−1140	0 53.3	10.4	123.7	1 1.85	1	16.50		20	+ 57	+ 57
	1.05690 m					54 45	31.22			−24.10	−2410
δ_1	9.76129						+ 18.78			45 0.0 X 4	45 28.97
	0.94371 m				21						
	+22.64	0 54.9	13.7	128.6	1 4.30	1	14.05		20	45 11.96	45 42.08
	1.35488	45 11.96		45 42.08		54 45	29.41			− 13	− 4
d	9.76129	+12.71		+ 12.85			− 17.45			− 14	− 9
	1.24169 m				20					+12.38	+12.38
$((\delta) - D)\frac{d'}{100}$	+12.04	0 32.9	54.8	84.7	0 42.35	2	6.00		20	+ 60	+ 60
	1.08063					54 45	51.36			− 24.60	−2460
δ_2	9.76129						+ 9.28			45 00.4	45 30.33
	0.96744 m				16						
	+15.22	1 18.1	34.8	52.9	1 2.645	6	21.90		15	54 49 54.92	
	1.18241					54 50	6.62			− 6	+13.07
d	9.76039						− 11.70			− 18	
	1.06832 m									+12.73	
$((\delta) - D)\frac{d'}{100}$										+ 58	
										−24.20	
δ_1										49 43.79	
	+10.40	1 18.5	39.5	58.0	16 1 2.950	6	18.85		15	49 56.21	
	1.01703					54 50	4.21			− 3	+12.81
d	9.76089						− 8.00			− 19	
	0.90294 m									+12.43	
$((\delta) - D)\frac{d'}{100}$										+ 60	
										−24.70	
δ_2										49 44.32	

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Date$_1$ = 1875, Oct. 20 (487) Observer W.A.R. Recorder J.F.M. Date$_2$ = 1875, Oct. 25 (438) Observer W.A.R. Recorder J.F.M. 62

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
20	21 29	53 56	8.2	21 22 1.5	22 21.5	28.0	28.3	31.9	35.6	22m 28s.46			
	20 56.8	52.1	8.5	5.5						−51.64			
	κ			8.4						− 52			
									− 52.19	− 3			
	((δ) − D) $\frac{\kappa'}{100}$			5.1						21 36.27			
										−1.37			
	α_1									21 34.76			
			8.7	22 14.7	22 24.0	27.5	31.0	34.6	38.2	22 31.06			
				17.2						−54.30			
	κ			19.7						− 59			
									− 54.92	− 3			
	((δ) − D) $\frac{\kappa'}{100}$			17.2						21 36.14			
										−1.36			
	α_2									21 34.78			
	22 58	52 33	9.2	23 36.7	23 52.2	55.6	59.1	2.4	5.8	23 59.02			
	22 25.7	28.8	9.0	39.1						−51.64			
	κ			42.5						− 49			
									− 52.15	− 2			
	((δ) − D) $\frac{\kappa'}{100}$			39.4						23 6.87			
										−1.58			
	α_1									23 5.29			
			9.0	23 33.4	23 54.7	58.1	1, 3.5	5.0	8.3	24 1.52			
				36.2						−54.30			
	κ			39.6						− 56			
									− 54.88	− 2			
	((δ) − D) $\frac{\kappa'}{100}$			36.4						23 6.64			
										−1.43			
	α_2									23 5.21			
	24 55	53 14	8.0	25 33.2	23 48.6	52.0	55.0	58.8	2.2	25 55.32			
	24 22.1	9.5	8.1	36.3						−51.64			
	κ			37.0						− 50			
									− 52.17	− 3			
Oct. 20	((δ) − D) $\frac{\kappa'}{100}$			36.2						25 3.15			
21	25 52	54 5	7.5	26 31.3	26 44.5	47.9	51.5	55.0	58.4	−1.58	25 1.57		
	25 19.3	1.0	7.9	34.1					−52.19	26 5.44			
				36.9						−51.64			
										− 52			
										− 3	25 59.27		
	24 22.1		8.4	25 27.3	25 50.9	54.5	57.9	1.4	4.9	25 57.92		−1.56	
	κ			30.4						−54.30		25 57.71	
				33.6						− 57			
									− 54.90	− 3.			
Oct. 25	((δ) − D) $\frac{\kappa'}{100}$			30.5							25 3.02		
21	25 52	54 5	8.0	26 21.8	26 47.0	50.3	54.1	57.5	1.1	26		−1.43	
	25 19.3	1.0	7.9	24.2						5.404	25 1.59		
				24.1	24.3					−54.30			
									− 54.92	− 59	25 59.12		
										− 3			
	26 46	54 50	7.5	27 5.30	27 37.9	41.1	44.7	48.3	52.0	27 4.476		−1.41	
	26 13.5	46.2	7.7	56.5						−51.65	25 57.71		
	κ			59.4						− 54			
									− 52.22	− 3			
	((δ) − D) $\frac{\kappa'}{100}$			56.3						26 52.54			
										−1.54			
	α_1									26 51.00			
			7.0	27 28.1	27 40.1	43.6	47.2	51.0	54.5	27 4.728			
				30.7						−54.30			
	κ			33.8						− 61			
									− 54.94	− 3			
	((δ) − D) $\frac{\kappa'}{100}$			30.9						26 52.34			
										−1.38			
	α_2									26 50.96			
	28 33	54 25	8.8	29 5.4	29 26.7	30.2	33.8	37.3	41.0	29 33.80			
	28 0.1	20.5	8.5	8.4						−51.65			
	κ			11.5						− 53			
									− 52.21	− 3			
	((δ) − D) $\frac{\kappa'}{100}$			8.6						28 41.59			
										−1.58			
	α_1									28 40.01			
			8.6	29 11.3	29 29.4	32.9	36.4	39.9	43.5	29 36.42			
				14.3						−54.30			
	κ			14.2						− 60			
									− 54.93	− 3			
	((δ) − D) $\frac{\kappa'}{100}$			14.3						28 41.49			
										−1.42			
	α_2									28 40.07			

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Runs

	$T_m - T_\odot$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+23.36	3	57.8	10.5	125.3	9 4	26.5	13	45.70	5	53 57 12.11	
	1.36847					53 57	30.42				− 14	+11.65
d	9.76974						− 18.31				− 52	
	1.26373n										+ 11.81	
$((\delta) - D)\frac{d'}{100}$											+ 50	
											− 24.10	
δ_1											56 59.66	
	+13.86	4	0.7	18.0	18.7	9 4	9.25	13	39.00	3	57 13.47	
	1.14176					53 57	24.36				− 5	+11.54
d	9.76974						− 10.89				− 54	
	1.03702n										+ 11.56	
$((\delta) - D)\frac{d'}{100}$											+ 60	
											− 24.70	
δ_2											57 0.34	
	+19.62	2	1.0	16.9	16.9	32 2	8.45	50	39.40	30	52 34 8.20	
	1.29270					52 34	24.12				− 11	+10.44
d	9.78379						− 15.92				− 28	
	1.20201n										+ 10.35	
$((\delta) - D)\frac{d'}{100}$											+ 48	
											− 24.30	
δ_1											33 54.34	
	+25.12	1	54.9	13.0	127.9	32 2	8.95	50	44.40	30	34 9.37	
	1.40002					52 34	29.76				− 17	+10.20
d	9.78379						− 20.39				− 27	
	1.30933n										+ 10.14	
$((\delta) - D)\frac{d'}{100}$											+ 50	
											− 24.80	
δ_2											33 54.77	
	+19.1	4	8.7	23.1	33.8	51 1	16.90	31	31.45	30	53 15 1.22	54 6 24.63
	1.28108	15 1.22		54 6 24.63		53 15	16.17				− 8	− 7
d	9.76817	+11.33		+11.76			− 14.95				− 16	− 64
	1.17472n										+11.08	+11.96
$((\delta) - D)\frac{d'}{100}$	+17.36					59					+ 50	+ 57
	1.23955	4	46.9	2.8	109.7	4	5485	22	53.50	35	− 2420	− 2440
δ_1	9.76817							54 6	38.22		14 48.35	6 11.99
	1.13324n								− 13.59			
	+27.42	1	2.9	19.7	22.6	51 1	11.30	31	37.05 36.41	30	15 0.38	6 25.65
	1.43807	15 0.38		6 25.65		53 15	21.77				− 20	− 23
d	9.76660	+11.03		+10.60			− 21.39				− 15	− 62
	1.33019n										+10.85	+10.85
$((\delta) - D)\frac{d'}{100}$	+29.64					59					+ 53	+ 60
	1.44158	4	83.9	53.8	89.7	4	4485	23	3.50	35	− 2480	− 2500
δ_2	9.76817							54 6	48.86		14 46.61	6 11.25
	1.36557n					14			− 23.21			
	−11.54	4	34.8	49.9	84.7	4	42.35	8	6.00	10	54 51 59.59	
	1.06221n					54 51	50.72				− 4	+12.70
d	9.76503						+ 8.87				− 62	
	0.94776										+ 12.77	
$((\delta) - D)\frac{d'}{100}$											+ 57	
											− 24.50	
δ_1											51 47.79	
	+16.38	4	11.7	28.9	40.6	14 4	2.30	8	28.05	10	52 0.82	
	1.21431					54 52	13.41				− 7	+12.43
d	9.76003						− 12.59				− 56	
	1.09786n										+12.50	
$((\delta) - D)\frac{d'}{100}$											+ 60	
											− 25.00	
δ_2											51 48.29	
	+25.20	0	26.1	43.0	69.1	40 0	34.55	42	13.80	40	54 25 38.95	
	1.40140					54 25	58.52				− 17	+12.60
d	9.76466						− 19.57				− 8	
	1.29158n										+12.31	
$((\delta) - D)\frac{d'}{100}$											+ 57	
											− 24.50	
δ_1											25 27.05	
	+22.12	0	26.5	45.1	71.6	40 0	35.80	42	12.55	40	25 40.73	
	1.34479					54 25	57.91				− 13	+12.45
d	9.76466						− 17.18				− 8	
	1.23497n										+12.06	
$((\delta) - D)\frac{d'}{100}$											+ 60	
											− 25.10	
δ_2											25 28.08	

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Date$_1$ = 1875, Oct 20 437 Observer W.A.R. Recorder J.J.M.

Date$_2$ = 1875, Oct. 25 438 Observer W.A.R. Recorder J.J.M.

64

Star.	α	δ	Mag.	T_s	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
29	30	12 54 36	8.4	21 30 50.0	31 4.4	7.7	11.4	14.9	18.5	31	11.38		
	29	39.1 22.0	8.5	52.8							− 51.65		
	κ			55.6							− 53		
									− 52.21		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			52.8						30	19.17		
											− 1.59		
	α_1									30	17.58		
			8.8	30 44.7	31 6.7	10.2	13.8	17.4	21.0	31	13.82		
				48.2							− 54.31		
	κ			50.9							− 60		
									− 54.94		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			47.9						30	18.88		
											− 1.44		
	α_2									30	17.44		
	31	35 54 29	9.1	32 34	32 28.1	31.8	35.2	38.8	42.2	32	3522		
	31	1.8 24.2	9.1	7.0							− 51.65		
	κ			11.3							− 53		
									− 52.21		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			7.2						31	43.01		
											− 1.61		
	α_1									31	41.40		
			9.1	32 12.6	32 30.8	34.3	37.7	41.2	44.8	32	37.76		
				15.1							− 54.31		
	κ			18.3							− 60		
									− 54.94		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			15.3						31	42.82		
											− 1.46		
	α_2									31	41.36		
	32	24 54 15	8.0	33 5.0	33 16.2	19.8	23.2	26.8	30.4	33	23.28		
	31	50.5 10.4	7.8	8.5							− 51.65		
	κ			11.3							− 52		
									− 52.20		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			8.3						32	36.08		
											− 1.62		
	α_1									32	~~30.46~~	29.46	
			8.0	33 6.9	33 18.8	22.3	25.7	29.0	33.0	33	3588		
				9.8							− 54.31		
	κ			12.9							− 59		
									− 54.93		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			9.9						32	30.93		
											− 1.47		
	α_2									32	29.46		
	33	41 54 26	8.0	34 16.1	34 33.3	36.8	40.4	43.8	47.4	34	4434		
	33	7.1 22.0	8.5	20.1							− 51.65		
	κ			22.3							− 53		
									− 52.21		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			19.5						33	48.13		
											− 1.63		
	α_1									33	46.50		
			8.6	34 16.3	34 35.8	39.2	42.8	46.6	50.1	34	4290		
				19.2							− 54.31		
	κ			22.1							− 60		
									− 54.94		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			19.2						33	47.96		
											− 1.48		
	α_2									33	46.48		
	34	38 54 9	7.9	35 2.2	35 30.5	34.1	37.8	41.0	44.5	35	3752		
	34	4.1 4.6	8.2	5.3							− 51.65		
	κ			8.9							− 52		
									− 52.20		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			5.5						34	45.32		
											− 1.65		
	α_1									34	43.67		
			8.4	35 6.9	35 33.0	36.5	40.1	43.6	47.2	35	4008		
				9.6							− 54.31		
	κ			12.9							− 59		
									− 54.93		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			9.8						34	45.15		
											− 1.50		
	α_2									34	43.65		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
d	+18.58	3	46.5	2.5	109.0	28. 3	54.50	53	53.85	25	54 37 24.21	
	1.26905					54 37	38.57			− 8	+12.48
	9.76271						−14.36			− 51	
((δ) − D) $\frac{d'}{100}$	1.15728m									+12.57	
										+ 56	
										−24.60	
δ_1										37 12.09	
d	+25.92	3	32.0	37.4	96.4	28 3	48.20	54	0.15	25	37 25.47	
	1.41363					54 ~~37~~ 37	45.51			− 18	+12.19
	9.76271						−20.04			− 49	
((δ) − D) $\frac{d'}{100}$	1.30186m									+12.26	
										+ 60	
										−25.20	
δ_2										37 12.46	
d	+28.02	1	20.5	34.0	57.5	36 1	28.75	46	19.60	35	54 29 42.60	
	1.44747					54 30	4.32			− 20	+12.54
	9.76395						−21.72			− 19	
((δ) − D) $\frac{d'}{100}$	1.33694m									+12.38	
										+ 55	
										−24.60	
δ_1										29 30.54	
d	+22.46	1	22.3	40.9	63.2	36 1	31.60	46	16.75	35	29 44.70	
	1.35141					54 30	2.11			− 13	+12.42
	9.76395						−17.41			− 19	
((δ) − D) $\frac{d'}{100}$	1.24088m									+12.14	
										+ 60	
										−25.30	
δ_2										29 31.82	
d	+14.98	0	35.5	37.5	87.0	50 0	43.50	32	4.85	30	54 15 37.88	
	1.17551					54 15	49.57			− 6	+12.50
	9.76660						−11.69			− 10	
((δ) − D) $\frac{d'}{100}$	1.06763m									+12.13	
										+ 53	
										−24.60	
δ_1										15 25.78	
d	+15.96	0	32.5	37.7	84.2	50 0	42.10	32	6.25	30	15 39.16	
	1.20303					54 15	51.61			− 7	+12.32
	9.76660						−12.45			− 10	
((δ) − D) $\frac{d'}{100}$	1.09515m									+11.87	
										+ 60	
										−25.30	
δ_2										15 26.18	
d	+20.84	3	37.2	32.7	89.9	38 3	44.95	44	3.40	35	54 27 31.94	
	1.31890					54 27	48.12			− 11	+12.30
	9.76448						−16.18			− 49	
((δ) − D) $\frac{d'}{100}$	1.20890m									+12.35	
										+ 55	
										−24.70	
δ_1										27 19.54	
d	+23.70	8	33.7	37.1	84.8	38 3	42.40	44	5.95	35	27 32.91	
	1.37475					54 27	51.31			− 15	+12.06
	9.76448						−18.40			− 49	
((δ) − D) $\frac{d'}{100}$	1.26475m									+12.10	
										+ 60	
										−25.40	
δ_2										27 19.57	
d	+32.02	0	49.9	8.2	118.1	55 0	59.05	26	49.30	55	54 10 8.99	
	1.50542					54 10	34.02			− 27	+12.16
	9.76747						−25.03			− 13	
((δ) − D) $\frac{d'}{100}$	1.39841m									+12.04	
										+ 52	
										−24.70	
δ_1										9 56.45	
d	+30.28	0	50.0	9.0	119.0	55 0	59.50	26	48.85	55	10 10.54	
	1.48116					54 10	34.21			− 23	+12.04
	9.76747						−23.67			− 13	
((δ) − D) $\frac{d'}{100}$	1.37415m									+11.80	
										+ 60	
										−25.40	
δ_2										9 57.18	

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437

Date$_1$ = 1875, Oct. 20 — Observer W.A.R. — Recorder J.J.M.

438

Date$_2$ = 1875, Oct. 25 — Observer W.A.R. — Recorder J.J.M.

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Ru

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
21	35 30	54 47	6.7	35 57.9	36 23.0	26.6	30.3	34.0	37.4	36	30.26		
	34 56.6	42.7	7.5	4.7							−51.66		
	κ			6.7							− 53		
									− 52.22		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			63.8						35	38.04		
											−1.64		
	α_1									35	36.40		
			7.6	36 12.3	36 25.6	29.2	32.9	36.4	40.0	36	32.82		
				15.8							−54.31		
	κ			18.4							− 60		
									− 54.94		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			15.5						35	37.88		
											−1.49		
	α_2									35	36.39		
	36 30	54 17	6.3	37 4.0	37 21.9	25.2	28.8	32.2	35.9	37	28.80		
	25 56.0	13.2	6.0	7.5							−51.66		
	κ			10.5							− 53		
				12.0					− 52.22		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			8.5						36	36.58		
											−1.67		
	α_1									36	34.91		
			6.4	37 11.5	37 24.4	28.1	31.5	35.1	38.5	37	31.52		
				14.6					93		−54.31		
	κ			18.0							− 59		
									− 54.83		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			14.7						36	36.59		
											−1.52		
	α_2									36	35.10 .07		
	37 51	53 29	9.0	38 16.2	38 43.6	47.1	50.7	54.0	57.6	38	50.60		
	37 16.4	24.5	8.8	18.4							−51.66		
	κ			20.2							− 51		
									− 52.20		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			18.2						37	58.40		
											−1.71		
	α_1									37	56.69		
			9.0	38 31.0	38 46.2	49.9	53.2	56.7	0.2	38	53.24		
				34.6							−54.31		
	κ			37.5							− 58		
									− 54.92		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			34.8						37	58.32		
											−1.57		
	α_2									37	56.75		
	38 44	54 37	8.5	39 14.7	39 37.8	41.4	45.0	48.5	52.2	39	44.98		
	38 10.4	32.6	8.1	18.5							−51.66		
	κ			23.0							− 53		
									− 52.22		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			18.4						38	52.76		
											−1.68		
	α_1									38	51.08		
			8.3	39 17.4	39 40.4	44.0	47.6	51.1	54.6	39	47.54		
				20.0							−54.31		
	κ			24.0							− 60		
									− 54.94		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			20.5						38	52.60		
											−1.54		
	α_2									38	51.06		
	39 39	55 4	9.3	40 19.5	40 31.2	35.0	38.8	42.0	45.8	40	38.44		
	39 5.5	54. 39.9	9.0	22.4							−51.66		
	κ			26.5							− 54		
									− 52.23		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			22.8						39	46.21		
											−1.67		
	α_1									39	44.54		
			8.7	40 22.3	40 33.6	37.4	41.0	44.6	48.1	40	40.94		
				24.9							−54.31		
	κ			28.2							− 61		
									− 54.95		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			25.1						39	45.99		
											−1.52		
	α_2									39	44.47		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+26.46	2	44.2	52.9	104.1	14′ 2 52.05	4	56.30	15	54 48 20.66	
	~~+27.18~~					54 48	41.02			− 18	+12.73
d	1.42259						− 20.36			− 38	
	9.76075									+12.71	
((δ) − D) $\frac{d'}{100}$	1.30886n									+ 58	
										−24.80	
δ_1										48 8.59	
	+17.32	2	42.5	8.4	117.9	14′ 2 58.95	4	4940	15	48 21.43	
	1.23855					54.5 48	34.76			− 7	+12.61
d	9.76075						− 13.33			− 38	
	1.12482n									+12.46	
((δ) − D) $\frac{d'}{100}$										+ 60	
										−25.40	
δ_2										48 8.64	
	+20.30	2	40.0	53.2	95.2	47′ 2 47.60	35	0.75	45	54 18 29.66	
	1.30750					54 18	45.47			− 10	+12.25
d	9.76607						− 15.81			− 36	
	1.19909n									+12.18	
((δ) − D) $\frac{d'}{100}$										+ 53	
										−24.80	
δ_1										18 17.11	
	+16.82	2	42.2	1.1	103.3	47′ 2 51.65 ×10	34	56.70	45	18 28.95	
	1.22583					54 18	42.06			− 7	+12.21
d	9.76607						− 13.11			− 37	
	1.11742n									+11.95	
((δ) − D) $\frac{d'}{100}$										+ 60	
										−25.40	
δ_2										18 15.66	
	+32.4	0	53.8	10.9	124.7	36′ 1 2.35	46	46.00	35	53 30 4.99	
	~~9.77437~~					53 30	30.72			− 27	+11.45
d	1.51055						− 25.73			− 13	
	9.77439									+11.35	
((δ) − D) $\frac{d'}{100}$	1.41046n									+ 50	
										−24.80	
δ_1										29 51.64	
	+18.84	1	3.6	21.7	25.3	36′ 1 12.65	46	35.70	85	30 6.11	
	1.27508					53 30	21.06			− 9	+11.42
d	9.77439						− 14.95			− 15	
	1.17499n									+11.11	
((δ) − D) $\frac{d'}{100}$										+ 53	
										−25.40	
δ_2										29 52.13	
	+26.58	2	48.1	4.7	113.4	27′ 2 56.70	54	51.65	25	54 38 15.83	
	1.42455					54 38	36.37			− 18	+12.53
d	9.76253						− 20.54			− 38	
	1.31260n									+12.53	
((δ) − D) $\frac{d'}{100}$										+ 56	
										−24.90	
δ_1										38 3.46	
	+27.04	2	47.0	5.8	112.8	27′ 2 56.40	54	51.95	25	38 16.41	
	1.43201					54 38	37.31			− 19	+12.32
d	9.76253						− 20.90			− 38	
	1.32006n									+12.29	
((δ) − D) $\frac{d'}{100}$										+ 60	
										−25.60	
δ_2										38 3.13	
	+15.64	0	18.0	36.2	54.2	0 27.10	22	21.25	0	55 5 54.02	
	1.19424					55 6	5.04			− 7	+13.50
d	9.75751						− 11.95			− 6	
	1.07727n									+13.03	
((δ) − D) $\frac{d'}{100}$										+ 60	
										−25.00	
δ_1										5 42.52	
	+15.84	0	13.4	35.6	51.0	0 25.50	22	22.85	0	5 56.11	
	1.19976					55 6	8.21			− 7	+13.25
d	9.75751						− 12.10			− 5	
	1.08279n									+12.77	
((δ) − D) $\frac{d'}{100}$										+ 60	
										−25.40	
δ_2										5 43.66	

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Date$_1$ = 1875, Oct. 20 — Observer W.A.R. — Recorder J.F.M.

438

Date$_2$ = 1875, Oct. 25 — Observer W.A.R. — Recorder J.F.M.

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Ru

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
2	40 88	58 51	9.4	21 41 14.8	41 31.3	35.1	38.4	42.3	45.6 -	41	38.52		
	40 3.7	47.0	9.0	19.4							- 51.66		
	κ			22.8							- 52		
									- 52.21		- 3		
	((δ) − D) $\frac{\kappa'}{100}$			19.0						40	46.31		
											-1.73		
	α_1									40	44.58	2.	
			9.2	41 18.7	41 34.0	37.4	40.8	44.3	47.8	41	40.86		
				22.3							- 54.31		
	κ			25.8							- 59		
									- 54.93		- 3		
	((δ) − D) $\frac{\kappa'}{100}$			22.3						40	45.93		
											- 1.59		
	α_2									40	44.34		
	42 81	54 44	9.2	43 99	43 26.7	30.3	33.7	37.3	40.7	43	38.74		
	41 57.8	39.7	9.0	13.2							- 51.66		
	κ			16.6							- 53		
									- 52.22		- 3		
	((δ) − D) $\frac{\kappa'}{100}$			13.2						42	41.52		
											- 1.72		
	α_1									42	39.80		
			9.1	43 13.1	43 29.3	32.8	36.4	39.9	43.3	43	36.34		
				16.6 -							- 54.31		
	κ			19.2							- 60		
									- 54.94		- 3		
	((δ) − D) $\frac{\kappa'}{100}$			16.3						42	41.40		
											- 1.58		
	α_2									42	39.82		
	43 49	53 31	8.8	44 21.3	44 42.5 -	45.8	49.3	52.6	56.1	44	49.26		
	43 14.2	26.5	8.8	24.1							- 51.67		
	κ			27.5 -							- 51		
									- 52.21		- 3		
	((δ) − D) $\frac{\kappa'}{100}$			24.3						43	57.05		
											- 1.78		
	α_1									43	55.27		
			9.0	44 27.8	44 44.9	48.6 -	51.9	55.4	58.8	44	51.90		
				31.1							- 54.31		
	κ			33.6							- 58		
									- 54.92		- 3		
	((δ) − D) $\frac{\kappa'}{100}$			30.8						43	56.98		
											- 1.64		
	α_2									43	55.34		
	45 7	53 36	8.9	45 35.8	46 0.3	3.8	7.2	10.7	14.1	46	7.22		
	44 31.0	31.1	8.3	38.7							- 51.67		
	κ			42.6 -							- 51		
									- 52.21		- 3		
	((δ) − D) $\frac{\kappa'}{100}$			39.0						45	15.01		
											- 1.79		
	α_1									45	13.22		
			8.7	45 42.2	46 2.7	6.2	9.9	13.3	16.8	46	9.78		
				45.7							- 54.31		
	κ			48.6							- 58		
									- 54.92		- 3		
	((δ) − D) $\frac{\kappa'}{100}$			45.5						45	14.86		
											- 1.65		
	α_2									45	13.21		
	46 20	54 20	8.8	46 47.4	47 12.0	15.4	19.0	22.6	26.1	47	19.02		
	45 44.8	15.6	8.4	51.8							- 51.67		
	κ			54.9							- 53		
									- 52.23		- 3		
	((δ) − D) $\frac{\kappa'}{100}$			51.4						46	26.79		
											- 1.77		
	α_1									46	25.02		
			8.5	46 55.8	47 14.5 -	18.1	21.7	25.2	28.7	47	21.64		
				59.3							- 54.02		
	κ			1.7							- 60		
									- 54.95		- 3		
	((δ) − D) $\frac{\kappa'}{100}$			58.9						46	26.69		
											- 1.63		
	α_2									46	25.06		

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Runs

	$T_m - T_f$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+19.52	3	26.0	42.7	68.7	13 3 34.35	9	14.00		10	53 52 43.36	
	1.29048					53	52	58.72			− 9	+11.69
d	9.77043							−15.36			− 47	
	1.18643m										+11.75	
$((\delta) - D)\frac{d'}{100}$											+ 50	
											−2500	
δ_1											52 30.55.05	
	+18.56	3	24.9	43.6	68.5	13 3 34.25	9	14.10		10	52 44.85	
	1.26858					53	52	59.46			− 8	+11.55
d	9.77043							−14.61			− 47	
	1.16453m										+11.51	
$((\delta) - D)\frac{d'}{100}$											+ 59	
											−2570	
δ_2											52 30.70	
	+20.54	0	31.0	46.9	77.9	20 0 38.95	2	9.40		20	54 45 38.30	
	1.31260					54	46	54.12			− 10	+13.06
d	9.76111							−15.82			− 8	
	1.19923m										+12.67	
$((\delta) - D)\frac{d'}{100}$											+ 57	
											−2570	
δ_1											45 26.26	
	+20.04	0	28.1	47.5	75.6	20 0 37.80	2	10.55		20	45 40.47	
	1.30190					54	45	55.91			− 10	+12.85
d	9.76111							−15.44			− 8	
	1.18853m										+12.43	
$((\delta) - D)\frac{d'}{100}$											+ 60	
											−2570	
δ_2											45 27.62	
	+24.96	3	44.2	59.4	103.6	33 3 51.80	48	56.55		30	53 32 21.46	
	1.39724					53	32	41.27			− 16	+11.22
d	9.77405							−19.81			− 50	
	1.29681m										+11.38	
$((\delta) - D)\frac{d'}{100}$											+ 50	
											−2510	
δ_1											32 7.58	
	+21.10	3	46.0	25	108.5	33 3 54.25	48	54.10		80	32 22.72	
	1.32428					53	32	39.46			− 12	+11.07
d	9.77405							−16.74			− 51	
	1.22385m										+11.15	
$((\delta) - D)\frac{d'}{100}$											+ 55	
											−2580	
δ_2											32 7.99	
	+26.22	3	56.1	11.8	127.9	29 4 31.95	53	44.40		25	53 37 6.77	
	1.45056					53	37	29.12			− 21	+11.23
d	9.77319							−22.35			− 53	
	1.34927m										+11.47	
$((\delta) - D)\frac{d'}{100}$											+ 50	
											−2520	
δ_1											36 52.80	
	+24.28	3	57.7	15.5	133.2	29 4 33.30	53	41.75		25	37 7.88	
	1.38525					53	37	27.11			− 15	+11.12
d	9.77319							−19.23			− 53	
	1.28396m										+11.24	
$((\delta) - D)\frac{d'}{100}$											+ 56	
											−2580	
δ_2											36 53.20	
	+27.62	4	19.1	34.5	53.6	44 4 26.80	38	21.55		40	54 21 44.79	
	1.44122					54	22	6.27			− 18	+12.03
d	9.76537							−21.48			− 57	
	1.33211m										+12.24	
$((\delta) - D)\frac{d'}{100}$											+ 54	
											−2580	
δ_1											21 31.52	
	+22.74	4	21.2	39.2	60.4	44 4 30.20	38	18.15		40	21 45.82	
	1.35679					54	22	3.51			− 14	+11.89
d	9.76537							−17.69			− 58	
	1.24768m										+12.01	
$((\delta) - D)\frac{d'}{100}$											+ 60	
											−2600	
δ_2											21 31.71	

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Date$_1$ = 1875, Oct. 20 — Observer W.A.R. — Recorder J.J.M.

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Date$_2$ = 1875 Oct 25 — Observer W.A.R. — Recorder J.J.M.

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Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
	47	28 54 57	9.5	21 48 8.8	48 19.8	23.5	27.1	30.7	34.2	48	27.06		
	46	52.5 52.9	9.4	11.1							-51.67		
	κ			14.2							- 54		
	((δ) — D) $\frac{\kappa'}{100}$			11.4					- 52.24		- 3		
	α_1									47	34.82		
											-1.77		
										47	33.05		
			9.5	48 35.6	48 22.4	25.8	29.5	33.4	37.1	48	29.64		
	κ										-54.32		
	((δ) — D) $\frac{\kappa'}{100}$								- 54.96		- 61		
	α_2										- 3		
										47	34.68		
											-1.62		
										47	33.06		
	κ												
	((δ) — D) $\frac{\kappa'}{100}$			Single Observations									
	α_1												
Oct. 25													
20	57	25 54 36	9.0	20 58 2.1	58 19.3	23.0	26.6	30.1	33.7	58	26.54		
	56	55.8 32.3	8.8	5.0							-54.29		
	κ			9.0							- 60		
	((δ) — D) $\frac{\kappa'}{100}$			5.4					- 54.92		- 3		
	α_2									57	31.62		
											-1.06		
										57	30.56		
Oct. 25													
21	11	46 53 24	9.0	21 12 18.8	12 49.0	46.7	50.2	53.6	57.0	12	30.10		
	11	14.8 20.6	9.0	22.7							-54.29		
	κ			25.4							- 58		
	((δ) — D) $\frac{\kappa'}{100}$			22.3					- 54.90		- 3		
	α_1									11	55.20		
											-1.28		
										10	53.92		
Oct. 25													
21	13	1 53 27	6.2	21 13 35.1	56.6	0.3	3.7	7.1	10.7	13	8.68		
	12	29.9 23.4	5.8	38.2	13					14	-54.29		
	κ			41.2							- 58		
	((δ) — D) $\frac{\kappa'}{100}$			38.2					- 54.90		- 3		
	α_2									12	8.78		
											-1.28		
										12	7.50		
										13			
	κ												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_1												
	κ												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_2												
	κ												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_1												
	κ												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_2												

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+15.66	2	28.9	45.4	75.3	7/2 3.765	15	10.70		5	54 58 43.42	
	1.194479					54 58	55.42				− 6	+13.10
d	9.758777						− 12.00				− 34	
	1.079084										+12.90	
$((\delta) - D)\frac{d'}{100}$											+ 60	
											−25 30	
δ_1											58 31.22	
	− 5.96	2	45.0	28	107.8	7/2 53.90	14	54.45		5	58 44.38	
	0.77525					54 58	39.81				− 1	+12.87
d	9.768777						+ 4.57				− 38	
	0.659954										+12.66	
$((\delta) - D)\frac{d'}{100}$											+ 60	
											−2600	
δ_2											58 31.25	
d												
$((\delta) - D)\frac{d'}{100}$												
δ_1												
	+21.14	3	58.8	17.1	135.9	29/4 7.95	53	40.40		25	54 37 9.42	
	1.325104					54 37	25.76				− 11	+12.19
d	9.762771						− 16.34				− 53	
	1.213333										+12.23	
$((\delta) - D)\frac{d'}{100}$											+ 60	
											−23 ~~+8~~ 30	
δ_2											36 58.31	
	+27.80	0	40.8	59.4	100.2	40/0 5.010	41	58.25		40	53 25 21.49	
	1.444104					53 25	43.61				− 20	+12.24
d	9.776524						− 22.12				− 11	
	1.344804										+12.01	
$((\delta) - D)\frac{d'}{100}$											+ 54	
											−2410	
δ_1											25 9.63	
425.48	~~−3.452~~	2	28.7	47.1	75.8	37/2 3.790	~~45~~ 44	~~10.415~~ 22.75		85	53 ~~29 23.23~~	28 15.53
	1.538074					53 28	~~5581~~ 8.11				− 31	+10.98
d	9.774956					~~38 25.60~~	+ 27.42				− 34	
	1.438150						−20.24				+11.08	
$((\delta) - D)\frac{d'}{100}$											+ 56	
											−2420	
δ_2											~~29 10.01~~ 28 22.31	
d												
$((\delta) - D)\frac{d'}{100}$												
δ_1												
d												
$((\delta) - D)\frac{d'}{100}$												
δ_2												
d												
$((\delta) - D)\frac{d'}{100}$												
δ_1												
d												
$((\delta) - D)\frac{d'}{100}$												
δ_2												

End here Jan. 27

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Date$_1$ = Oct. 27 $n = -.34$ Observer W.A.R. Recorder J.F.M.

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Date$_2$ = Nov. 6 $n = -.28$ Observer W.A.R. Recorder J.F.M.

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Ru

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
15	15 48	52 47	8.8	21 16 12.7	16 31.7	35.0	38.3	41.9	45.4	16	3846		
	15 13.7	44.6	7.7	14.3							−55.39		
	κ 2.1	42.5		18.6					−55.85		− 44		
				15.2							− 2	15 42.61	
	((δ) − D) $\frac{\kappa'}{100}$		8.0	17 5.5	16 44.7	48.2	51.8	55.1	58.4	16	51.64	−1.29	
				7.9							−55.39	15 41.32	
	α_1 15 15.4	52 42.6		11.6					−58.85		− 44		
				8.3							− 2	15 55.79	
			8.8	16 5.2	16 28.8	38.2	37.5−	42.0	46.5−	16	37.60	−1.29	Add +.014 to (AT + m) for Nov 6 It has already been added to the constants and to final RA.
				8.8							−60.86 91	54.50	
	κ			13.0					−1 1.298 +.014		− 36		
				9.0							− 2	15 36.36	
	((δ) − D) $\frac{\kappa'}{100}$		8.4	16 58.4	16 30.9	35.5−	39.8	44.2	47.6	16	39.60	−0.98	
				53.5							−60.86 91	15 35.38 4	
	α_2			58.0					−1 1.298		− 36		
				54.0 54.9							− 2	−0.98 F	
										15	39.313	15 37.33	37.38 4
17	17 47	54 53	9.0	18 11.0	18 42.2	45.9	49.4	53.0	56.6	18	49.42		
	17 14.9	48.9	9.1	13.7							−55.39		
	κ			17.8					90		− 48		
				14.2					− 55.87		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									17	53.52		
											−1.21		
	α_1									17	52.31		
			9.2	18 23.5−	18 47.2	50.9	54.5−	58.1	2.0	18	54.54		
				26.3							−60.86 91		
	κ			29.4							− 40		
									−1 1.33		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			26.4						17	53.25		
											− .89		
	α_2									17	52.33		
18	18 40	53 41	7.5−	19 19.6	19 36.1	39.5−	43.1	46.7	50.0	19	4308		
	18 7.0	36.7	7.2	23.0							−55.39		
	κ			26.0							− 46		
									− 55.88		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			22.9						18	47.20		
											−1.28		
	α_1									18	45.92		
			7.8	19 15.8	19 41.2	44.9	48.1	51.6	55.2	19	48.20		
				19.4							−60.86 92		
	κ			22.0							− 38		
									−1 1.32		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			19.1						18	46.93		
											− .97		
	α_2									18	46.90 45.96		
19	19 50	51 53	7.8	20 36.2	20 46.1	49.5−	52.8	56.2	59.8	20	5288		
	19 17.0	49.7	8.2	39.1							−55.39		
	κ			42.4							− 43		
									− 53.84		− 2		
	((δ) − D) $\frac{\kappa'}{100}$			39.2						19	57.02		
											−1.37		
	α_1									19	55.65		
			8.0	20 28.6	20 51.2	54.7	58.0	1.3	4.6	20	5796		
				31.7							−60.86 92		
	κ			35.3							− 36		
									−1 1.29		− 2		
	((δ) − D) $\frac{\kappa'}{100}$			31.9						19	56.72		
											−1.08		
	α_2									19	55.589		
21	21 11	54 48	8.8	21 44.2	22 4.4	8.3	11.9	15.4	19.0	22	11.80		
	20 38.4	43.5	7.8	47.5							−55.39		
	κ			50.5							− 48		
									− 55.90		− 3		
	((δ) − D) $\frac{\kappa'}{100}$			47.4						21	15.90		
											−1.26		
	α_1									21	14.64		
20	20 13	54 44.7	7.8	21 26.0	21 33.2	36.6	40.3	44.0	47.7	21	40.36		
				29.8							−60.86 92		
	κ			32.6					− 1.33		− 39		
				29.5							− 3	20 39.08	
	((δ) − D) $\frac{\kappa'}{100}$		8.5	21 52.3	22 9.8	13.1	16.8	20.4	24.0	22	16.82	−0.95	
	20 38.4	54 43.5		55.9							−60.86 92	38.00	
	α_2			57.9							− 39		
									−1 1.33		− 3	21 15.54	
				55.1								− .94	
												21 14.545	

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1875phae.proj.1598R

Oct. 27 −16′ 14″.69 −.13

Runs Nov. 6 −16 15.51 −.12

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+23.26	3	51.4	8.4	1198	181 3 59.90	3	48.45		15	52 47 14.98	52 47 47.21
	1.36661	52	47	14.98	52 47	47.21	52 47	33.76			− 14	− 8
d	9.78163			+10.55		+10.61		−18.78			− 52	− 52
	1.27376n					18					+10.71	+10.71
$((\delta) - D)\frac{d'}{100}$	−16.66	3	51.1	8.4	119.8	3 59.90	3	48.45		15	+ 50	+ 50
	1.22167n						52 47	33.76			−24.49	−24.40
δ_1	9.78163							+13.45			47 1.13	47 33.42 another #
	1.12882n					19						
	+28.60	4	7.3	21.3	28.6	4 1430	3	34.05		15	46 56.44	47 46.72
	1.45637		46 55.44		47	46.72	52 47	18.54			− 22	− 5
d	9.78163		+10.77			+ 10.98		−23.10			− 51	− 47
	1.36352n					18					+11.01	+11.01
$((\delta) - D)\frac{d'}{100}$	−14.4	3	50.1	5.4	115.5	3 57.75	3	50.60		15	+ 49	+ 49
	1.15836n						52 47	35.09			−25.00	−25.00
δ_2	9.78163							+11.63			46 41.21	47 32.70
	1.06551					12						
	+35.22	2	17.6	34.9	52.5	2 26.25	10	22.10		10	54 53 40.37	
	1.54679						54 54	7.41			− 32	+12.91
d	9.75967							−27.04			− 31	
	1.43198n										+12.94	
$((\delta) - D)\frac{d'}{100}$											+ 60	
											−24.70	
δ_1											53 28.58	
	+28.14	2	25.2	34.7	59.7	12 2 29.85	10	18.50		10	53 41.39	
	1.44932						54 54	2.99			− 20	+13.41
d	9.75967							−21.60			− 30	
	1.33451n										+13.31	
$((\delta) - D)\frac{d'}{100}$											+ 60	
											−25.40	
δ_2											53 29.40	
	+20.18	4	10.1	25.9	36.0	24 4 18.00	58	30.35		20	53 41 59.71	
	1.30492						53 42	15.66			− 10	+11.58
d	9.77233							−16.95			− 56	
	1.20277n										+11.67	
$((\delta) - D)\frac{d'}{100}$											+ 57	
											−24.60	
δ_1											41 46.69	
	+29.10	4	5.1	14.7	19.8	24 4 9.90	58	38.45		20	41 59.94	
	1.46389						53 42	22.54			− 22	+11.85
d	9.77233							−23.00			− 50	
	1.36174n										+12.00	
$((\delta) - D)\frac{d'}{100}$											+ 57	
											−25.30	
δ_2											41 46.49	
	+13.66	1	15.5	34.1	49.6	11 1 24.80	11	23.55		10	51 54 57.61	
	1.13525						51 55	8.86			− 5	+10.06
d	9.79015							−11.25			− 18	
	1.05112n										+ 9.80	
$((\delta) - D)\frac{d'}{100}$											+ 49	
											−24.60	
δ_1											54 43.04	
	+26.06	1	7.2	17.4	24.6	11 1 12.30	11	36.05		10	54 59.08	
	1.41397						51 55	20.54			− 18	+10.24
d	9.79015							−21.46			− 14	
	1.33164n										+10.11	
$((\delta) - D)\frac{d'}{100}$											+ 45	
											−25.20	
δ_2											54 44.12	
	+24.40	2	11.3	26.9	38.2	17 2 19.10	5	29.25		15	54 48 55.79	
	1.38439						54 49	14.56			− 15	+13.01
d	9.76057							−18.77			− 30	
	1.27348n										+12.86	
$((\delta) - D)\frac{d'}{100}$											+ 60	
											−25.00	
δ_1											48 43.80	
	+10.86	1	25.0	35.0	60.0	16 1 30.00	6	18.35		15	49 54.49	48 55.66
	1.03583		49 54.49		48 53.66		54 50	2.84			− 3	− 12
d	9.76039		+13.63		+ 13.44			− 8.35			− 18	− 28
	0.92174n					17					+13.24	+13.24
$((\delta) - D)\frac{d'}{100}$	+21.42	2	16.1	25.3	41.4	2 20.70	5	29.65		15	+ 60	+ 60
	1.33082						52 49	12.14			−25.60	−25.70
δ_2	9.76057							−16.48			49 42.52	48 43.40
	1.21691n											

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Date$_1$ = Oct. 27 Observer / Recorder — Date$_2$ = Nov. 6 Observer / Recorder — 74 — Ru

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
	22 23	49 57	9.5	21 22 53.0	23 0.5	3.8	6.9	10.3	13.5	23	7.00		
	21 48.6	53.0	9.3	55.7							−55.39		
	κ			57.5					− 55.81		− 40		
	((δ) — D) $\frac{\kappa'}{100}$			56.1							− 2		
	a_1									22	11.19		
											−1.47		
										22	9.72		
			9.1	23 3.7	23 27.6	30.7	33.8	37.0	40.3	23	33.88		
				6.9							−60.8692		
	κ			9.5					−1 1.25		− 33		
	((δ) — D) $\frac{\kappa'}{100}$			6.7					−1.25		− 2		
	a_2									22	32.67		
											−1.19		
										22	31.48		
	23 57	58 00	9.3	24 21.0	24 41.6	44.7	47.9	51.1	54.3	24	4.92		
	23 26.8	49 56.1	8.5								−55.39		
	κ								− 55.81		− 40		
	((δ) — D) $\frac{\kappa'}{100}$		8.2	24 24.5	24 55.2	58.2	1.5	4.6	8.1	25	1.52	28 52.11	
	a_1										−55.39	−1.49	
									−55.81		− 40	23 50.62	
											− 2	24 57.1	
			8.1	24 39.8	24 59.9	3.3	6.6	9.8	13.0	25	6.52	−1.49	
				42.1							−60.8692	24 4.22	
	κ			44.8					−1 1.26		− 33		
	((δ) — D) $\frac{\kappa'}{100}$			42.2							− 2		
	a_2									24	5.31		
											−1.21		
										24	4.045		
	25 31	57 17	8.6	26 0.0	26 30.0	33.8	37.0	40.2	43.5	26	38.90		
	24 58.6	13.0	9.0	2.9							−55.39		
	κ			5.3					− 55.83		− 42		
	((δ) — D) $\frac{\kappa'}{100}$		8.9	2.7	26 31.1	34.7	37.8	41.2	44.3		− 2	25 41.07	
	24 59.7 a_1			26 23.0						26	37.82	−1.46	
				26.6					−56.83		−55.39	25 39.61	
				29.3							− 42		
				26.3							− 2	25 41.99	
			8.4	26 4.7	26 35.1	38.6	42.0	45.2	48.5	26	4.88	−1.46	
				9.0							−60.8692	25 40.53	
	κ			11.9					−1 1.28		− 33		
	((δ) — D) $\frac{\kappa'}{100}$		8.6	8.5	26 34.2	26 36.1	39.4	42.7	46.0	49.3	− 2	25 40.65	
	a_2									26	42.70	−1.16	
									−1 1.28		−60.8692	25 39.48	
											− 35		
											− 2	25 41.47	
	27 09	52 4	9.2	27 53.1	28 7.3	10.6	13.9	17.3	20.7	28	13.96	−1.16	
	26 35.4	51 59.5	9.5	56.3					5		−55.39	25 40.25	
	κ			59.1					− 55.86		− 44		
	((δ) — D) $\frac{\kappa'}{100}$			56.2							− 2		
	a_1									27	18.11		
											−1.44		
										27	16.67		
	26 35.4		6.5	27 35.3	28 11.1	14.8	18.1	21.3	24.7	28	18.00		
	κ			38.1							−60.8792		
				40.1					−1 1.29		− 36		
	((δ) — D) $\frac{\kappa'}{100}$		9.3	37.8							− 2	27 16.75	
	26 35.8			27 54.1	28 12.9	16.1	19.8	22.6	25.7	28	19.86	−1.15	
	a_2			57.3							−60.8792	15.51	
				06					−1 1.29		− 36		
				57.3							− 2	27 18.11	
	28 22	53 14	8.4	28 56.5	29 19.0	22.6	26.3	29.8	33.0	29	26.14	−1.15	
	27 49.8	9.7	8.7	59.0							−59.39	27 16.99	
	κ			1.7					− 55.87		− 45		
	((δ) — D) $\frac{\kappa'}{100}$		9.0	59.1	29 9.8	29 41.3	44.8	48.2	51.7	55.2	− 3	28 30.27	
	a_1			12.7						29	48.24	−1.41	
				16.3					− 55.87		−55.39	28 28.86	
				13.0							− 45		
											− 3	28 52.34	
			8.6	29 8.5	29 24.6	27.9	31.2	34.7	38.1	29	31.30	−1.41	
				11.6							−60.87	28 50.96	
	κ			13.4					−1 1.31		− 37		
	((δ) — D) $\frac{\kappa'}{100}$			11.2							− 3		
	a_2									28	30.03		
											−1.11		
										28	28.92		

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Runs

	$T_m - T_S$		A	C	Sum		Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+10.90	3	13.0	31.5	44.5	3	22.25	24	26.10		55	50 8 2.05	
	1.03743							49 8	11.41			− 24	
d	9.81578								− 9.36			− 41	
	9.80822											+ 7.77	+7.44
$((\delta) - D)\frac{d'}{100}$	1.12552											+ 35	
	0.94117											− 24.50	
δ_1												8 17.06 ?	
	+27.18	2	82.1	3.1	115.2	2	57.60	14	50.75		5	49 58 11.91	
	1.43425							49 48	35.24			− 20	+7.77
d	9.80822								− 23.33			− 35	
	1.36799 n											+ 7.97	
$((\delta) - D)\frac{d'}{100}$												+ 35	
												− 2510	
δ_2												57 54.58	
	+26.92	4	13.8	30.5	44.3	4	22.15	18	26.20		0	50 1 48.42	1 39.76
	1.43008		50 1 48.42		50 1 39.76			50 2	11.51			− 20	− 37
d	9.80777		+ 7.42		+ 7.25				− 23.09			− 56	− 56
	1.36337 n								− 31.75			+ 7.83	+ 7.83
$((\delta) - D)\frac{d'}{100}$	+3.02											+ 35	+ 35
	1.56844											− 2460	− 2460
δ_1	9.80777											1 31.24	1 22.41 ?
	1.50173 n												
	+24.32	4	29.7	41.1	70.8	4	35.40	18	12.95		0		1 36.58
	1.38396							50 1	57.44				− 16
d	9.80777								− 20.86				− 55
	1.31925 n												+ 8.03
$((\delta) - D)\frac{d'}{100}$			1 36.58										+ 35
			+ 7.67										− 2530
δ_2						47	x10						1 18.95
	+34.20	2	30.8	48.7	79.5	2	39.75	35	8.80	18 2536	45	51 18 25.36	19 55.75
	1.53403							51 18	53.91 81	+ 9.05		− 32	− 3
d	9.79605								− 28.55			− 35	− 19
	1.45560 n											+ 9.16	+ 9.16
$((\delta) - D)\frac{d'}{100}$	+11.52	1	19.1	37.5	56.6	1	28.30	36	20.05	19 55.75	45	+ 46	+ 47
	1.06145							51 20	536	+ 9.41		− 24.80	− 24.82
δ_1	9.79573								− 9.61			18 9.51	19 40.36
	0.98270 n												
	+33.38	2	33.7	44.8	78.5	2	39.25	35	9.10	19 25.72	45	18 25.72	19 56.45
	1.52349							51 18	53.59	+ 9.06		− 30	− 2
d	9.79605								− 27.87			− 32	− 18
	1.44506 n											+ 9.26	+ 9.26
$((\delta) - D)\frac{d'}{100}$	+ 8.50	1	23.8	34.8	58.6	1	29.30	36	19.05	19 56.45	45	+ 42	+ 42
	0.92942							51 2	3.54	+ 9.48		− 2560	− 2560
δ_2	9.79573								− 7.09			18 9.18	19 40.33
	0.85067 n												
	1 23												
	+17.76	1	17	19.3	21.0	1	10.50	21	37.85		0	52 5 8.59	
d	1.24944							52 5	23.16			− 9	+ 10.23
	9.78853								− 14.57			− 15	
$((\delta) - D)\frac{d'}{100}$	1.16349 n											+ 9.97	
δ_1												+ 50	
												− 2500	
												4 53.82	
												4 2265	5 7.99
	+40.20	1	32.2	42.2	74.4	1	37.20	21	11.15	4 2265	0	4 5 7.99	4 22.63
	1.60423							52 4	55.64	5 749		− 43	− 13
d	9.78869								− 32.99	+10.08		− 19	− 13
	1.51844 n											+ 10.25	+ 10.25
$((\delta) - D)\frac{d'}{100}$	+22.06	1	1.4	12.1	13.5	1	6.75	21	41.60	5 7.99	0	+ 45	+ 45
	1.34361							52 5	26.09	22.68		− 25.80	− 25.80
δ_2	9.78853								− 18.10	+ 10.44		5 4 52.21 693	4 729 5263
	1.25766 n					50							
	+27.04	0	39.7	54.9	94.6	0	47.30	32	1.05	53 15 24.76	50	53 15 24.76	15 18.21
	1.43201							53 15	46.36	+ 11.44		− 19	− 33
d	9.77694								− 21.60			− 10	− 10
	1.33447 n								− 28.15			+ 11.20	+ 11.20
$((\delta) - D)\frac{d'}{100}$	+35.24									15 18.21		+ 53	+ 53
	1.54704									+ 11.30		− 2520	− 25.20
δ_1	9.77694											15 11.00	15 4.31
	1.44950 n					50							
	+20.10	0	46.0	56.1	102.1	0	51.05	31	57.30		50	15 25.73	
	1.30320							53 15	41.79			− 10	+11.84
d	9.77694								− 16.06			− 10	
	1.20566 n											+ 11.51	
$((\delta) - D)\frac{d'}{100}$												+ 53	
												− 26.00	
δ_2												15 11.54	

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439

Date$_1$ = Oct. 27 Observer / Recorder

440

Date$_2$ = Nov. 6 Observer / Recorder

76

Run

Star. α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
30 29	54 31	8.4	21 30 58.4	31 22.6	26.4	29.7	33.3	36.8	31	29.76		
29 53.4	26.7	8.5	1.2							−55.39		
κ			4.2							− 48		
			61.3					−55.90		− 3		
((δ) − D) $\frac{\kappa'}{100}$									30	33.86		
										−1.37		
α_1									30	32.49		
		8.7	31 6.1	31 27.8	31.2	34.9	38.5	42.1	31	34.90		
			8.8							−60.87 92		
κ			12.1							− 39		
			9.0					−1 1.33		− 3		
((δ) − D) $\frac{\kappa'}{100}$									30	33.61		
										−1.07		
α_2									30	32.54		
31 31	54 29	9.1	32 6.2	32 31.7	35.3	38.8	42.4	45.8	32	38.80		
1.8	24.2	9.1	9.2							−55.40		
κ			13.1							− 48		
			9.8					−55.91		− 3		
((δ) − D) $\frac{\kappa'}{100}$									31	42.89		
										−1.40		
α_1									31	41.49		
		9.0	32 6.2	32 36.8	40.3	43.9	47.4	51.1	32	43.90		
			9.7							−60.87 92		
κ			12.7							− 39		
			9.5					−1 1.32		− 3		
((δ) − D) $\frac{\kappa'}{100}$									31	42.61		
										−1.08		
α_2									31	41.53		
32 33	52 50	7.5	33 16.9	33 44.5	48.0	51.3	54.8	58.3	33	51.38		
32 21.5	45.3	8.3	20.1							−55.40		
κ 13.8	43.6		22.7							− 44		
			19.9					−55.86	32	55.52	32 54.04	
((δ) − D) $\frac{\kappa'}{100}$		8.6	33 47.2	33 50.6	54.0	—	1.3	4.9	33	1.48		
32 21.5	52 45.3						57.9	58.1		53.00	58.00	
α_1								−55.86		−55.44		
										− 44		
										− 2	33 2.14	
		7.5	33 11.8	33 52.0	53.2	56.6	59.9	3.4	33	56.62	− 1.49	
X			14.4							−60.87 92	33 0.30 65	
κ			17.3							− 36		
			14.5					−1 1.29		− 2	32 55.37	
((δ) − D) $\frac{\kappa'}{100}$		8.5	33 37.9	33 56.2	59.5	2.9	6.4	9.6	34	2.92	−1.18 5	
			40.1							−60.87 92	32 54.14	
α_2			43.4							− 36		
			40.5					−1 1.29		− 2	33 1.64	
34 34	55 11	8.0	35 10.4	35 33.8	37.5	41.2	44.7	48.4	35	41.12	−1.14	
4.0	8.0	7.5	13.3							−55.40	33 0.48 4	
κ			16.5							− 49		
			13.4					−53.92		− 3		
((δ) − D) $\frac{\kappa'}{100}$									34	45.20		
										−1.40		
α_1									34	43.80		
		7.0	35 21.1	35 39.1	42.4	46.1	49.9	53.2	35	46.72		
			24.3							−60.87 93		
κ			27.3							− 40		
X			24.2					−1 1.35		− 3		
((δ) − D) $\frac{\kappa'}{100}$									34	44.84		
										−1.09		
α_2									34	43.69		
36 15	51 30	9.0	36 51.7	37 13.3	16.6	19.8	23.4	26.8	37	19.98		
35 41.6	26.3	9.1	54.4							−55.40		
κ			56.8							− 43		
			54.3					−55.86		− 2		
((δ) − D) $\frac{\kappa'}{100}$									36	24.13		
										−1.57		
α_1									36	22.56		
		8.5	37 6.8	37 18.6	21.7	25.0	28.6	32.0	37	25.78		
			9.0							−60.88 93		
κ			11.5							− 36		
			9.1					−1 1.29		− 2		
((δ) − D) $\frac{\kappa'}{100}$									36	23.93		
										−1.28		
α_2									36	22.65		

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Runs

	$T_m - T_\delta$		A'	C	Sum		Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ'
	+28.46	3	53.5	10.1	123.6	34 4	1.80	48	46.55		30	54 32 9.81	
	1.454423							54 32	31.86			− 21	+12.43
d	9.76360								− 22.05			− 52	
	1.343365n											+12.56	
$((\delta) - D)\frac{d'}{100}$												+ 60	
												−25.40	
δ_1												31 56.84	
	+25.90	3	59.1	7.9	127.0	34 4	3.50	48	44.85		30	32 9.28	
	1.413330							54 32	29.34			− 18	+12.85
d	9.76360								− 20.86			− 49	
	1.30242n											+12.92	
$((\delta) - D)\frac{d'}{100}$												+ 60	
												−26.30	
δ_2												31 55.83	
	+29.30	1	19.1	37.1	56.2	36 1	28.10	46	20.25		33−	54 29 42.31	
	1.466887							54 30	5.56			− 22	+12.72
d	9.76395								− 23.25			− 19	
	1.36634n											+12.53	
$((\delta) - D)\frac{d'}{100}$												+ 60	
												−25.60	
δ_1												29 29.53	
	+34.40	1	17.9	27.4	45.3	36 1	22.65	46	25.70		33−	29 43.52	
	1.536560							54 30	10.19			− 31	+13.01
d	9.76395								− 26.67			− 16	
	1.42603n											+12.88	
$((\delta) - D)\frac{d'}{100}$												+ 60	
												−26.30	
δ_2												29 30.23	
												70	
	+31.48	1	47.6	3.8	111.4	16 1	55.70	5	52.65		15−	52 49 12.56	50 26.94
	1.498030							52 49	37.96			− 26	+10.74 − 3 +11.10
d	9.78130								− 25.40			− 25	− 12
	1.404845n											+10.75	+10.75
$((\delta) - D)\frac{d'}{100}$	+10.580	0	−50.1	6.4	116.5	15 0	58.25	6	50.10		15−	+ 50	+ 50
	1.02311							52 50	35.41			−25.40	−25.40
δ_1	9.78113								− 8.47			48 57.90	50 12.64
	0.92784	0.94007n							27				40
	+42.12	1	40.9	30.5	91.4	16 1	45.70	6	2.65	49 13.15	15−	49 13.15	50 27.86
	1.624449							52 49	47.14	+10.85		− 47	− 13
d	9.78130								− 33.99			− 21	− 9
	1.531311n											+11.04	+11.04
$((\delta) - D)\frac{d'}{100}$	+22.42	0	42.3	51.5	93.8	15 0	46.90	7	1.45	50 27.46	15−	+ 49	+ 49
	1.350644							52 50	45.94	+11.31		−2620	−2620
δ_2	9.78113								− 18.08			48 57.80	50 12.97
	1.257129n												
	+27.42	2	−14.9	30.8	45.7	32 2	22.85	30	25.50		50	55 13 49.71	
	1.441279							55 14	10.81			− 20	+13.40
d	9.75605								− 21.10			− 31	
	1.32436n											+13.31	
$((\delta) - D)\frac{d'}{100}$												+ 60	
												−25.70	
δ_1												13 37.41	
	+21.94	2	22.0	31.1	53.1	32 2	26.55	30	21.80		50	13 49.59	
	1.341240							55 14	6.29			− 12	+13.88
d	9.75605								−16.70			− 29	
	1.22281n											+13.69	
$((\delta) - D)\frac{d'}{100}$												+ 60	
												−2660	
δ_2												13 36.87	
	+25.68	4	7.2	23.1	30.3	34 4	15.15	48	33.20		30	51 31 57.18	
	1.409600							51 32	18.51			− 18	+9.15
d	9.79383								− 21.33			− 55	
	1.32895n											+9.40	
$((\delta) - D)\frac{d'}{100}$												+ 48	
												−2540	
δ_1												31 40.93	
	+16.08	4	16.4	25.2	41.6	34 4	20.80	48	27.55		30	31 58.68	
	1.206293							51 32	12.04			− 7	+9.43
d	9.79383								−13.36			− 52	
	1.12564n											+ 9.59	
$((\delta) - D)\frac{d'}{100}$												+ 43	
												−2620	
δ_2												31 41.91	

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Date$_1$ = Oct. 27 Observer / Recorder Date$_2$ = Nov. 6 Observer / Recorder 78 Run

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
37	37 14	49 56	9.0	21 37 53.5	38 13.4	16.5	19.7	22.9	26.1	38	19.72		
36	39.2	57.8	9.0	56.0							− 55.40		
	κ			59.8							− 40		
	((δ) − D) $\frac{\kappa'}{100}$			56.4					− 55.82		− 2		
	α_1									37	23.90		
											−1.63		
										37	22.27		
			8.8	37 56.9	38 18.4	21.8	24.9	28.1	31.4	38	24.92		
				0.5							−60.88 93		
	κ			3.0							− 33		
	((δ) − D) $\frac{\kappa'}{100}$			60.1					−1 1.27		− 2		
	α_2									37	23.69		
											−1.36		
										37	22.289		
38	38 15	52 40	7.8	38 50.1	39 12.6	16.0	19.3	22.8	26.4	39	19.47		
37	41.6	35.3	7.5	54.1							− 55.40		
	κ			56.6							− 44		
	((δ) − D) $\frac{\kappa'}{100}$			53.6					− 55.86		− 2		
	α_1									38	23.56		
											−1.54		
										38	22.02		
			7.0	38 51.2	39 17.7	21.0	24.4	27.9	31.2	39	24.44		
				54.0							−60.88 93		
	κ			56.8							− 36		
	((δ) − D) $\frac{\kappa'}{100}$			53.9					−1 1.30		− 2		
	α_2									38	23.18		
											−1.26		
										38	21.918		
39	39 17	49 58	8.5	39 53.0	40 15.3	18.3	21.6	25.0	28.3	40	21.70		
38	41.9	54.1	8.8	56.6							− 55.40		
	κ			59.3							− 40		
	((δ) − D) $\frac{\kappa'}{100}$			56.3					− 55.82		− 2		
	α_1									39	25.88		
											−1.66		
										39	24.22		
			8.4	39 58.6	40 20.4	23.7	26.7	30.1	33.1	40	26.80		
				0.7							−60.88 93		
	κ			4.3							− 33		
	((δ) − D) $\frac{\kappa'}{100}$			61.2					−1 1.26		− 2		
	α_2									39	25.57		
											−1.38		
										39	24.196		
40	40 48	52 54	8.7	41 21.4	41 46.7	49.9	53.5	56.8	0.5	41	53.48		
40	13.9	49.3	8.6	24.2							−55.40		
	κ			27.2							− 45		
	((δ) − D) $\frac{\kappa'}{100}$			24.3					− 55.87		− 2		
	α_1									40	57.61		
											−1.57		
										40	56.04		
			9.0	41 18.8	41 51.7	55.2	58.6	2.1	5.3	41	58.62		
				21.1							−60.88 93		
	κ			23.8							− 37		
	((δ) − D) $\frac{\kappa'}{100}$			21.2					−1 1.31		− 2		
	α_2									40	57.35		
											−1.28		
										40	56.023		
41	41 23	52 19	8.1	43 14.9	42 22.5	25.7	29.2	32.8	36.1	42	29.26		
40	50.1	14.5	8.8								−55.40		
	κ										− 44		
	((δ) − D) $\frac{\kappa'}{100}$								− 55.86		− 2	41 33.40	
41	1.0	52 12.5	7.7	42 20.1	42 33.4	36.7	40.1	43.2	46.7	42	40.02	−1.60	
	α_1										−55.40	41 31.80	
									− 55.86		− 44		
											− 2	41 44.16	
			8.3	42 22.9	42 27.5	31.0	34.4	37.6	41.1	42	34.07	−1.60	4256
				26.3							−60.88 93	41 33.56	
	κ			29.4							− 36		
	((δ) − D) $\frac{\kappa'}{100}$			26.3					−1 1.30		− 2	41 32.98	
	α_2		7.5	43 [illegible]	42 38.3	41.9	45.2	48.5	52.0	42	45.18	−1.31	
				10.0							−60.88 93	31.58 62	
				[illegible]							− 36	3	
									−1 1.30		− 2	41 42.92	
												−1.32	
												41 42.55	

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Runs

	$T_m - T_8$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+23.32	3	10.4	27.8	38.2	57 3 19.10	14	29.25	5	49 57 54.53	
	1.367773					49 58	14.56			− 14	+7.62
d	9.80837						−20.03			− 43	
	1.30162n									+ 7.84	
$((\delta) - D)\frac{d'}{100}$										+ 35	
										−2530	
δ_1										57 36.85	
	+24.82	3	11.1	21.9	33.0	8 3 16.50	14	31.85	5	57 55.02	
	1.394480					49 58	16.34			− 16	+7.79
d	9.80837						−21.32			− 39	
	1.32869n									+ 7.99	
$((\delta) - D)\frac{d'}{100}$										+ 35	
										−2610	
δ_2										57 36.71	
	+25.82	0	3.5	19.8	23.3	25 0 11.65	57	36.70	25	52 41 1.11	
	1.41196					52 41	22.01			− 18	+10.90
d	9.78263						−20.90			− 2	
	1.32011n									+10.60	
$((\delta) - D)\frac{d'}{100}$										+ 50	
										−2560	
δ_1										40 46.41	
	+30.54	0	1.9	12.2	14.1	25 0 7.05	57	41.30	25	41 1.07	
	1.484487					52 41	25.79			− 25	+11.12
d	9.78263						−24.72			− 2	
	1.39302n									+10.91	
$((\delta) - D)\frac{d'}{100}$										+ 48	
										−26.50	
δ_2										40 45.69	
	+25.40	1	22.6	40.6	63.2	6 1 31.60	16	16.75	5	49 59 40.26	
	1.404483					50 0	2.06			− 17	+7.78
d	9.80807						−21.80			− 20	
	1.33842n									+ 7.80	
$((\delta) - D)\frac{d'}{100}$										+ 35	
										−2540	
δ_1										59 22.64	
	+25.60	1	24.8	36.6	61.4	6 1 30.70	16	17.65	5	59 40.17	
	1.408241					50 0	2.14			− 18	+8.01
d	9.80807						−21.97			− 18	
	1.34183n									+ 8.02	
$((\delta) - D)\frac{d'}{100}$										+ 35	
										−2620	
δ_2										59 27.98	
	+29.18	4	43.9	58.4	102.3	9 4 57.15	12	57.20	5	52 56 19.03	
	1.465096					52 56	42.51			− 22	+10.52
d	9.78013						−23.48			− 63	
	1.37074n									+10.87	
$((\delta) - D)\frac{d'}{100}$										+ 50	
										−2580	
δ_1										56 3.75	
	+37.42	4	40.4	48.1	85.5	9 4 44.25	13	4.10	5	56 18.48	
	1.547910					52 56	48.59			− 37	+10.74
d	9.78013						−30.11			− 57	
	1.47875n									+11.18	
$((\delta) - D)\frac{d'}{100}$										+ 50	
										−26.80	
δ_2										56 2.42	
	−45.64	2	14.8	31.6	46.4	47 2 23.20	35	25.15	19 47.70	45 52 19 47.70	18 54.20
	1.659351n					52 19	10.46	+9.88		− 55	− 11
d	9.78609						+37.24			− 31	− 31
	1.57096n									+10.24	+10.24
$((\delta) - D)\frac{d'}{100}$	+19.92	2	14.8	31.6	46.4	47 2 23.20	35	25.15	18 54.20	45 + 50	+ 50
	1.299299					52 19	10.46	+10.32		− 25.80	−25.80
δ_1	9.78625						−16.26			19 31.78	18 38.72
	1.211106n										
	+7.94	2	17.7	27.1	44.8	47 2 22.40	35	25.95		45	
	0.899821					52 19	10.44				
d	9.786225						−6.48	+42.52			
	0.811159n						+17.03				
$((\delta) - D)\frac{d'}{100}$	−23.32	2	4.0	14.4	18.4	47 2 9.20	35	39.15		45	
	1.367731n					52 19	23.64				
δ_2	9.78609						+19.03	−2573			
	1.27934						−6.48				

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Date$_1$ = Oct. 27 Observer / Recorder

Date$_2$ = Nov. 6 Observer / Recorder

Run

Star. α	δ	Mag.	T_s	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
42 33	54 28	8.4	21 43 ~~44.9~~ 28.9	43 29.7	32.9	36.7	40.1	44.0	48	86.68		
41 59.0	22.8	8.8						− 55.87		−55.40		
κ										− 48		
										− 3	42 40.77	
((δ) — D) $\frac{\kappa'}{100}$		9.1	43 ~~50.7~~	43 ~~48.2~~	48.6	52.4	56.0	59.4	43	52.32	−1.55	
42 14.5	54 22.9									−55.40	42 39.24	
c_1								− 55.87		− 48		
										− 3	42 56.41	
42 14.5		9.1	48 58.4	43 50.3	54.0	57.6	1.1	4.6	43	57.62	−1.55	
κ										−60.88 93	42 54.88	
((δ) — D) $\frac{\kappa'}{100}$								−1 1.34		− 39		
										− 3		
c_2									42	56.22		
										−1.23		
									42	54.99	5	
43 34	52 53	8.5	44 25.9	44 30.4	38.8	37.4	40.8	44.2	44	87.32		
42 59.0	48.9	8.6	29.1							−55.40		
κ			32.6							− 44		
								− 55.86		− 2		
((δ) — D) $\frac{\kappa'}{100}$			29.2						43	41.46		
										−1.60		
a_1									43	39.86		
		8.4	44 34.0	44 35.6	39.0	42.4	45.9	49.3	44	47.44		
κ										−60.88 93		
										− 36		
((δ) — D) $\frac{\kappa'}{100}$								−1 1.30		− 2		
									43	41.18		
a_2										−1.31		
									43	39.88	3	
44 31	49 55	8.5	45 10.2	45 30.7	34.0	37.2	40.5	43.6	45	37.20		
43 56.3	50.7	7.3	14.3							−55.40		
κ			17.0							− 40		
			13.8					− 55.82		− 2	44 41.38	
((δ) — D) $\frac{\kappa'}{100}$		8.3	45 23.3	45 31.5	34.7	37.9	41.1	44.4	45	37.92	−1.67	
			26.4							−55.40	44 39.69	
a_1			29.5					− 55.82		− 40		
			27.4							− 2	44 42.10	
		8.5	45 18.4	45 35.9	39.1	42.3	45.3	48.9	45	42.34	−1.67	
κ			20.6							−60.88 93	44 40.71	
			22.5					−1 1.27		− 33		
((δ) — D) $\frac{\kappa'}{100}$		8.0	20.5	45 36.7	39.9	43.0	46.3	49.5		− 2	44 41.11	
			45 31.0						45	43.08	−1.45	
a_2			34.1							−60.88 93	44 39.62	
			36.3					−1 1.27		− 33		
			33.8							− 2	44 41.85	
46 17	54 38	9.0	46 50.2	47 11.8	15.6	19.0	22.8	26.2	47	19.08	−1.45	
45 41.7	33.5	9.0	53.2							−55.40	44 40.36	
κ			56.8					− 55.91		− 48		
										− 3		
((δ) — D) $\frac{\kappa'}{100}$			53.4						46	23.17		
										−1.57		
a_1									46	21.60		
		9.0	46 59.0	47 16.9	20.7	24.2	28.0	31.4	47	24.24		
κ			2.4							−60.88 93		
			5.1					−1 1.34		− 39		
((δ) — D) $\frac{\kappa'}{100}$			62.2							− 3		
									46	23.04		
a_2										−1.27		
									46	21.68	3	
47 32	54 39	8.5	47 57.4	48 28.1	31.9	35.3	39.1	42.7	48	35.42		
46 56.7	54 34.5	8.9	0.7							−55.40		
κ			4.2							− 48		
								− 56.91		− 3		
((δ) — D) $\frac{\kappa'}{100}$			60.8						47	39.51		
										−1.58		
a_1									47	37.93		
		8.5	48 8.1	48 33.4	37.0	40.7	44.0	47.7	48	40.58		
κ			12.5							−60.88 93		
			15.6					−1 1.33		− 39		
((δ) — D) $\frac{\kappa'}{100}$			12.1							− 3		
									47	39.26		
a_2										−1.28		
									47	37.98	5	

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Runs

	$T_m - T_g$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+7.78	2 33.8	48.8	82.6	41.30	45	7.05		35-	54 28 46.32	28 51.10
	0.89098	28 46.32		28 51.10		54 28	52.36			− 2	− 0
d	9.76431	+12.74		+12.76			− 6.04			− 35	− 35
	0.78081n						− 1.26			+12.51	+12.51
	+162									+ 60	+ 60
$((\delta) - D)\frac{d'}{100}$	0.20952									−2610	−2610
	9.76431									28 32.96	28 37.76
δ_1	0.09935n				37 30						
	−0.88	2 38.1	47.1	85.2	2 42.60	45	5.75		35-	28 51.20	
	0.09445n					54 28	50.24			− 0	+13.15
d	9.76431						+ 0.96			− 32	
	9.98428n						.068			+12.87	
										+ 60	
$((\delta) - D)\frac{d'}{100}$										−27.00	
										28 37.35	
δ_2				1143	10 57	1.10	.30				
	+8.12	0 48.8	5.5	+0.43	0 52.15	11	51.20		10	52 55 30.07	
	0.90956					52 55	36.57 61			− 2	+11.23
d	9.78030						− 6.54			− 12	
	0.81538n									+10.87	
										+ 50	
$((\delta) - D)\frac{d'}{100}$										−2600	
										55 15.30	
δ_1					10						
	+8.44	0 51.0	0.9	111.9	0 55.95	11	52.40		10	55 30.10	
	0.92634					52 55	36.89			− 2	+11.56
d	9.78030						− 6.79			− 11	
	0.83216n									+11.19	
										+ 50	
$((\delta) - D)\frac{d'}{100}$										−26.90	
										55 14.76	
δ_2					10					49	Ex constants
	+23.40	4 59.2	17.4	136.6	5 8.30	12	40.05		8-	52 56 6.53	56 16.09
	1.36922	49 56 6.53		56 16.09		52 56	25.36			− 14	+7.49 − 3 +7.60
d	9.78013	+12.56		+10.69			− 18.83			− 67	− 67
	1.27487n						− 9.27			+7.80 +10.87	+7.80 +10.87
	+1152									+ 50	+ 50
$((\delta) - D)\frac{d'}{100}$	1.06145									−26.00	−26.00
	9.78013									25.70	26.70
δ_1	0.96710n				10					55 5.40 48.30	55 57.99
	+21.84	0 3.1	14.5	17.6	0 8.80	12	39.55		10	56 6.46	56 16.57
	1.33925	56 6.46		56 16.57		52 56	24.04			− 13	+8.37 − 2 +8.48
d	9.78013	+1.54		+11.65			− 17.58			− 2	− 2
	1.24490n						− 7.47			+8.02 +11.19	+8.02 +11.19
	+9.28									+ 50	+ 50
$((\delta) - D)\frac{d'}{100}$	0.96755									−27.00	−27.00
	9.78013									26.60	26.60
δ_2	0.87320n				24					55 5.40 48.23	55 56.62 8845
	+25.68	1 53.7	9.9	123.6	2 1.80	55	46.55		25-	54 39 12.02	
	1.40960					54 39	31.86			− 17	+12.87
d	9.76236						− 19.84			− 26	
	1.29748n									+12.70	
										+ 60	
$((\delta) - D)\frac{d'}{100}$										−2620	
										38 58.69	
δ_1					27						
	+22.04	1 58.5	6.9	125.4	2 2.70	55	45.65		25-	39 13.12	
	1.34321					54 39	30.14			− 13	+13.27
d	9.76236						− 17.02			− 25	
	1.23109n									+13.05	
										+ 60	
$((\delta) - D)\frac{d'}{100}$										−27.30	
										38 59.09	
δ_2					25						
	+34.62	0 41.5	58.0	99.5	0 49.75	56	58.60		25-	54 40 17.18	
	1.53933					54 40	43.91			− 31	+12.89
d	9.76218						− 26.73			− 11	
	1.42703n									+12.71	
										+ 60	
$((\delta) - D)\frac{d'}{100}$										−26.30	
										40 3.77	
δ_1					25						
	+28.46	0 48.9	5.4.8	106.7	0 53.35	56	55.00		25-	40 17.52	
	1.45423					54 40	39.46			− 21	+13.35
d	9.76218						− 21.97			− 11	
	1.34193n									+13.07	
										+ 60	
$((\delta) - D)\frac{d'}{100}$										−27.40	
										40 3.47	
δ_2											

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Date$_1$ = Oct. 27 Observer / Recorder Date$_2$ = Nov. 6 Observer / Recorder 82 Run

Star. α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
48 07 / 47 38.5	54 42 / 37.2	9.0 / 9.0	21 48 57.8	49 3.4	7.0	10.5	14.1	17.5	49	10.50		
κ										−55.40		
										− 48		
								−55.91		− 3		
((δ) − D) $\frac{\kappa'}{100}$									48	14.59		
										−1.59		
a_1									48	13.00		
		9.0	49 5.9	49 8.5	11.8	15.6	19.2	22.9	49	15.60		
			8.9							−60.8993		
κ			12.2							− 39		
								−1 1.34		− 3		
((δ) − D) $\frac{\kappa'}{100}$			9.0						48	14.29		
										−1.29		
a_2									48	12.97		
49 37 / 49 15.2	52.45 / 40.5	8.6 / 8.3	50. 26.2	50 4.6.5	49.7	53.3	56.9	0.3	50	53.34		
κ			30.2							−55.40		
			32.0							− 44		
								−55.86		− 2		
((δ) − D) $\frac{\kappa'}{100}$			29.5						49	57.48		
										−1.68		
a_1									49	55.80		
		8.0	50 43.3	50 51.6	55.0	58.4	1.9	5.3	50	58.44		
κ										−60.8993		
								−1 1.30		− 36		
										− 2	49	57.17
((δ) − D) $\frac{\kappa'}{100}$		9.1	50 10.8	50 52.2	55.7	59.2	2.8	6.1	50	39.8		−1.40
			13.7							−60.8993	49	55.73
a_2			16.5							− 36		
			13.7					−1 1.30		− 2	49	57.91
51 01 / 50 25.8	52 52 / 47.7	9.1 / 9.4	51 38.2	51 59.7	3.2	6.5	10.0	13.3	52	6.54	49	−1.40 56.51
			41.8							−55.40		
κ			44.1							− 45		
								−55.86		− 2		
((δ) − D) $\frac{\kappa'}{100}$			41.5						51	10.67		
										−1.69		
a_1									51	8.98		
		9.1	51 56.2	52 4.9	8.1	11.7	15.0	18.6	52	11.66		
κ			59.4							−60.8993		
			3.1							− 37		
								−1 1.31		− 2		
((δ) − D) $\frac{\kappa'}{100}$			59.6						51	10.38		
										−1.40		
a_2									51	8.98		
53 22 / 52 45.1	51 00 / 50 55.8	8.5 / 8.4	53 ~~15.8~~	54 20.2	23.6	26.8	30.2	33.4	54	26.84		
			58.6							−55.40		
κ			2.0							− 42		
			4.3					−55.84		− 2		
((δ) − D) $\frac{\kappa'}{100}$			61.6						53	31.00		
										−1.78		
a_1									53	29.22		
		8.5	53 48.8	54 25.3	28.6	31.8	35.1	38.5	54	31.86		
			51.8							−60.8993		
κ			54.6							− 35		
								−1 1.29		− 2		
((δ) − D) $\frac{\kappa'}{100}$			51.7						53	30.60		
										−1.51		
a_2									53	29.09		
54 14 / 53 45.3	55 9 / 55 5.3	8.9 / 9.1	55 ~~0.7~~	55 17.3	21.0	24.7	28.3	31.8	55	24.62		
			4.3							−55.40		
κ			7.9							− 49		
								−55.92		− 3		
((δ) − D) $\frac{\kappa'}{100}$			4.3						54	28.70		
										−1.65		
a_1									54	27.05		
		8.7	55 1.4	55 22.4	26.1	29.6	33.4	37.0	55	29.70		
			4.1							−60.8994		
κ			8.2							− 40		
								−1 1.36		− 3		
((δ) − D) $\frac{\kappa'}{100}$			4.6						54	28.38		
										−1.34		
a_2									54	~~26.99~~ 27.04		

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Runs

	$T_m - T_S$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+12.70	3 34.6	51.0	85.6	23 / 3 / 42.80	59	5.55		20	54 42 41.07	
	1.10380					54 42	50.86			− 5	+12.84
d	9.76164						− 9.79			− 48	
$((\delta) - D)\frac{d'}{100}$	0.99096 m									+12.77	
										+ 60	
δ_1										− 26.30	
										42 27.71	
	+6.60	3 41.9	50.1	92.0	23 / 3 / 46.00	59	2.35		20	42 41.75	
	0.81954					54 42	46.84			− 1	+13.27
d	9.76164						− 5.09			− 45	
$((\delta) - D)\frac{d'}{100}$	0.70670 m									+13.13	
										+ 60	
δ_2										− 27.40	
										42 27.62	
	+23.84	4 47.8	4.4	112.2	19 / 4 / 56.10	2	52.25		15	52 46 19.30	
	1.37731					52 46	37.56			− 15	+10.41
d	9.78180						− 19.26			− 64	
$((\delta) - D)\frac{d'}{100}$	1.28463 m									+10.70	
										+ 50	
δ_1										− 26.20	
										46 3.51	
	+15.14	~~0 25.1~~	~~34.2~~	~~59.8~~	~~20~~ 0 ~~29.65~~	2	48.40 18.70		~~15~~ 20	52 45 50.93	45 ~~26.45~~ 56.15
	1.18013	4 55.0	4.9	119.9	19 5978	52 46	~~3.19~~ 3.289			− 6	~~+11.34~~ − 55 +10.~~34~~
d	9.78180						− 12.23			− ~~60~~ 5	10.83 − ~~56~~ 60 ~~89~~
$((\delta) - D)\frac{d'}{100}$	1.08745 n				~~19~~					+ 11.00	+ 11.00
	+45.48	~~4 55.0~~	~~4.9~~	~~114.9~~	~~4 5995~~	2	~~46.40~~ 18.70		~~15~~	+ 49	+ 49
	1.65782	0 25.1	34.2	59.3	20 2965	52 46	~~32.89~~ 8.19		20	− 27.30 ?	− 27.30 Comm'ts
δ_2	9.78180						− 36.74			~~45 35.01~~ ?	45 ~~39.19~~
	1.56514 n									46 4.19	10.04
	+25.04	2 33.4	49.0	82.4	12 / 2 / 41.20	10	7.15		10	52 53 32.29	
	1.39863					52 53	52.46			− 16	+10.83
d	9.78063						− 20.17			− 35	
$((\delta) - D)\frac{d'}{100}$	1.30478 n									+10.84	
										+ 50	
δ_1										− 26.30	
										~~53~~ 16.82	
	+12.06	2 46.4	54.1	100.5	12 / 2 / 50.25	9	58.10		10	53 32.87	
	1.08135					52 53	42.59			− 4	+11.21
d	9.78063						− 9.72			− 34	
$((\delta) - D)\frac{d'}{100}$	0.98750 n									+ 11.10	
										+ 49	
δ_2										− 27.40	
										53 ~~12.21~~	
										16.68	
	+25.44	4 19.1	36.7	55.8	4 / 4 / 27.90	18	20.45		0	51 1 44.57	
	1.40209					51 2	6.76			− 17	+8.60
d	9.79856						− 21.19			− 57	
$((\delta) - D)\frac{d'}{100}$	1.32617 n									+ 8.89	
										+ 45	
δ_1										− 26.20	
										1 26.97	
	~~+40.16~~	4 9.1	17.1	26.5	4 / 4 / 13.25	18	35.10		0	1 45.87	
	1.60379					51 2	19.59			− 43	+8.60
d	9.79856						− 33.72			− 51	
$((\delta) - D)\frac{d'}{100}$	1.52787 n									+ 9.14	
										+ 40	
δ_2										− 27.20	
										1 27.27	
	+20.32	4 54.9	12.8	127.7	55 / 5 / 38.5	27	44.50		50	55 11 14.32	
	1.30792					55 11	29.81			− 10	+13.11
d	9.75660						− 15.49			− 66	
$((\delta) - D)\frac{d'}{100}$	1.19004 n									+ 13.27	
										+ 60	
δ_1										− 26.60	
										11 0.83	
	+25.10	4 54.0	3.9	117.9	54 / 4 / 58.95	27	49.40		50	11 14.76	
	1.39964					55 11	33.89			− 16	+13.50
d	9.75660						− 19.13			− 60	
$((\delta) - D)\frac{d'}{100}$	1.28179 n									+ 13.66	
										+ 60	
δ_2										− 27.50	
										11 0.46	

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Date$_1$ = Oct. 27 Observer / Recorder

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Date$_2$ = Nov. 6 Observer / Recorder

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Star. α δ Mag. T_δ T_m T_e T_f T_g T_h Sum Mean Red. to T_m T

21	17- 09	49 55	8.5-	21 55	56 9.3	12.8	15.9	19.0	22.3	56	m s 15.88		
	54 32.8	50.5	8.6	52.3							-55.40		
	κ			53.2							- 40		
				57.5					- 55.82		- 2		
	((δ) — D) $\frac{\kappa'}{100}$			53.0						55	20.04		
											-1.83		
	a_1									55	18.21		
			8.5	56 22	56 14.4	17.7	20.9	24.1	27.3	56	20.88		
				4.4							-60.84		
	κ			7.6							- 33		
									-1 1.28		- 2		
	((δ) — D) $\frac{\kappa'}{100}$			4.7						55	19.64		
											-1.57		
	a_2									55	18.02 3		
	56 21	51 27	9.0	56 41 0 57	57 8.7	12.0	15.3	18.6	21.9	57	15.30		
	55 51.4	51 23.6	8.2	44.0	47.2						-55.40		
	κ			47.8	53.6						- 43		
				44.3	49.4				- 55.85	56	19.4 2	56 19.45	
	((δ) — D) $\frac{\kappa'}{100}$		8.0	56	57 26.4	29.5	32.8	36.4	39.6	57	32.94		- 1.79
				57 44.4	47.0						-55.40	56	17.66
	a_1			47.2	44.0				- 56.85		- 43		
				52.6	47.8						- 2	56	37.09
				41.6	44.3								-1.79
			8.0	57.6	57 31.3	34.6	37.9	41.1	44.4	57	37.88	56	35.30
				54.3							-60.984		
	κ			57.4							- 35		
									-1 1.29		- 2		
	((δ) — D) $\frac{\kappa'}{100}$			54.4						56	36.59		
											-1.53		
	a_2									56	35.06 4		
	57 09	52 16	4.0	58 5.1	58 6.9	10.2	13.6	16.9	20.4	58	13.60		
	56 32.5	11.0	5.3								-55.40		
	κ										- 44		
									- 55.86		- 2		
	((δ) — D) $\frac{\kappa'}{100}$									57	17.74		
											-1.77		
	a_1									57	15.97		
			5.0	58 2.0	58 11.9	15.2	18.6	22.0	25.3	58	1860		
				4.8							-60.984		
	κ			7.6							- 36		
									-1 1.31		- 2		
	((δ) — D) $\frac{\kappa'}{100}$			4.8						57	17.32		
											-1.50		
	a_2									57	15.78 8 9		
	58 50	55 9	8.8	0 7.5	59 51.4	55.1	58.8	2.2	6.4	59	58.78		
	58 ~~20.9~~ 19.6	~~5.2~~ 5.8	9.0								-55.40 ~~40~~ 0		
	κ								- 55.92		- 49		
											- 3	59	2.86
	((δ) — D) $\frac{\kappa'}{100}$		8.9	59 17.5	59 32.4	56.3	0.1	3.6	7.2	59	59.92		- 1.70
	58 20.9	5.2		20.0							-55.40 ~~40~~ 0	59	1.16
	a_1			23.9					- 56.92		- 49		
				20.5							- 3	59	4.00
			8.8	0 5.7	59 56.6	0.3	3.8	7.6	11.2	0	390		-1.70
											-60.984	59	2.~~X~~30
	κ								-1 1.36		- 40		
											- 3	59	2.57
	((δ) — D) $\frac{\kappa'}{100}$		8.9	59 15.8	59 57.5	1.4	5.1	8.6	12.3	0	4.98		-1.40
				18.3							-60.984	59	1.13 4
	a_2			20.8					-1 1.36		- 40		
				18.3							- 3	59	3.65
22	0 31	52 53	8.7	22 1 7.2	1 29.8	33.5	36.8	40.1	43.4	1	86.72		-1.41
21	59 54.4	48.2	8.8	10.7							-55.40	59	22.0 1
	κ			12.7					- 55.87		- 45		
				10.2							- 2		
	((δ) — D) $\frac{\kappa'}{100}$									0	40.85		
											- 1.80		
	a_1									0	39.05		
			8.2	1 12.2	1 34.8	38.2	41.5	45.2	48.7	1	41.68		
				15.1							-60.984		
	κ			18.3							- 37		
									-1 1.32		- 2		
	((δ) — D) $\frac{\kappa'}{100}$			15.2						0	40.39		
											- 1.53 3		
	a_2									0	~~40.82~~ 38.82		

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Runs

	$T_m - T\delta$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
d	+2086	4	50.2	8.7	118.9	59.45	12	48.90		5	49 56 16.28	
	1.31931					49 56	34.21			− 12	+7.32
	9.80867						− 17.93			− 65	
	1.25350n									+ 7.74	
((δ) — D) $\frac{d'}{100}$										+ 35	
										−26.10	
δ_1										55 57.50	
d	+1618	4	56.0	9.1	125.1	62.55	12	45.80		5	56 16.39
	1.20895					49 56	30.29			− 7	+7.63
	9.80867						− 13.90			− 61	
	1.14317n									+ 7.96	
((δ) — D) $\frac{d'}{100}$										+ 35	
										−27.20	
δ_2										55 56.82	
	+3100	−32.1	0	26.9	43.8	70.7	35.35	47	13.00	35	57	32.13
	1.49136	1.50651n				51	38	58.31			30 − 27	29 − 64
	9.79415	9.79415					−25.71				− 8 +9.50	− 29 +9.50
	1.41103n	1.42618									+ 9.38	+ 9.38
((δ) — D) $\frac{d'}{100}$		+4864	2	5.2	21.9	27.1	13.55	37	34.80	35		+ 47
		1.68699	2	5.2	21.9	27.1	13.55	37	20.11			−26.40
		9.79415						51	29 −40.43			30 15.64 29 15.23
		1.60666n										
		+3346	1	17.9	28.5	46.4	23.20	46	25.15	35	29 35.52	
		1.63809						51 30	9.64		− 50	+9.39
d		9.79415							−36.12		− 17	
		1.55776n									+ 9.64	
((δ) — D) $\frac{d'}{100}$											+ 42	
δ_2											−27.50	
											29 16.41	
	+850	4	14.6	29.7	44.3	22.15	33	26.20		45	52 17 4.57	
	0.92942					52 17	11.61			− 2	+10.10
d	9.78658						− 6.94			− 57	
	0.84152n									+10.19	
((δ) — D) $\frac{d'}{100}$										+ 50	
										−26.50	
δ_1										16 48.17	
	+1380	4	12.7	21.7	34.4	17.20	33	31.15		45	17 4.37	
	1.13988					52 17	15.64			− 5	+10.39
d	9.78658						− 11.27			− 51	
	1.05198n									+10.49	
((δ) — D) $\frac{d'}{100}$										+ 46	
										−27.60	
δ_2										16 47.16	
	−872	4	45.4	1.9	107.3	53.65	27	54.70		50	55 11 46.66	11 9.97
	0.94052n	55 11	46.66		11 9.97		52 11	40.01			− 2	− 40
d	9.75642		+13.22		+12.84			+ 6.65			− 64	− 64
	0.82246							− 30.04			+13.28	+13.28
((δ) — D) $\frac{d'}{100}$	+3942										+ 60	+ 60
	1.59592										−26.80	−26.80
δ_1	9.75642										11 33.08	10 56.81
	1.47766n										47.81	
	−180	4	42.3	50.5	92.8	46.40	28	1.95		50	11 0.16	11 10.87
	0.25527n		11 47.61		11 10.87		55 11	46.44			− 0	− 56
d	9.75642		+13.71		+13.15			+ 1.37			− 57	− 57
	0.13721							− 35.57			+13.67	+13.67
((δ) — D) $\frac{d'}{100}$	+4668										+ 61	+ 61
	1.66913										−2800	−2800
δ_2	9.75642										11 33.52	10 56.02
	1.55107n											
	+2652	1	37.1	53.0	90.1	45.05	11	3.31		10	52 54 27.30	
	1.42357					52 54	48.61			− 18	+10.93	
d	9.78047						− 21.31			− 23		
	1.32956n									+10.84		
((δ) — D) $\frac{d'}{100}$										+ 50		
										−26.70		
δ_1										54 11.53		
	+2648	1	39.1	48.8	87.9	43.95	11	4.40		10	54 27.56	
	1.42292					52 54	48.89			− 18	+11.26	
d	9.78047						− 21.33			− 21		
	1.32891n									+11.15		
((δ) — D) $\frac{d'}{100}$										+ 50		
										−27.90		
δ_2										54 10.92		

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Date$_1$ = Oct. 27 Observer / Recorder — Date$_2$ = Nov. 6 Observer / Recorder — 86

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
22	1 16 53 00		6.9	22.2 1.4	2 14.1	17.5	21.0	24.3	27.9	2	2096		
	0 38.9	52 55.0	7.4	3.9							−55.40		
	κ			7.1							− 45		
	((δ) − D) $\frac{\kappa'}{100}$			4.1					− 55.88		− 3		
	a_1									1	25.08		
											−1.80		
										1	23.28		
			6.9	2 41	2 19.9	22.5	26.1	29.4	32.8	2	2596		
				6.6							−60.984		
	κ			9.8							− 37		
	((δ) − D) $\frac{\kappa'}{100}$			6.8					−1 1.33		− 3		
	a_2									1	24.66		
											−1.53		
										1	~~58.09~~ 23.10		
	2 38	50 20	9.2	3 7.7	3 31.2	34.5	37.9	41.3	44.4	3	3786		
	~~2~~ 0.7	15.5	9.0								−55.40		
	κ								− 55.83		− 41		
	1 525										− 2	2 4203	
	((δ) − D) $\frac{\kappa'}{100}$		9.0	3 20.0	3 39.9	43.2	46.3	49.6	52.9		46.38 .06	−1.89	
	2 a_1 0.7	50 15.5		23.6						3	~~47.78~~	2 40.14	
				26.1							−55.40		
				23.2					− 55.83		− 41	2 50.49	
											− 2		
											6.01	−1.90	
			9.2	3 12.3	3 36.4	39.7	42.8	46.1	49.3	3	42.81	2 48.59	
				15.3							−60.984		
	κ			18.1					−1 1.25		− 34		
	((δ) − D) $\frac{\kappa'}{100}$			13.2							− 2	2 41.60	
			9.0	3 27.1	3 45.2	48.3	51.4	54.8	58.0	3	51.54 +05	−1.64 − 3	
	a_2			36.0							−60.984	2 ~~49.92~~ 39.92	
				32.7					−1 1.25		− 34		
				29.9							− 2	2 50.28	
	3 38	54 54	9.2	4 14.0	4 34.4	37.9	41.6	45.2	48.8	4	41.58	−1.64	
	3 0.8	49.8	9.5	16.7							−55.41	2 ~~48.34~~ 48.64	
	κ			20.3							− 48		
	((δ) − D) $\frac{\kappa'}{100}$		9.2	17.0					− 55.92		− 3		
	a_1									3	45.66		
											−1.77		
										3	43.89		
			9.2	4 22.6	4 39.2	43.1	46.7	50.6	54.2	4	4676		
	κ										−60.984		
	((δ) − D) $\frac{\kappa'}{100}$								−1 1.35		− 40		
	a_2										− 3		
										3	45.43		
											−1.48		
										3	43.9x	3	
	4 39	53 32	8.6	5 10.8	5 36.7	40.2	~~42.8~~ 44.0	47.2	50.8	5	4378		
	4 1.9	27.1	9.0	15.9							−55.41		
	κ			18.4					− 55.90		− 46		
	((δ) − D) $\frac{\kappa'}{100}$		7.7	15.0							− 3	4 47.88	
	4 8.8	53 26.6		5 47.9	5 42.8	46.1	49.6	53.2	56.7	5	4768	−1.82	
	a_1								−55.90		− 55.41	4 46.06	
											− 46		
											− 3	4 53.78	
			8.6	5 54.9	5 41.8	45.2	48.9	~~52.2~~ 52.2	~~56.9~~ 53.5	5	~~49.10~~ 48.72	−1.82 1	
	κ										−60.984	~~53.96~~ 52.96	
	((δ) − D) $\frac{\kappa'}{100}$								−1 1.34		− 38		
			7.9	5 16.9	5 47.9	~~52.2~~	~~55.5~~	59.0	2.0	5	~~5495~~ ~~55.511~~	4 47.78 38	
	a_2			20.0	54.8				55.1		−60.984	− 1.56	
				22.0					−1 1.34	4	~~46.10~~ 46.20	45.82	
				19.6							− 38		
											− 3	4 ~~54.01~~ 53.61	
	3 30	53 55	7.2	6 18.6	6 26.8	30.3	33.7	37.4	40.9	6	3382	−1.35	
	4 52.3	50.7	7.7	21.0							~~4 53.62~~	~~75~~ = 45206	
	κ			28.7					− 53.91		−55.41		
	((δ) − D) $\frac{\kappa'}{100}$			21.1							− 47		
	a_1										− 3		
										5	37.91		
											−1.82		
										5	36.09		
			7.7	6 28.3	6 32.0	35.3	38.9	42.5	45.8	6	38.90		
	κ			31.0							−60.984		
	((δ) − D) $\frac{\kappa'}{100}$			34.6					−1 1.34		− 38		
	a_2			31.3							− 3		
										5	37.59		
											−1.53		
										5	36.06 1		

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+16.86	0 1.1	17.9	19.0	5, 0 9.50	17	38.85		5−	53 1 10.62	
	1.22686					53 1	24.16			− 8	+11.37
d	9.77930						− 13.54			− 2	
	1.13168n									+10.97	
((δ) − D) $\frac{d'}{100}$										+ 50	
										−26.80	
δ_1										0 55.19	
	+19.16	0 1.5	11.1	12.6	5 0 6.30	17	42.05		5−	1 11.15	
	1.28240					53 1	26.54			− 9	+11.65
d	9.77930						− 15.39			− 1	
	1.18722n									+11.25	
((δ) − D) $\frac{d'}{100}$										+ 50	
										−27.90	
δ_2										0 54.90	
	+ 30.16	4 8.5	24.8	33.3	44 4 16.65	38	31.70		40	50 21 51.33	21 57.27
	1.47943					50 22	19.X1901			− 25	+7.78 − 14 +7.89
d	9.80473						− 25.68			− 55	− 55
	1.40968n						− 19.74			+ 8.19	+ 8.19
((δ) − D) $\frac{d'}{100}$	+2318									+ 39	+ 39
	1.36511									−2660	−2660
δ_1	9.80473									21 34.51	21 40.56
	1.29536n									32.51	38.56
	+27.66	4 11.5	21.7	33.2	44 4 16.60	38	31.75		40	21 52.68	21 57.81
	1.44185					50 22	16.24			− 21	+8.07 − 12 +8.16
d	9.80473						− 23.56			− 51	− 51
	1.37210n						− 18.43			+ 8.42	+ 8.42
((δ) − D) $\frac{d'}{100}$	+21.64									+ 37	+ 37
	1.33526									−27.70	−2770
δ_2	9.80473									21 33.05	21 38.24
	1.26551n										
	+24.58	0 16.0	32.9	48.9	10 0 24.45	12	23.90		10	54 55 50.36	
	1.39058					54 56	9.21			− 15	+13.40
d	9.75931						− 18.85			− 5	
	1.27541n									+13.00	
((δ) − D) $\frac{d'}{100}$										+ 60	
										−27.00	
δ_1										55 36.76	
	+24.16	0 18.1	28.1	46.20	10 23.10	12	25.25		10	55 51.21	
	1.38310					54 56	9.74			− 15	+13.78
d	9.75931						− 18.53			− 5	
	1.26793n									+13.38	
((δ) − D) $\frac{d'}{100}$										+ 60	
										−28.30	
δ_2										55 36.69	
										34 0.31	29.64
− 4.1	+28.78	2 28.7	44.5	73.2	32 2 36.60	50	11.75		30	53 33 34.23	33 55.65
0.61278n	1.45909					53 33	57.06			− 1	+11.76 − 31 +11.46
9.77387	9.77087						− 22.83			− 34	− 34
0.51217	1.35848n						+ 5.75			+11.55	+ 11.55
((δ) − D) $\frac{d'}{100}$	+1.78						− 7.41			+ 56	+ 56
+34.7	0.25042						− 27.52			−2700	−27.00
1.54 8033	9.77387									33 45.07	33 14.00
9.77387	0.14981n										
1.43972n	−5.80618 2	29.3	38.9	68.2	32 2 34.10	50	14.25		30	34 3.14 3.64	33 30.43 71
	0.46 3.46 2n					53 33	58.74			− 1 +12.12	− 33 +11.80
d	9.77370						+ 4.60 90			− 31	− 31
	0.66265 0.69021						− 28.01 03			+11.88	+ 11.88
((δ) − D) $\frac{d'}{100}$	+ 35.7 35.35									+ 56	+ 56
	1.5 4 8 8 79									−2820	−28.20
δ_2	9.77370									33 47.06	33 14.03 31
	1.45 1 89 1.45 87									56	
	+12.42	4 24.7	41.2	65.9	9 4 32.95	13	15.40		5−	53 56 50.72	
	1.10449					53 57	0.71			− 5	+11.90
d	9.76974						− 9.99			− 59	
	0.99975n									+11.93	
((δ) − D) $\frac{d'}{100}$										+ 59	
										−2700	
δ_1										56 35.62	
	+460	4 30.7	39.4	10.1	9 4 3.05	13	13.31		5−	56 51.82	
	0.88081					53 56	57.79			− 2	+13.33
d	9.76974						− 5.97			− 55	
	0.77607n									+13.30	
((δ) − D) $\frac{d'}{100}$										+ 60	
										−28.20	
δ_2										56 36.95	

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Date$_1$ = Oct. 27 Observer / Recorder — Date$_2$ = Nov. 6 Observer / Recorder

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
22	7 33	53 47	8.5	22 8 8.3	8 30.3	33.9	37.2	40.9	44.2	8	37.30		
	6 55.8	42.2	8.8	7.5							-55.41		
	κ			10.3							- 46		
	((δ) — D) $\frac{\kappa'}{100}$			7.0					- 55.90		- 1 3		
	α_1									7	40.40		
											-1.86		
										7	39.54		
			8.4	8 7.8	8 35.2	39.0	42.4	46.1	49.6	8	42.46		
				10.8							-60.9 84		
	κ			13.2							- 38		
	((δ) — D) $\frac{\kappa'}{100}$			10.6					-1 1.34		- 3		
	α_2									7	41.15		
											-1.58		
										7	39.58	4	
	9 03	52 38	7.5	9 38.2	10 1.2	4.6	8.0	11.5	14.9	10	8.04		
	8 25.1	52 33.1	7.6	41.7							-55.41		
	κ			44.3							- 44		
	((δ) — D) $\frac{\kappa'}{100}$			41.4					- 55.87		- 2		
	α_1									9	12.17		
											-1.90		
										9	10.27		
			7.7	9 39.9	10 6.4	9.9	13.2	16.7	20.0	10	13.24		
				42.2							-60.9 84		
	κ			46.1							- 36		
	((δ) — D) $\frac{\kappa'}{100}$			42.7					-1 1.31		- 2		
	α_2									9	11.96		
											-1.64		
										9	10.28	9	
	10 09	53 50	8.6	10 39.9	11 6.9	10.2	13.6	17.3	20.8	11	13.76		
	9 31.4	53 45.9	8.8	42.9	+0.2						-55.41		
	κ			45.6							- 46		
	((δ) — D) $\frac{\kappa'}{100}$			42.7					- 55.90		- 3		
	α_1									10	17.86		
											-1.88		
										10	15.98		
			8.9	10 42.2	11 11.8	15.4	18.7	22.4	26.0	11	18.86		
				46.1							-60.9 85		
	κ			49.0							- 38		
	((δ) — D) $\frac{\kappa'}{100}$			45.8					-1 1.35		- 3		
	α_2									10	17.54		
											-1.61		
										10	15.59		
											90		
	11 29	52 4	9.4	12 3.3	12 21.7	30.4	33.8	37.0	40.1	12	33.60		
	10 50.2	51 ~~7.8~~ 5	8.8	7.0							-55.41		
	κ			9.6							- 44		
	((δ) — D) $\frac{\kappa'}{100}$			6.6					- 55.87		- 2		
	α_1									11	37.73		
											-1.96		
										11	35.77		
			8.9	12 6.0	12 31.7	34.9	38.6	41.9	45.2	12	38.46		
				9.0							-60.9 85		
	κ			11.4							- 36		
	((δ) — D) $\frac{\kappa'}{100}$			8.8					- 1 1.32		- 8 2		
	α_2									11	37.17		
											-1.69	5	
										11	35.48		

Nov. 6 — Single Observations

21	33	31	52 27	8.7	21 34 28.3	34 34.5	38.0	41.4	44.7	48.2	34	44.36	
	32	57.7	22.5	8.8	32.2							-60.87 93	
	κ				34.9							- ~~77~~ 36	
	((δ) — D) $\frac{\kappa'}{100}$				31.8					-1 1.29	33	- 7	
	α_1											40.11	
												-1.21	
											33	38.84	6
Nov. 6													
21	35	33	52 44	9.0	21 36 20.4	36 36.4	39.7	42.9	46.8	50.0	36	43.16	
	34	59.2	40.0	7.0	24.1							-60.87 93	
	κ				26.9							- 36	
	((δ) — D) $\frac{\kappa'}{100}$				23.8					-1 1.30		- 2	
Nov. 6											35	41.91	
22	13	03	51 26	9.0	22 13 45.2	14 7.5	10.9	14.1	17.3	20.8			
	12 α_2	24.5	22.3	8.9	48.4								
					57.0								
Nov. 6					48.1					-1 1.33			
22	14	08	51 29	8.5	22 14 46.0	15 12.5	15.8	19.0	22.3	25.9			
	13	29.4	28.7	8.5	49.2								

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+30.90	2	41.9	58.1	100.0	17 21 50.00	4	58.35		15	53 48 19.77	
	1.48144					53 48	43.66				− 24	+11.76
d	9.77130						− 23.89				− 37	
	1.37826 m										+11.79	
$((\delta) - D)\frac{d'}{100}$											+ 58	
											−27.10	
δ_1											48 4.43	
	+31.86	2	45.0	52.1	97.1	17 2 48.55	4	59.80		15	48 19.17	
	1.50325					53 48	44.29				− 27	+12.11
d	9.77130						− 25.12				− 33	
	1.40007 m										+12.13	
$((\delta) - D)\frac{d'}{100}$											+ 58	
											−28.30	
δ_2											48 2.98	
	+26.64	1	52.0	8.4	120.4	27 2 0.20	55	48.15		25	52 39 11.88	
	1.42553					52 39	33.46				− 19	+10.63
d	9.78296						− 21.58				− 26	
	1.33401 m										+10.68	
$((\delta) - D)\frac{d'}{100}$											+ 50	
											~~38~~ −27.10	
δ_1											~~39~~ 55.41	
	+30.54	1	50.8	59.4	10.2	26 1 55.10	55	53.25		25	39 13.00	
	1.48487					52 39	37.74				− 25	+10.88
d	9.78296						− 24.74				− 23	
	1.39335 m										+10.88	
$((\delta) - D)\frac{d'}{100}$											+ 48	
											−28.30	
δ_2											38 55.58	
	+31.06	3	52.3	8.0	120.3	14 4 0.15	8	48.20		10	53 52 9.06	
	1.49220					53 52	33.51				− 25	+11.69
d	9.77061						− 24.45				− 52	
	1.38833 m										+11.87	
$((\delta) - D)\frac{d'}{100}$											+ 59	
											−27.20	
δ_1											~~37~~ ~~49.49~~ 53.55	
	+33.06	3	52.2	0.9	113.1	13 3 56.55	8	51.80		10	52 10.26	
	1.51930					53 52	36.29				− 28	+12.04
d	9.77061						− 26.03				− 47	
	1.41543 m										+12.20	
$((\delta) - D)\frac{d'}{100}$											+ 59	
											−28.50	
δ_2											51 53.80	
	+27.00	4	51.6	8.4	120.0	00 5 0.00	22	48.35		55	52 6 11.52	
	1.43136					52 6	33.66				− 19	+9.66
d	9.78837						− 22.14				− 65	
	1.34525 m										+10.00	
$((\delta) - D)\frac{d'}{100}$											+ 50	
											−27.10	
δ_1											5 54.08	
	+29.66	4	51.0	59.8	10.8	59 4 55.40	22	52.95		55	6 13.11	
	1.47217					52 6	37.44				− 23	+9.92
d	9.78887						− 24.33				− 57	
	1.38606 m										+10.29	
$((\delta) - D)\frac{d'}{100}$											+ 45	
											−28.30	
δ_2											5 54.73	
	+9.56	3	14.3	22.1	36.4	38 3 18.20	44	30.15		35	52 28 6.86	52 45 20.49
	0.98046					52 28	14.64				− 2	− 10
d	9.78478						− 7.78				− 40	− 11
	0.89076 m										+10.67	+10.98
$((\delta) - D)\frac{d'}{100}$											+ 47	+ 49
											−26.20	−26.40
δ_1											27 51.38	45 5.35
	+19.36	0	51.9	1.5	113.4	20 0 56.70	1	51.65		20	28 31.61	57 29 55.97
	1.28691					52 45	36.14				− 18	− 24
d	9.78197						− 15.65				− 32	− 14
	1.19440 m										~~+10.71~~ 9.64	+ 9.65
$((\delta) - D)\frac{d'}{100}$											+ 47	+ 42
	+26.02	2	34.1	45.1	79.2	34 2 39.60	45	8.75		35	−28.30	−28.40
δ_2	1.41531					57 28	58.24				6	5
	9.79431						− 21.63				28 12.62	29 37.16
	1.34962 m					36						
	+30.10	1	6.8	16.9	23.7	1 11.85	46	36.50		35		
	1.47857					51 30	20.99					

Encountants

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444

Date$_1$ = Nov. 20 u = −.23 Observer W.A.R. Recorder J.F.M.

445

Date$_2$ = Nov. 22 u = −.27 Observer W.A.R. Recorder J.F.M.

Star. α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
33 35 24 52 10		9.0	23 35 30.5	35 36.3	39.0	42.3	45.7	49.1	35 42.34			
34 36.0 4.5		9.0	33.4						− 6.38			
κ			37.0						− 30			
								− 6.70	− 2			
((δ) − D) $\frac{\kappa'}{100}$			33.6						35 35.78			
									− 2.50			
α_1									35 33.28	14		
		8.8	35 18.3	35 35.1	38.6	41.9	45.3	48.7	35 49.2			
			22.1						+.015 − 6.064			
κ			25.3						− 35			
								− 6.40	− 2			
((δ) − D) $\frac{\kappa'}{100}$			21.9					−	35 35.49			
									− 2.46			
α_2									35 33.056			
36 41 52 24		9.5	36 43.4	36 55.4	58.4	2.1	5.3	8.9	37 2.02			
35 53.9 18.7		9.2	47.3						− 6.38			
κ			49.5						− 30			
								− 6.70	− 2			
((δ) − D) $\frac{\kappa'}{100}$			46.7						36 55.32			
									− 2.52			
α_1									36 52.80			
		9.1	36 35.2	36 54.6	58.1	1.4	4.9	8.4	37 1.48			
			38.1						− 6.064			
κ			41.5						− 35			
								− 6.39	− 2			
((δ) − D) $\frac{\kappa'}{100}$			38.3						36 55.05			
									− 2.48			
α_2									36 52.57			
38 16 54 47		8.3	38 2.2	38 26.6	30.2	33.9	37.4	41.0	38 33.82			
37 27.9 40.6		7.7	5.3						− 6.38			
κ			8.4						− 32			
								− 6.73	− 3			
((δ) − D) $\frac{\kappa'}{100}$			5.3						38 27.09			
									− 2.51			
α_1									38 24.58			
		8.2	38 9.0	38 26.3	29.7	33.2	36.9	40.4	38 33.30			
			13.0						− 6.064			
κ			15.8						− 38			
								− 6.44	− 3			
((δ) − D) $\frac{\kappa'}{100}$			12.6						38 26.83			
									− 2.46			
α_2									38 24.37			
41 53 52 34		9.0	41 58.0	42 15.1	18.6	21.9	25.3	28.4	42 21.86			
40 44 28.7		9.1	0.6						− 6.38			
κ			4.1						− 30			
41 14.3	3							− 6.70	− 2			
((δ) − D) $\frac{\kappa'}{100}$			60.9						42 15.16			
									− 2.60			
α_1									42 12.56			
40 47.6 52 29.8		8.8	41 24.3	41 48.8	52.1	55.7	59.0	2.4	41 55.60			
			27.9						− 6.064			
κ			30.7						− 35			
								− 6.39	− 2			
((δ) − D) $\frac{\kappa'}{100}$			27.6						41 49.17			
									− 2.585			
α_2									41 46.646			
50 52 54 27		8.7	50 54.2	51 4.3	7.9	11.5	15.0	18.6	51 11.46			
50 2.3 21.5		8.8							− 6.38			
κ									− 32			
								− 6.73	− 3			
((δ) − D) $\frac{\kappa'}{100}$									51 4.73			
									− 2.72			
α_1									51 2.01			
		8.8	50 45.6	51 3.8	7.5	11.1	14.5	18.1	51 11.00			
			49.8						− 6.064			
κ			52.0						− 38			
								− 6.44	− 3			
((δ) − D) $\frac{\kappa'}{100}$			49.1						51 4.53			
									− 2.67			
α_2									51 1.86			

Add +.015 to (ΔT+m) for Nov 22 U- has been added to sum 3 correlations, and to final R.A

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Nov. 20 −16′ 14.″62 −.11

Runs Nov. 22 −16 13.44 −.11

	$T_m - T_8$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+8.88	4	42.8	50.7	93.5	54 4 46.75	28	1.60		50	52 11 39.71	
	0.94841					52 11	46.98				− 2	+10.38
d	9.78756						− 7.27				− 52	
$((\delta) - D)\frac{d'}{100}$	0.86149m										+10.42	
											+ 50	
δ_1											−32.80	
											11 17.29	
	+20.92	4	36.0	41.7	77.7	54 4 38.85	28	9.50		50	11 39.67	
	1.30146					52 11	46.06				− 11	+10.81
d	9.78756						− 16.39				− 50	
$((\delta) - D)\frac{d'}{100}$	1.21454m										+10.92	
											+ 50	
δ_2											−33.00	
											11 17.48	
	+15.32	0	35.2	44.9	80.1	40 0 40.05	42	8.30		40	52 25 41.21	
	1.18526					52 25	53.68				− 6	+11.04
d	9.78510						−12.47				− 7	
$((\delta) - D)\frac{d'}{100}$	1.09588m										+10.67	
											+ 50	
δ_1											−32.80	
											25 19.45	
	+23.18	0	32.9	38.1	11.0	40 0 35.50	42	12.85		40	25 40.54	
	1.36511					52 25	59.41				− 14	+11.46
d	9.78510						−18.87				− 6	
$((\delta) - D)\frac{d'}{100}$	1.27573m										+11.16	
											+ 50	
δ_2											−33.00	
											25 19.00	
	+28.52	2	57.2	4.9	122.1	18 3 1.05	41	47.30		15	54 48 10.73	
	1.45515					54 48	32.68				− 21	+13.32
d	9.76075						− 21.95				− 33	
$((\delta) - D)\frac{d'}{100}$	1.34142m										+13.26	
											+ 60	
δ_1											−33.20	
											47 50.85	
	+20.70	3	7.4	11.8	19.2	18 3 9.60	41	38.75		15	48 9.38	
	1.31597					54 48	25.31				− 11	+14.03
d	9.76075						−15.93				− 35	
$((\delta) - D)\frac{d'}{100}$	1.20224m										+13.89	
											+ 60	
δ_2											−33.40	
											48 50.01	
	+20.96	1	10.5	18.3	8.8	31 1 14.40	51	33.95		30	52 35 2.33	✓
	1.32139					52 35	19.33				− 12	+11.09
d	9.78362						−17.00				− 14	
$((\delta) - D)\frac{d'}{100}$	1.23053m										+10.85	
											+ 50	
δ_1											−32.90	
											34 46.52	
	+28.00	4	21.9	24.9	46.8	29 4 23.40	53	24.95		25	36 48.81	✓
	1.44716					52 37	11.51				− 21	+11.19
d	9.78329						− 22.70				− 49	
$((\delta) - D)\frac{d'}{100}$	1.35597m										+11.39	
											+ 50	
δ_2											−33.20	
											36 26.80	
	+17.26	3	50.1	56.9	7.0	38 3 53.50	43	54.85		35	54 27 26.83	
	1.23704					54 27	40.23				− 7	+13.00
d	9.76448						− 13.40				− 43	
$((\delta) - D)\frac{d'}{100}$	1.12704m										+12.90	
											+ 60	
δ_1											−33.30	
											27 6.53	
	+21.90	3	49.5	52.9	102.4	38 3 51.20	43	57.15		35	27 26.71	
	1.34044					54 27	48.71				− 12	+12.53
d	9.76448						−17.00				− 42	
$((\delta) - D)\frac{d'}{100}$	1.23044m										+12.49	
											+ 60	
δ_2											−33.60	
											27 5.66	

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Date$_1$ = 444 Dec 20 Observer Recorder

Date$_2$ = 445 Dec 22 Observer Recorder

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Ru

Star. α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
12 12	52 41	7.5	28 52 56	52 24.5	27.8	31.2	34.7	38.2	52	31.28		
57 22.0	35.0	7.5	9.2							− 6.38		
κ			11.6							− 30		
			8.8					− 6.70		− 2		
((δ) − D) $\frac{\kappa'}{100}$									52	24.58		
										−2.75		
α_1									52	~~20.83~~ 21.83		
		7.5	52 2.9	52 24.0	27.4	30.8	34.2	37.7	52	3.82		
			6.2							− 6.054		
κ			9.4							− 35		
			6.2					− 6.39		− 2		
((δ) − D) $\frac{\kappa'}{100}$									52	24.40		
										−2.71		
α_2									52	~~39.44~~ 21.78		
52 57	54 25	8.6	52 57.4	53 11.3	14.7	18.3	21.8	25.4	53	1830		
52 7.0	19.1	8.8	1.0							− 6.38		
κ			3.3							− 32		
			60.6					− 6.73		− 3		
((δ) − D) $\frac{\kappa'}{100}$									53	11.57		
										−2.75		
α_1									53	8.82		
		8.8	52 55.8	53 10.8	14.7	18.0	21.5	25.3	53	1800		
			59.0							− 6.054		
κ			1.7							− 38		
			58.8					− 6.441		− 3		
((δ) − D) $\frac{\kappa'}{100}$									53	11.54		
										−2.71		
α_2									53	8.83 5		
53 46	54 44	8.6	53 53.7	54 2.4	6.0	9.3	13.1	16.6	54	9.48		
52 56.4	38.4	8.8	58.6							− 6.38		
κ			1.4							− 32		
			58.6					− 6.73		− 3		
((δ) − D) $\frac{\kappa'}{100}$									54	2.75		
										−2.76		
α_1									53 ~~54~~	~~4.99~~ 59.99		
		8.8	53 49.8	54 2.0	5.8	9.2	12.5	16.4	54	9.12		
			52.8							− 6.054		
κ			53.3							− 38		
			52.7					− 6.43		− 3		
((δ) − D) $\frac{\kappa'}{100}$									54	2.66		
										−2.72		
α_2									53	59.98 5		
53 38	54 19	9.5	55 33.2	55 34.5	38.1	41.2	45.0	48.6	55	41.48		
54 47.8	11.1	9.0	36.3							− 6.38		
κ			38.6							− 32		
			36.0					− 6.73		− 3	55 34.75	
((δ) − D) $\frac{\kappa'}{100}$		8.4	56 13.0	55 52.0	55.6	59.1	2.5	6.2	55	59.08	−2.79	
			14.1							− 6.38	55 31.96	
			19.9					− 6.73		− 32		
α_1			16.3							− 3	55 52.35	
		8.8	55 31.8	55 51.3	55.1	58.6	2.1	6.1	55	58.64	−2.79	
			34.8							− 6.054	55 49.56	
κ			38.0							− 37		
			34.9					− 6.43		− 3		
((δ) − D) $\frac{\kappa'}{100}$									55	52.19		
										−2.75		
α_2									~~55~~	~~49.45~~ 6		
56 52	54 51	6.9	56 46.0	57 5.2	8.8	12.5	15.0	19.7	57	12.24		
56 1.9	44.9	7.9	49.7							− 6.38		
κ			52.4							− 32		
			49.5					− 6.73		− 3		
((δ) − D) $\frac{\kappa'}{100}$									57	5.51		
										−2.80		
α_1									57	2.71		
		7.0	56 51.0	57 4.8	8.3	11.8	15.6	18.9	57	11.88		
			54.5							− 6.054		
κ			56.7							− 38		
			54.0 1					− 6.43		− 3		
((δ) − D) $\frac{\kappa'}{100}$									57	5.42		
										−2.76		
α_2									57	2.67 9		

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Runs

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	$T_m - T_S$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+22.48	4	20.5	26.9	7.4	24 4 23.70	58	24.65		20	52 41 51.84	
	1.35180						52 42	10.03			− 13	+10.42
d	9.78246							−18.19			− 49	
	1.25978 m										+10.98	
$((\delta) - D)\frac{d'}{100}$											+ 50	
											−33.10	
δ_1											41 29.60	
						24						
	+24.62	4	22.2	25.9	8.1	4 24.05	58	24.30		20	41 50.94	
	1.39129						52 42	10.86			− 16	+11.31
d	9.78246							−19.92			− 49	
	1.29927 m										+11.46	
$((\delta) - D)\frac{d'}{100}$											+ 50	
											−33.30	
δ_2											41 28.95	
						40						
	+17.70	0	33.6	42.6	76.2	0 38.10	42	10.25		40	54 25 41.88	
	1.24997						54 25	55.63			− 8	+13.33
d	9.76466							−13.75			− 7	
	1.13815 m										+12.88	
$((\delta) - D)\frac{d'}{100}$											+ 60	
											−33.30	
δ_1							+60				25 21.91	
						40						
	+19.20	0	37.1	42.0	79.1	0 39.55	42	8.80		40	25 40.45	
	1.28330						54 25	55.36			− 9	+13.91
d	9.76466							−14.91			− 8	
	1.17348 m										+13.48	
$((\delta) - D)\frac{d'}{100}$											+ 60	
											−33.60	
δ_2											25 20.16	
						20						
	+1088	0	21.2	30.1	51.3	0 25.65	2	22.70		20	54 45 59.70	
	1.03663						54 46	8.08			− 3	+13.76
d	9.76111							− 8.38			− 5	
	0.92326 m										+13.24	
$((\delta) - D)\frac{d'}{100}$											+ 60	
											−33.40	
δ_1											45 40.06	
						20						
	+1642	0	20.7	25.5	6.2	0 23.10	2	25.25		20	45 59.16	
	1.21537						54 46	11.81			− 7	+14.34
d	9.76111							−12.65			− 5	
	1.10200 m										+13.86	
$((\delta) - D)\frac{d'}{100}$											+ 60	
											−33.60	
δ_2											45 39.90	
						49						
	+548	3	59.5	7.2	126.7	4 3.35	33	45.00		45	54 17 26.11	18 34.89
	0.73878	54	17 26.11	54	18 34.89		54 17	30.38			− 1	− 7
d	9.76625		+12.85		+12.85			− 4.27			− 45	− 35
	0.63055 m										+12.71	+12.71
$((\delta) - D)\frac{d'}{100}$	−1722	3	8.0	16.5	24.5	48 3 12.25	34	36.10		45	+ 60	+ 60
	1.23603 m						54 18	21.48			−33.30	−33.30
δ_1	9.76590							+ 13.41			17 56.61	18 14.48
	1.12745					47						
	+23.74	2	39.5	44.5	84.0	2 42.00	35	6.35		45	18 34.41	
	1.37548						54 18	52.91			− 15	+13.51
d	9.76607							− 18.50			− 29	
	1.26707 m										+13.85	
$((\delta) - D)\frac{d'}{100}$											+ 60	
											−33.60	
δ_2											18 14.32	
						14						
	+22.74	4	34.3	41.9	76.2	4 38.10	8	10.25		10	54 51 38.16	
	1.35679						54 51	55.63			− 14	+13.30
d	9.76003							−17.47			− 51	
	1.24234 m										+13.35	
$((\delta) - D)\frac{d'}{100}$											+ 60	
											−33.40	
δ_1											51 18.06	
						14						
	+17.78	4	41.7	44.9	6.6	4 43.30	8	5.05		10	51 37.95	
	1.24993						54 51	51.61			− 8	+13.97
d	9.76003							−13.66			− 52	
	1.13548 m										+13.97	
$((\delta) - D)\frac{d'}{100}$											+ 60	
											−33.30	
δ_2											51 18.22	

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Date$_1$ = Nov. 20 Observer Recorder — Date$_2$ = Nov. 22 Observer Recorder — 94

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
3	58 19	54 27	8.7	28 57 58.2	58 22.0	25.6	29.1	32.9	36.3	58	2918		
	57 18.7	21.5	9.6	1.4							− 6.39		
	κ			4.1							− 32		
				61.2					− 6.74		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									58	22.44		
	a_1										− 2.83		
										58	19.61		
			8.9	58 4.1	58 21.6	25.2	28.8	32.3	35.8	58	28.74		
				8.1							− 6.064		
	κ			11.5							− 38		
				7.9					− 6.44		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									58	22.28		
	a_2										− 2.78		
										58	19.502		
	59 02	55 00	7.2	58 58.6	59 15.4	19.1	22.6	26.2	29.8	59	2262		
	58 12.0	54 53.6	7.0	1.5							− 6.39		
	κ			4.6							− 33		
				61.6					− 6.75		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									59	15.87		
	a_1										− 2.84		
										59	13.03		
			7.3	58 55.9	59 15.0	18.4	22.2	26.4	29.2	59	2204		
				0.3							− 6.064		
	κ			2.5							− 39		
				59.6					− 6.444		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									59	15.57		
	a_2										− 2.80		
										59	12.780		
	39 46	54 56	8.5	0 0 37.9	0 58.0	1.4	5.0	8.7	12.4	1	510		
	59 55.1	58.0	8.8	40.5							− 6.39		
	κ			43.9							− 33		
				40.8					− 6.75		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									0	58.35		
	a_1										− 2.87		
										0	55.48		
			9.0	0 30.0	0 57.4	1.0	4.7	8.4	11.7	1	464		
				33.1							− 6.064		
	κ			36.4							− 39		
				33.2					− 6.45		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									0	58.17		
	a_2										− 2.83		
										0	55.346		
0	1 11	54 52	7.8	1 37.6	1 22.6	26.2	29.9	33.4	37.2	1	29.86		
	0 17.9	45.7	7.9	40.7							− 6.39		
	κ			44.0							− 33		
				40.8					− 6.75		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									1	23.11		
	a_1										− 2.87		
										1	20.24		
			7.4	1 45.3	1 22.2	25.8	29.4	32.8	36.8	1	29.34		
				48.2							− 6.064		
	κ			51.2							− 39		
				48.4					− 6.444		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									1	22.87		
	a_2										− 2.83		
										1	20.047		
	4 03	54 38	7.8	4 3.8	4 17.2	20.7	24.3	27.8	31.3	4	2426		
	3 10.9	32.4	7.8	7.0							− 6.39		
	κ			10.1							− 32		
				7.0					− 6.74		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									4	17.52		
	a_1										− 2.92		
										4	14.680		
			8.2	4 4.1	4 16.6	20.5	24.1	27.2	31.0	4	2388		
				7.7							− 6.064		
	κ			11.4							− 38		
				7.9					− 6.444		− 3		
	((δ) − D) $\frac{\kappa'}{100}$									4	17.42		
	a_2										− 2.88		
										4	14.556		

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Runs

	$T_m - T_s$		A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+27.98	1	35.6	43.9	79.5	36′ 39.75″	46	8.60		35-	54 29 32.28	
d	1.44685						54 29	53.98			− 20	+13.18
	9.76413							− 21.70			− 18	
((δ) − D) $\frac{d'}{100}$	1.33650 m										+12.96	
											+ 60	
δ_1											−33.40	
											29 12.06	
	+20.84	1	45.1	48.7	138	36 1 46.90	46	1.45		35-	29 31.85	
d	1.31890						54 29	48.01			− 11	+13.86
	9.76413							− 16.16			− 19	
((δ) − D) $\frac{d'}{100}$	1.20855 m										+13.56	
											+ 60	
δ_2											−33.60	
											29 12.11	
	+21.02	0	4.1	12.9	17.0	5 0 8.50	17	39.85		5-	55 1 9.14	
d	1.32263						55 1	25.23			− 11	+14.00
	9.75841							− 16.09			− 2	
((δ) − D) $\frac{d'}{100}$	1.20656 m										+13.53	
											+ 60	
δ_1											−33.40	
											0 49.74	
	+22.44	0	6.0	11.1	17.1	5 0 8.55	17	39.80		3-	55 1 9.18	
d	1.35102						53 1	26.36			− 13	+14.59
	9.75841							− 17.18			− 2	
((δ) − D) $\frac{d'}{100}$	1.23495 m										+14.14	
											+ 60	
δ_2											−33.70	
											0 50.07	
	+24.30	3	18.4	26.0	44.4	8 3 22.20	14	26.15		3-	54 57 52.91	
d	1.38561						54 58	11.53			− 15	+13.55
	9.75895							− 18.62			− 37	
((δ) − D) $\frac{d'}{100}$	1.27008 m										+13.47	
											+ 60	
δ_1											−33.40	
											57 33.06	
	+31.44	3	17.9	22.1	40.0	8 3 20.00	14	28.35		5-	57 50.81	
d	1.49748						54 58	14.91			− 25	+14.09
	9.75895							− 24.10			− 37	
((δ) − D) $\frac{d'}{100}$	1.38195 m										+14.10	
											+ 60	
δ_2											−33.70	
											57 33.19	
	−10.9	3	27.8	35.0	62.8	13 3 31.40	9	16.95		10	54 53 10.70	
d	1.03743 m						54 53	2.33			− 4	+13.55
	9.75985							+ 8.37			− 39	
((δ) − D) $\frac{d'}{100}$	0.92280										+13.38	
											+ 60	
δ_1											−33.40	
											52 50.85	
	−19.1	3	37.1	41.5	78.6	13 3 39.30	9	9.05		10	53 10.28	
d	1.28103 m						54 52	55.61			− 9	+14.10
	9.75985							+ 14.67			− 40	
((δ) − D) $\frac{d'}{100}$	1.16640										+13.99	
											+ 60	
δ_2											−33.70	
											52 50.68	
	+19.96	2	6.6	14.0	20.6	27 2 10.30	55	38.05		25-	54 39 10.10	
d	1.23704						54 39	23.43			− 7	+13.41
	9.76236							− 13.33			− 24	
((δ) − D) $\frac{d'}{100}$	1.12492 m										+13.12	
											+ 60	
δ_1											−33.40	
											38 50.11	
	+15.98	2	11.1	15.0	6.1	07 2 13.05	55	35.30		25-	39 9.52	
d	1.20358						54 39	21.86			− 7	+14.02
	9.76236							− 12.34			− 24	
((δ) − D) $\frac{d'}{100}$	1.09146 m										+13.73	
											+ 60	
δ_2											−33.70	
											38 49.84	

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Date$_1$ = Nov 20 (244) Observer Recorder — Date$_2$ = Nov 22 (445) Observer Recorder — 96

Star.	α	δ	Mag.	T_δ	T_m	T_a	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
5	22	54 19	8.4	0 5 8.3	5 34.6	38.3	41.8	45.4	49.0	5	44.82		
4	29.6	54 12.6	8.5	12.1							− 6.39		
κ				14.8							− 32		
									− 6.74		− 3		
((δ) − D) $\frac{\kappa'}{100}$				11.7						5	35.08		
											− 2.94		
a_1										5	32.14		
			8.8	5 14.7	5 34.3	37.8	41.3	45.0	48.4	5	41.36		
X				18.4							− 6.084		
κ				21.4							− 37		
									− 6.42		− 3		
((δ) − D) $\frac{\kappa'}{100}$				18.3						5	34.91		
											− 2.90		
a_2										5	32.02	4	
Nov. 20				Single Observations.									
23 43	48	54 25	9.2	23 44 23.8	44 59.1	2.6	—	9.7	13.4	45	6.20		
42	57.7	18.6	9.5	26.6						44	− 6.38		
κ				30.6							− 32		
									− 6.73		− 3		
((δ) − D) $\frac{\kappa'}{100}$				43 26.8						44	59.47		
											− 2.62		
a_1										44	56.85		
Nov. 20													
43	45	54 45	9.0	45 39.7	45 53.3	56.9	0.2	4.0	7.5	46	0.36		
44	55.4	39.2	8.8	43.0							− 6.38		
κ				46.6							− 32		
									− 6.73		− 3		
((δ) − D) $\frac{\kappa'}{100}$				43.1						45	53.63		
											− 2.63		
a_2										45	51.08		
Nov. 20													
46	57	52 25	7.9	46 43.4	47 12.6	15.9	19.4	22.8	26.3	47	19.40		
46	11.1	19.2	8.3	46.4							− 6.38		
κ				49.2							− 30		
									− 6.70		− 2		
((δ) − D) $\frac{\kappa'}{100}$				46.3						47	12.70		
											− 2.67		
a_1										47	10.03		
Nov. 20													
47	58	54 44	8.2	47 45.0	47 49.5	53.0	56.5	0.0	3.6	47	56.52		
46	48.4	38.2	9.0	46.8							− 6.38		
κ				50.3							− 32		
									− 6.73		− 3		
((δ) − D) $\frac{\kappa'}{100}$				47.4						47	49.79		
											− 2.66		
a_2										47	47.13		
Nov. 20													
48	46	54 37	8.5	48 53.1	48 59.4	2.8	6.4	9.9	13.7	49	6.44		
47	56.3	31.2	9.0	56.2							− 6.38		
κ				59.7							− 32		
									− 6.73		− 3		
((δ) − D) $\frac{\kappa'}{100}$				56.3						48	59.71		
											− 2.68		
a_1										48	57.03		
Nov. 20													
49	45	54 28	8.5	50 58	49 56.3	0.0	3.7	7.3	10.8	60	3.67		
48	55.5	22.5	9.0	9.0							− 6.38		
κ				12.5							− 32		
									− 6.73		− 3		
((δ) − D) $\frac{\kappa'}{100}$				9.1						49	56.89		
											− 2.69		
a_2										49	54.20		
Nov. 22													
23 32	24	54 06	8.5	23 32 53.9	32 34.2	37.7	41.2	44.5	48.1	32	41.14		
31	35.7	0.6	8.5								− 6.049		
κ											− 37		
									− 6.43		− 3		
((δ) − D) $\frac{\kappa'}{100}$										32	34.68		
											− 2.39		
a_1										32	32.32	2	
Nov. 22													
33	09	54 35	9.0	33 16.0	33 22.1	25.4	29.0	32.5	36.4	33	29.08		
32	21.0	29.2	9.2	19.1							− 6.084		
κ				21.3							− 38		
									− 6.43		− 3		
((δ) − D) $\frac{\kappa'}{100}$				18.8						33	22.61		
											− 2.39		
a_2										33	20.24	6	

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Runs

E7

	$T_m - T_\delta$		A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+30.12	1	9.9	18.5	28.4	46 1 14.20	36	34.15		45	54 19 56.08	
	1.47885						54 20	19.53			− 23	+13.01
d	9.76572							−23.45			− 14	
	1.37009 n										+12.78	
((δ) − D) $\frac{d'}{100}$											+ 60	
											−33.40	
δ_1											19 35.69	
	+23.06	1	18.9	23.4	42.3	46 1 21.15	36	27.20		45	19 55.81	
	1.36286						54 20	13.76			− 14	+13.67
d	9.76572							−17.95			− 15	
	1.25410 n										+13.36	
((δ) − D) $\frac{d'}{100}$											+ 60	
											−33.70	
δ_2											19 35.78	
	+39.4	1	12.9	20.4	33.3	41 1 16.65	41	31.70		40	54 24 46.47	
	1.59550						54 25	17.08			− 41	+12.95
d	9.76484							− 30.61			− 19	
	1.48586 n										+12.90	
((δ) − D) $\frac{d'}{100}$											+ 60	
											− 33.20	
δ_1											24 26.22	
	+17.26	2	3.9	11.1	15.0	17 2 7.50	5	40.85		15	54 49 12.95	
	1.23704						54 49	~~27.46.23~~			− 7	+13.57
d	9.76087							26.23			− 24	
	1.12313 n							− 13.28			+13.28	
((δ) − D) $\frac{d'}{100}$											+ 60	
											−33.20	
δ_2											48 53.32	
	+33.10	4	56.4	5.1	121.5	40 5 0.75	42	47.60		35	52 26 6.04	
	1.51983						52 26	32.98			− 29	+10.34
d	9.78510							− 26.94			− 55	
	1.43045 n										+10.68	
((δ) − D) $\frac{d'}{100}$											+ 50	
											−33.00	
δ_1											25 43.38	
	+9.12	1	20.8	28.6	9.4	21 1 24.70	1	23.65		20	54 45 2.00	
	0.95999						54 45	~~10.72~~ 9.03			− 2	+13.63
d	9.76129							− 7.03			− 16	
	0.84680 n										+13.21	
((δ) − D) $\frac{d'}{100}$											+ 60	
											−33.30	
δ_2											44 42.33	
	+10.14	3	16.2	24.0	40.2	28 3 20.10	54	28.25		25	54 38 5.79	
	1.00604						54 38	13.63			− 3	+13.28
d	9.76253							− 7.84			− 07	
	0.89409 n										+13.08	
((δ) − D) $\frac{d'}{100}$											+ 60	
											−33.30	
δ_1											37 45.77	
	−5.48 ~~4.52~~	1	44.8	51.1	95.9	36 1 47.95	46	040.38		85	54 29 50.03	
	0.73878 n						54 29	~~45.96~~			− 1	+13.35
d	9.76395							+ 4.25			− 19	
	0.62825										+12.95	
((δ) − D) $\frac{d'}{100}$											+ 60	
											−33.20	
δ_2											29 30.18	
	−12.76	4	24.3	27.9	12.24	59 4 ~~26.10~~ 27.24	23	~~22.25~~ 21.07		55	54 7 17.62	
	1.10585 n						54 7	7.63			− 4	+13.18
d	9.76800							+ 9.99			− 48	
	0.99937										+13.10	
((δ) − D) $\frac{d'}{100}$											+ 60	
											−33.20	
δ_1						30 53.13		54.67			6 57.60	
	+10.28	0	50.2	54.9	5.1	30 0 ~~52.55~~	51	~~55.60~~		30	54 35 33.23	
	1.01199						54 35	~~48.25~~ 47.18			− 3	+14.15
d	9.76289							− 7.95			− 9	
	0.90040 n										+13.67	
((δ) − D) $\frac{d'}{100}$											+ 60	
											−33.30	
δ_2											35 14.08	

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Date$_1$ = Nov 22 Observer / Recorder

Date$_2$ = Observer / Recorder

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Run

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
Nov. 22													
23	34	33 54 26	8.1	23 34 32.0	34 43.9	47.3	51.0	54.5	58.1	34 m 5	50.96		
33	44.9	20.4	7.9	35.5							− 6.04		
κ				37.7							− 38		
									− 6.44		− 3		
((δ) − D) $\frac{\kappa'}{100}$				35.7 1						38 4	44.49		
											−2.40		
a_1										38 4	42.18 2		
Nov. 22													
	39	46 54 20	8.7	39 29.2	39 58.6	1.8	5.9	9.4	13.1	40	5.76		
38	58.0	13.9	8.7	33.5							− 6.04		
κ				36.1							− 38		
									− 6.43		− 3		
((δ) − D) $\frac{\kappa'}{100}$				32.9						39	59.29		
											−2.51		
a_2										39	56.78 2		
Nov. 22													
0	2	04 53 06	8.5	0 2 31.9	2 15.2	18.9	22.0	25.4	29.0	2	22.10		
1	11.9	0.3	8.3	35.8							− 6.04		
κ				40.5							− 36		
									− 6.42		− 3		
((δ) − D) $\frac{\kappa'}{100}$				36.0 1						2	15.66		
											−2.85		
a_1										2	12.81 3		
Nov. 22													
	3	09 52 49	8.5	3 14.2	3 22.0	25.6	28.9	32.3	35.6	3	28.87		
2	17.1	43.5	8.5	17.8							− 6.04		
κ				20.5							− 35		
									− 6.39		− 2		
((δ) − D) $\frac{\kappa'}{100}$				17.5						3	22.46		
											−2.87		
a_2										3	19.63 2		
Nov. 22													
6	00	53 45	8.8	6 46.1	7 13.8	17.2	20.7	24.5	28.0	7	20.84		
6	8.1	39.4	8.2	48.7							− 6.04		
κ				50.6							− 36		
									− 6.42		− 3		
((δ) − D) $\frac{\kappa'}{100}$				48.5						7	14.40		
											−2.92		
a_1										7	11.48 50		
Nov. 22													
9	38	53 14	6.8	9 28.1	9 50.9	54.3	57.8	1.3	4.9	9	57.84		
8	45.8	8.3	7.0	31.9							− 6.04		
κ				35.2							− 36		
									− 6.41		− 3		
((δ) − D) $\frac{\kappa'}{100}$				31.7						9	51.40		
											−2.97		
a_2										9	48.43 6		
	10	25 54 17	7.5	10 25.9	10 39.7	43.5	46.7	50.4	54.0	10	46.86		
9	32.3	10.9	7.5	29.4							− 6.04		
κ				32.2							− 37		
									− 6.43		− 3		
((δ) − D) $\frac{\kappa'}{100}$				29.2						10	40.41		
											−2.98		
a_1										10	37.44 5		
	11	14 53 7	9.3	11 13.7	11 27.4	30.9	34.2	37.9	41.3	11	34.34		
10	21.1	1.4	9.0	16.4							− 6.04		
κ				19.5							− 36		
									− 6.41		− 3		
((δ) − D) $\frac{\kappa'}{100}$				16.6						11	27.90		
											−2.99		
a_2										11	24.98 4		
	12	48 54 59	8.4	12 26.4	13 0.8	4.4	8.0	11.6	15.4	13	8.04		
11	53.2	52.6	8.3	29.9							− 6.04		
κ				33.0							− 39		
									− 6.45		− 3		
((δ) − D) $\frac{\kappa'}{100}$				29.8						13	1.57		
											−3.02 7		
a_1										12	~~59.56~~ 58.55		
	14	13 52 43	9.5	14 14.1	14 27.6	31.1	34.8	38.2	41.4	14	34.62		
13	21.0	38.0	9.3	17.4							− 6.04		
κ				21.0							− 35		
									− 6.39		− 2		
((δ) − D) $\frac{\kappa'}{100}$				17.5						14	28.20		
											−3.04		
a_2										14	25.19 9		

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Runs

	$T_m - T_\delta$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+15.86	3	37.0	42.1	79.1	38					
	~~+44.14~~				3	39.55	44	8.80			
	1.20030					54 27	55.36		35	54 27 43.05	
d	9.76431						−12.31			− 7	+13.64
	1.09013 m									− 40	
$((\delta) - D)\frac{d'}{100}$										+13.51	
										+ 60	
δ_1										−3350	
										27 23.39	
					44						
	+32.86	4	50.5	54.7	5.2	4	52.60				
	1.51667					54 21	37	55.75	40	54 21 16.74	
d	9.76554						42.31			− 28	+13.15
	1.40773 m						−25.57			− 54	
$((\delta) - D)\frac{d'}{100}$										+13.37	
										+ 60	
δ_2										−3340	
										20 56.49	
					59						
	~~+14~~.00	4	18.0	21.4	39.4	4	19.70				
	1.14613 m					53 7	23	28.65	55	53 7 26.43	
d	9.77829						15.21			− 5	+11.96
	1.04994						+11.22			− 48	
$((\delta) - D)\frac{d'}{100}$										+11.98	
										+ 51	
δ_1										−3350	
										7 14.89	
					16						
	+11.38	1	8.0	12.0	20.0	1	10.00				
	1.05614					52 50	6	38.35	18	52 50 15.73	
d	9.78113						24.91			− 3	+11.99
	0.96279 m						− 9.18			− 13	
$((\delta) - D)\frac{d'}{100}$										+11.65	
										+ 50	
δ_2										−3340	
										49 54.32	
					19						
	+32.34	4	37.2	39.5	16.7	4	3885				
	1.50974					53 46	3	10.00	15	53 46 31.05	
d	9.77147						56.56			− 27	+12.54
	1.40673 m						−25.51			− 51	
$((\delta) - D)\frac{d'}{100}$										+12.74	
										+ 58	
δ_1										−3360	
										46 9.99	
					50						
	+26.14	0	48.0	51.5	99.5	0	49.75				
	1.41731					53 15	31	58.60	50	53 15 24.28	
d	9.77694						45.16			− 18	+12.40
	1.31977 m						−20.88			− 9	
$((\delta) - D)\frac{d'}{100}$										+12.14	
										+ 53	
δ_2										−3350	
										15 3.18	
					48						
	+17.66	3	49.4	52.5	101.9	3	50.95				
	1.24699					54 17	33	57.40	45	54 17 30.20	
d	9.76625						43.96			− 8	+13.44
	1.13876 m						−13.76			− 42	
$((\delta) - D)\frac{d'}{100}$										+13.34	
										+ 60	
δ_1										−3360	
										17 1.04	
					57						
	+17.74	2	57.9	1.1	119.0	2	59.50				
	1.24895					53 8	24	48.85	55	53 8 21.20	
d	9.77812						35.41			− 8	+12.10
	1.15259 m						−14.21			− 33	
$((\delta) - D)\frac{d'}{100}$										+12.00	
										+ 57	
δ_2										−3350	
										7 54.80	
					7						
	+38.74	2	3.1	7.1	10.2	2	5.10				
	1.58252					54 59	15	43.25	5	54 59 0.51	
d	9.75877						29.81			− 38	+14.11
	1.46681 m						−29.30			− 23	
$((\delta) - D)\frac{d'}{100}$										+14.12	
										+ 60	
δ_1										−3370	
										58 40.92	
					21						
	+17.12	1	19.7	24.2	43.9	1	21.95				
	1.23350					52 45	1	26.40	20	52 44 59.12	
d	9.78197						12.96			− 7	+11.84
	1.14099 m						−13.84			− 15	
$((\delta) - D)\frac{d'}{100}$										+11.52	
										+ 50	
δ_2										−3340	
										44 37.56	

chkd

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Date$_1$ = Observer / Recorder — Date$_2$ = Observer / Recorder

Star.	α	δ	Mag.	T_δ	T_m	T_o	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
	15 42	52 22	9.2	0 15 25.2	15 55.8	58.9	2.8	6.2	8.9	16	2.83		
	14 49.6	16.7	9.0	28.6	2.6	2.3			2.1		− 6.054		
	κ			31.8							− 35		
	((δ) — D) $\frac{\kappa'}{100}$			28.5					− 6.40		− 2		
	α_1									15	56.10	55.53	
											− 3.06		
										15	53.05	5287	
	16 54	53 27	9.0	16 49.9	17 11.5	15.2	18.8	22.1	25.4	17	18.58		
	16 21.5	21.5	9.0	53.3							− 6.054		
	κ			57.4							− 36		
	((δ) — D) $\frac{\kappa'}{100}$			53.5					− 6.41		− 3		
	α_2									17	12.14		
											− 3.08		
										14	9.069		
	17 20	53 07	8.0	17 50.4	17 31.9	35.3	38.7	42.3	45.8	17	38.80		
	16 25.6	1.0	7.3	55.5							− 6.054		
	κ			56.4							− 36		
	((δ) — D) $\frac{\kappa'}{100}$			53.4					− 6.42		− 3		
	α_1									17	32.36		
											− 3.059		
										17	29.289		
	κ												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_2												
	κ												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_1												
	κ												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_2												
	κ												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_1												
	κ												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_2												
	κ												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_1												
	κ												
	((δ) — D) $\frac{\kappa'}{100}$												
	α_2												

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Runs

101

	$T_m - T_\delta$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
	+3.8				42′		40	36.10		55 13	
	1.52892	+3402	2	10.4	14.1	4.5	2	12.25		24	22.66		40	52 23 54.95	
	9.78543	1.531773					52			− 27.71				− 31	+11.11
	1.43987	9.785543								.53				− 24	
	n	1.442268 m												+ 11.16	
((δ) — D) $\frac{d'}{100}$														+ 50	
														−33.40	
δ_1														23 32.64	
					37									54	
	+2508	2	49.8	52.1	102.9	2	5745		44	5690		35	53 28 23.53	
	1.39933						53		28	43.46				− 16	+12.46
d	9.77473									− 19.93				− 31	
	1.29958 m													+ 12.38	
((δ) — D) $\frac{d'}{100}$														+ 55	
														−33.50	
δ_2														28 02.49	
					58										
	−14.6	3	33.4	36.7	10.1	3	3505		24	13.30		55	8 11.56	
	1.16435 n						53		7	59.86				− 6	+12.06
d	9.77829									+ 11.70				− 39	
	1.06816													+ 12.00	
((δ) — D) $\frac{d'}{100}$														+ 57	
														−33.50	
δ_1														7 50.12	
d															
((δ) — D) $\frac{d'}{100}$															
δ_2															
d															
((δ) — D) $\frac{d'}{100}$															
δ_1															
d															
((δ) — D) $\frac{d'}{100}$															
δ_2															
d															
((δ) — D) $\frac{d'}{100}$															
δ_1															
d															
((δ) — D) $\frac{d'}{100}$															
δ_2															
d															
((δ) — D) $\frac{d'}{100}$															
δ_1															
d															
((δ) — D) $\frac{d'}{100}$															
δ_2															

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Date$_1$ = Observer / Recorder — Date$_2$ = Observer / Recorder — Run

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
	κ												
	$((\delta) - D)\frac{\kappa'}{100}$												
	α_1												
	κ												
	$((\delta) - D)\frac{\kappa'}{100}$												
	α_2												
	κ												
	$((\delta) - D)\frac{\kappa'}{100}$												
	α_1												
	κ												
	$((\delta) - D)\frac{\kappa'}{100}$												
	α_2												
	κ												
	$((\delta) - D)\frac{\kappa'}{100}$												
	α_1												
	κ												
	$((\delta) - D)\frac{\kappa'}{100}$												
	α_2												
	κ												
	$((\delta) - D)\frac{\kappa'}{100}$												
	α_1												
	κ												
	$((\delta) - D)\frac{\kappa'}{100}$												
	α_2												
	κ												
	$((\delta) - D)\frac{\kappa'}{100}$												
	α_1												
	κ												
	$((\delta) - D)\frac{\kappa'}{100}$												
	α_2												

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ′
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_2											
d											
$((\delta) - D)\frac{d'}{100}$											
δ_1											
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$((\delta) - D)\frac{d'}{100}$											
δ_2											
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$((\delta) - D)\frac{d'}{100}$											
δ_1											
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$((\delta) - D)\frac{d'}{100}$											
δ_2											

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Date$_1$ = Observer / Recorder — Date$_2$ = Observer / Recorder

Star.	α	δ	Mag.	T_δ	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
κ													
$((\delta) - D)\frac{\kappa'}{100}$													
α_1													
κ													
$((\delta) - D)\frac{\kappa'}{100}$													
α_2													
κ													
$((\delta) - D)\frac{\kappa'}{100}$													
α_1													
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$((\delta) - D)\frac{\kappa'}{100}$													
α_2													

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