

KG
11366
v.567

Zone Observations & Reductions

L5

From April 17, 1871 to May 23, 1871

C5

Apr 17 1871 to May 23 1871

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											
<p><i>Adopted values of i for 1870-71</i></p> <p><i>1870-71 i tang. i</i></p> <p><i>1870 Nov. 10 - 1871 May 18 - 44' 40"</i></p> <p><i>For Circle Readings</i></p> <p><i>15 tang. i</i></p> <p><i>0.08794 m</i></p> <p><i>For Declinations</i></p> <p><i>15 tang. i</i></p> <p><i>0.08794 m</i></p>											
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											

	Ray.	Rrs.
Apr. 17 - 0	7:40 M.	+ 20
Runs 18	7:40 6:60 Rm.	20

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	8'
	7.757 7.05 $+21.1^5$ 1.32428 9.78772 1.19994	2' 35.7	34.2	12	34.95	10	13.40		10	52 10 21.52	+0.68
d						52 10	6.45 5.67			- .12	+10.93
((8) - D) $\frac{d'}{100}$						+	15.65			+ .52	
δ_1	+16.93 -0.5928	10 27.94	9	23.0						+ .30	
										- 16.90	
										10 22.23	
	$+18.7$ 1.27154 9.78772 1.14750	2.34.8	33.6	12	34.20	10	14.15		10	10 20.49	+10.90
d						52 10	6.45			- .10	
((8) - D) $\frac{d'}{100}$						+	14.04			+ .52	
δ_2	+16.53 -0.5928	10 27.92	9	21.3						+ 10.18	
										+ .30	
										- 10.50	
										10 20.59	
	$+14.7$ 1.16732 9.78445 1.54971	3. 8.7	5.0	53	6.85	29	41.50		50	52 29 44.73	+10.44
d						52 29	34.90 33.77	34.45		- .6	
((8) - D) $\frac{d'}{100}$						+	10.96			+ .62	
δ_1	+16.94 -0.5976	12 37.55	28	46.2						+ 10.58	
										+ .30	
										- 10.90	
										29 45.95	
	$+23.5$ 1.34107 9.78445 1.24346	3. 13.7	12.7	53	13.20	29	35.15		50	29 44.97	+11.33
d						52 29	27.45			- .14	
((8) - D) $\frac{d'}{100}$						+	17.52			+ .64	
δ_2	+16.94 -0.5976	12 37.50	28	45.7						+ 10.53	
										+ .20	
										- 10.50	
										29 45.50	
	$+27.7$ 1.44248 9.78658 1.31700	0. 55.2	53.7	5	54.45	16	53.90		5	52 17 69.2	+10.64
d						52 16	47.34 46.17			- .20	
((8) - D) $\frac{d'}{100}$						+	20.75			+ .18	
δ_1	+16.81 -1.0.68	16 38.92	16	6.8						+ 10.36	
										+ .30	
										- 10.80	
										17 74.4	
	$+17.8$ 1.25042 9.78658 1.12494	0. 46.3	45.4	5	45.85	17	2.50		5	17 8.13	+10.67
d						52 17	54.80			- .9	
((8) - D) $\frac{d'}{100}$						+	13.33			+ .16	
δ_2	+16.81 -1.0.68	16 38.68	16	7.4						+ 10.30	
										+ .30	
										- 10.70	
										17 8.04 10	
	$+24.4$ 1.34539 9.78230 1.25763	4. 32.2	31.6	39	31.90	43	16.45		35	52 43 26.83	+11.87
d						52 43	9.40 8.72			- .15	+11.57
((8) - D) $\frac{d'}{100}$						+	18.10			+ .90	
δ_1	+16.77 -1.1.80	21 39.79	42	26.8						+ 10.82	
										+ .30	
										- 10.80	
										43 28.58	
	$+19.3$ 1.25556 9.78230 1.15580	4. 30.1	30.3	39	30.20	43	18.15		35	43 24.77	+11.88
d						52 43	10.45			- .9	
((8) - D) $\frac{d'}{100}$						+	14.32			+ .90	
δ_2	+16.77 -1.1.80	21 39.57	42	24.2						+ 10.77	
										+ .30	
										- 10.70	
										43 25.95	
	$+22.3$ 1.34530 9.78837 1.22461	1 39.8	37.0	16	38.40	6	9.95		15	52 6 18.99	+10.65
d						52 6	3.35 2.22			- .13	
((8) - D) $\frac{d'}{100}$						+	16.77			+ .32	
δ_1	+16.44 -1.3.96	31 32.04	5	15.9						+ 10.16	
										+ .30	
										- 10.50	
										6 19.82	
	$+16.4$ 1.21484 9.78837 1.02114	1. 33.7	32.9	16	33.30	6	15.05		15	6 17.85	+10.66
d						52 6	7.35 6.50			- .7	
((8) - D) $\frac{d'}{100}$						+	10.50			+ .32	
δ_2	+16.44 -1.3.96	31 31.96	5	14.2						+ 10.11	
										+ .30	
										- 10.30	
										6 18.21	

1271 53° to 53°
 Date₁ = 2 Apr. 18
 n = -0.4

Observer J.M.
 Recorder J.M. Date₂ = Apr. 24
 n = -0.8

Observer J.M.
 Recorder J.M.

Star.	α	δ	Mag.	T_s	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
1271	32.6	-4.0	9.0	32.33.0	32.6.8	14.8	19.0	22.9	27.2	90.7	18.14	11.24	32 6.90
	30 57.3	52 0.4	8.3							3.01	29.2		-2.9485
(8) - D	κ'_{100}												32 - 2
a_1													32 3.89
													32 3.458
Apr. 17			9.2	32.31.2	32.8.0	16.0	20.2	24.0	28.3	9.65	19.30	11.24	32 8.06
										-4.15			-4.10
(8) - D	κ'_{100}												-0.8
a_2													32 - 2
													32 3.91
													32 3.39
Apr. 18	36.0	-1.6	8.8	35.24.7	35.59.6	7.7	11.6	16.0	20.0	549	10.98	11.26	36 0.98
	34 57.7	52 2.9	8.8	36 31.0									35 59.72
(8) - D	κ'_{100}		8.8	36 37.0	36.0.8	9.1	13.0	17.1	21.2	6.12	6.12		35 - 2.85
a_1			8.8	35 52.5	35 52.7		4.6			-4.14			35 56.84
													35 56.27
													35 56.28
Apr. 24			8.4									11.26	36 0.98
(8) - D	κ'_{100}												35 53.72
a_2													+ 3.13
													- 10
													- 2
													35 56.73
													35 56.33
Apr. 17	9.52.34	31.9	8.4	52.15.0	36.4	44.5	48.7	62.8	66.8	23.92	47.84	11.40	52 36.44
	51 27.8	52 36.8	8.2							-4.13			-4.089
(8) - D	κ'_{100}												52 - 2
a_1													52 32.31
													- 70
													52 31.60
24			8.4	52.23.1	53.5	1.7	5.6	9.5	13.6	20.27	40.67	11.40	52 29.14
(8) - D	κ'_{100}			52.10.0	29.1	37.3	41.4	45.4	49.5	+3.05			+ 3.143
a_2													- 10
													- 2
													52 32.15
													- 54
													52 31.61
Apr. 17	9.53.31	27.4	8.4	53.17.4	34.7	42.8	46.8	60.8	63.0	23.01	46.02	11.38	53 34.64
	52 24.9	52 32.3	8.9							-4.13			-4.08
(8) - D	κ'_{100}												- 3
a_1													- 2
													53 30.51
													- 71
													53 29.80
24			8.5	53.38.6	53.1	1.2	5.3	9.4	13.6	19.34	38.68	11.38	53 27.90
(8) - D	κ'_{100}			53.13.9	27.3	35.5	39.3	43.5	47.8	+3.25	01		+ 3.143
a_2													- 10
													- 2
													53 24.55
													53 30.31
													53 29.76
9.54-14		40.2	8.8	54.42.8	54.17.4	28.8	29.6	33.8	37.9	14.47	28.94	11.44	54 19.50
	53 7.4	52 45.1	9.2							-4.13			-4.08
(8) - D	κ'_{100}												- 3
a_1													- 2
													54 13.37
													- 72
													54 12.65
24			9.0	54.17.6	54.10.2	18.4	22.4	26.5	30.7	10.82	21.64	11.44	54 10.20
(8) - D	κ'_{100}									+3.25	01		+ 3.143
a_2													- 10
													- 2
													54 6.90
													54 13.21
													- 56
													54 12.65

Runs *Apr 18 - 0 7:25 m. + 20*
24 6.94 R. 19

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	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	s'
d	-26.5	1.24.1	21.8	26	22.95	56	2540		25-	51 55 57.97	
(δ) - D	$\frac{d'}{100}$					51 56	18.80			- 18	+10.36
δ_1							17.67			+ 28	
							19.70			+ 9.96	
										+ 30	
										- 10.40	
										55 58.61	
d	-23.8	1.24.8	24.6	26	24.70	56	23.65		25-	55 58.57	
(δ) - D	$\frac{d'}{100}$					51 56	15.95			- 14	+10.36
δ_1							17.44			+ 28	
										+ 9.92	
										+ 30	
										- 10.30	
										55 58.57	
d	-36.0	0.11.6	9.4	25	10.50	54	37.85	57 70.9	25-	57 57 8.84	57 59.01
(δ) - D	$\frac{d'}{100}$					54	30.80	- 24	+10.09	- 34	- 24
δ_1						54	23.61	+ 4		+ 4	+ 2
						57	43.70	+ 9.97	25-	+ 9.95	+ 9.95
						51 57	36.00	+ 30		+ 30	+ 30
							27.16	- 10.20		- 10.10	- 10.10
							23.01	57 6.48		57 8.69	57 58.94
d	+12.9	4.52.7	49.7	24	50.20	57	58.15		20-	57 7.88	57 7.88
(δ) - D	$\frac{d'}{100}$						9.73			+ 9.1	+ 11.15
δ_1										+ 9.99	
										+ 30	
										- 10.70	
										57 8.33	
d	+21.4	0.23.3	22.6	50	22.95	32	2540		50-	52 32 33.64	+10.82
(δ) - D	$\frac{d'}{100}$					52 32	17.70			- 12	
δ_1							15.94			+ 8	
										+ 10.56	
										+ 30	
										- 9.90	
										32 34.56	
d	+19.1	0.21.8	20.7	50	21.25	32	27.10		50-	32 34.39	+10.89
(δ) - D	$\frac{d'}{100}$					52 32	20.16			- 9	
δ_1							14.23			+ 8	
										+ 10.60	
										+ 30	
										- 10.50	
										32 34.78	
d	+17.2	1.9.2	8.9	56	9.05	26	39.30		55-	52 26 44.44	+10.90
(δ) - D	$\frac{d'}{100}$					52 26	31.60			- 8	
δ_1							12.84			+ 22	
										+ 10.46	
										+ 30	
										- 9.90	
										26 45.24	
d	+13.4	1.6.4	4.9	56	3.65	26	42.70		55-	26 45.76	+10.97
(δ) - D	$\frac{d'}{100}$					52 26	35.76			- 5	
δ_1							10.00			+ 22	
										+ 10.50	
										+ 30	
										- 10.50	
										26 46.23	
d	-25.3	1.31.7	31.1	41	31.40	41	16.95		40-	52 40 50.47	+11.14
(δ) - D	$\frac{d'}{100}$					52 41	9.25			- 17	
δ_1							18.78			+ 30	
										+ 10.71	
										+ 30	
										- 9.90	
										40 51.71	
d	-4.4	1.45.2	43.7	41	44.45	41	3.90		40-	40 51.47	+11.37
(δ) - D	$\frac{d'}{100}$					52 40	56.96			- 2	
δ_1							5.49			+ 34	
										+ 10.75	
										+ 30	
										- 10.50	
										40 52.34	

1871phae.pro.1571

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52° 53'

Date₁ = Apr. 1

Observer A.M.
Recorder W.H.R.

Date₂ = Apr. 24

Observer W.H.R.
Recorder A.M.

6

Star. α δ Mag. T_s T_m T_a T_r T_g T_h Sum Mean Red. to T_m T

10. 4. 41 7.8 8.0 7.23.1 41.0 49.0 53.1 57.3 61.1 261.5 52.30 11.30 4 41.00

3 35.3 52 12.7 7.3 -2.98 90 -2.97 83

$(\delta - D) \frac{\kappa'}{100}$ -5

a_1 -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'
83	$+189.0$ 1.25285 9.78821 1.12900	1.110	9.5	16	11.25	52 6 + 13.46	38.10 30.37		18-	52 6 43.83 9 + 24 + 10.16 + 30 - 9.60 6 45.52	+10.61
	$+1560$ -110.32	4 52.92		5 35.2							
	$+23.1$ 1.36361 9.78821 1.23976	1.148	12.7	16	13.75	52 6 + 17.37	34.60 27.66		15-	6 45.03 14 + 24.3 + 10.15 + 30 - 10.50 6 45.07	+10.54
	$+1560$ -110.32	4 52.81		5 34.8							
	$+12.2$ 1.08636 9.78983 0.96413	1.8.2	6.5	26	7.35	51 56 + 9.21	41.07 33.27		25-	51 56 42.98 4 + 22 + 9.98 + 30 - 9.50 56 44.12	+10.46
	$+1555$ -110.48	5 56.36		55 33.6							
	$+14.2$ 1.15229 9.78983 1.03006	1.8.5	4.5	26	5.00	51 56 + 10.72	43.35 36.41		25-	56 47.13 5 + 28 + 9.97 + 30 - 10.40 56 47.16	+10.43
	$+1555$ -110.48	5 56.17		55 36.7							
	$+20.1$ 1.30320 9.78213 1.17327	3.38.2	37.3	38	37.75	52 44 + 14.90	10.60 2.87		35-	52 44 17.77 10 + 72 + 10.83 + 30 - 9.70 44 20.50	+11.75
	$+1560$ -110.60	7 40.19		43 9.9							
	$+21.5$ 1.33244 9.78213 1.20251	3.37.8	37.5	38	37.65	52 44 + 15.94	10.70 3.76		35-	44 19.70 12 + 68.72 + 10.82 + 30 - 10.60 44 20.78	+11.68
	$+1560$ -110.60	7 40.08		43 10.2							
	$+18.5$ 1.29403 9.78494 1.16291	0.52.7	57.4	53	52.05	52 26 + 14.55	56.30 48.57		35-	52 27 57.72 10 + 18 + 10.53 + 30 - 9.60 27 57.72	+10.91
	$+1550$ -111.16	10 7.44		25 52.5							
	$+22.6$ 1.35411 9.78494 1.22699	0.54.9	53.4	53	52.15	52 26 + 16.84	54.20 47.26		35-	27 4.12 14 + 18.7 + 10.52 + 30 - 10.50 27 4.47	+10.85
	$+1550$ -111.16	10 7.35		25 53.3							
		1.43.0	41.0	16	42.00	6 + 58.62	6.35		15		
	$+21.2$ 1.32634 9.78837 1.20265	1.40.0	37.9	16	38.95	52 6 + 15.95	9.40 2.46		15	52 6 18.41 12 + 22 + 10.15 + 30 - 9.80 6 19.26	+12.65
	$+14.90$ -114.20	30 47.73		5 5.1							

52° 50' 53"
 Date₁ = Apr. 15

Observer A.M.
 Recorder P.H.R.

Date₂ = Apr. 24

Observer W.H.R.
 Recorder J.M.

8

Star.	α	δ	Mag.	T_s	T_m	T_a	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
102	34.24	20.8	9.0	42.27.8	30.5	38.5	42.4	46.6	50.6	208.6	41.72	11.35	42 30.47
	102	34.24	9.0							-2.94	87		-2.87.80
													-5
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													42 27.53
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													42 26.84.54
													+14
(8) - D													
a_1													
κ													42 24.45
													+3.12
													-10
													-2
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													-94
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													+14
													-1.18
(8) - D													
a_2													
κ													43 53.30
													-2.87.0
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													-2
													43 50.36
													-1.10
													43 49.33
													+14
													-1.15
(8) - D													
a_1													
κ													43 47.26
													+3.12
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(8) - D													
a_2													
κ													44 59.07
													-2.87.0
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(8) - D													
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κ													44 52.97
													+3.12
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(8) - D													
a_2													
κ													46 38.50
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(8) - D													
a_1													
κ													46 32.40
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													-98
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													+14
													-1.1
(8) - D													
a_2													
κ													49 10.37
													-2.87.0
													-5
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													49 7.44
													-1.14
													49 6.36
													+14
													-1.16
(8) - D													
a_1													
κ													49 2.37
													+3.12
													-10
													-2
													49 7.37
													-1.02
													49 6.35
													+14
													-1.1
(8) - D													
a_2													

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ'
80	+2.7 0.43136 9.78999 0.30929	1.39.4	38.2	26	38.80	56 51	9.58 1.82 2.04		25	51 56 + 0.68 3.86 + 32 + 9.98 + 30 - 8.30 56 6.84	+10.60
54	+14.55 δ_1	42 41.09									
45	+20.8 1.31506 9.78999 1.19599	1.33.2	31.8	26	32.50	56 51	15.85 8.91 15.70		25	56 24.61 - 12 + 28.38 + 9.97 + 30 - 9.30 56 25.74	+10.43
1	+14.55 -1.1568 δ_1	42 41.06		55 10.1							
	+14.3 1.15534 9.78263 1.02591	2.14.2	13.3	42	13.75	40 52	34.60 26.87 10.62		40	52 40 37.49 - 5 + 44 + 10.76 + 30 - 8.50 40 41.12	+11.45
	+14.57 -1.1584 δ_1	44 3.90		39 25.3							
	+2.15 1.33244 9.78263 1.20301	2.17.8	15.1	42	16.45	40 52	31.90 24.96 15.96		40	40 409.2 - 12 + 48.4 + 10.75 + 30 - 9.50 40 42.79	+11.37
	+14.57 -1.1584 δ_2	44 3.85		39 27.0							
	+1.64 1.21484 9.78197 1.08475	2.36.7	37.2	39	36.95	45 52	11.40 3.67 12.15		35	52 45 15.82 - 7 + .52 + 10.85 + 30 - 8.40 45 19.70	+11.65
	+14.54 -1.1596 δ_1	45 9.65		44 3.7							
	+1.78 1.25042 9.78197 1.12033	2.38.1	35.7	39	36.90	45 52	11.45 4.51 13.19		35	45 17.70 - 8 + 49.52 + 10.84 + 30 - 9.50 45 19.75	+11.55
	+14.54 -1.1596 δ_2	45 9.52		44 3.8							
	+1.83 1.26245 9.78918 1.13957	1.56.5	54.0	21	55.25	52	53.10 45.37 13.79		20	52 0 59.16 - 8 + 38 + 10.85 + 30 - 8.20 1 2.29	+10.65
	+14.44 -1.1748 δ_1	46 48.97		59 44.8							
	+2.19 1.34044 9.78918 1.21756	1.57.9	56.2	21	57.05	52	51.30 44.36 16.50		20	1 0.86 - 13 + 38 + 10.85 + 30 - 9.20 1 2.26	+10.60
	+14.44 -1.1748 δ_2	46 48.86		59 44.8							
	+1.81 1.25768 9.78080 1.12642	0.43.1	41.1	30	42.10	52 52	6.25 58.52 13.38		30	52 52 11.90 - 8 + 14 + 10.98 + 30 - 8.30 52 15.62	+11.34
	+14.43 -1.1644 δ_1	49 20.79		50 59.2							
	+2.30 1.36173 9.78080 1.23047	0.46.3	43.5	30	44.90	52 52	3.45 56.51 17.00		30	52 13.51 - 14 + 1.43 + 10.97 + 30 - 9.40 52 15.37	+11.26
5	+14.43 -1.1644 δ_2	49 20.78		50 58.9							

Runs

11

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ'
d	+15.1 1.14598 9.78788 1.05480	4.75	6.5	14	4.20	52 8 +	41.15 33.42 11.34		10	52 8 - 44.76 + 8.2 + 10.19 + .30 - 8.08 8 48.69	+11.25
(δ) - D $\frac{d'}{100}$											
δ_1	+14.34 -116.56	50 34.88		7 32.1							
d	+14.1 1.14922 9.78788 1.02504	4.52	4.1	14	4.65	52 8 +	43.70 36.76 10.59		10	8 47.35 - 5 + .7882 + 10.18 + .30 - 9.10 8 49.46	+11.21
(δ) - D $\frac{d'}{100}$											
δ_2	+14.34 -116.56	50 34.91		7 32.9							
d	+15.0 1.17609 9.78379 1.04782	3.357	34.8	48	35.25	52 34 +	13.10 5.37 11.16		45	52 34 16.53 - 6 + .72 + 10.65 + .30 - 8.10 34 20.72	+11.61
(δ) - D $\frac{d'}{100}$											
δ_1	+14.34 -116.68	51 54.31		33 4.0							
d	+17.9 1.25285 9.78379 1.12458	3.363	35.5	48	35.90	52 34 +	12.45 5.51 13.32		45	34 18.83 - 8 + .6872 + 10.64 + .30 - 9.20 34 21.17	+11.54
(δ) - D $\frac{d'}{100}$											
δ_2	+14.34 -116.68	51 54.25		33 4.5							
d	+20.5 1.31175 9.78821 1.18490	0.524	50.2	15	51.30	52 6 +	57.05 49.32 15.41		15	52 7 4.73 - .11 + .16 + 10.18 + .30 - 4.90 7 8.04	+10.53
(δ) - D $\frac{d'}{100}$											
δ_1	+14.27 -116.80	53 9.85		5 51.2							
d	+20.4 1.30963 9.78821 1.18578	0.528	48.1	15	49.45	52 6 +	58.90 51.96 15.34		15	7 7.30 - .11 + .185 + 10.17 + .30 - 9.00 7 8.1481	+10.51
(δ) - D $\frac{d'}{100}$											
δ_2	+14.27 -116.80	53 9.75		5 52.0							
d	+12.7 1.10380 9.78080 0.99254	0.285	18.7	30	19.60	52 52 +	28.75 21.02 9.39		30	52 52 30.91 - 5 + 6 + 10.98 + .30 - 8.10 52 34.28	+11.29
(δ) - D $\frac{d'}{100}$											
δ_1	+14.29 -116.92	54 9.28		51 17.4							
d	+14.3 1.15334 9.78080 1.02408	0.212	14.8	30	20.50	52 52 +	27.85 20.91 10.57		30	52 31.48 - 5 + 6 + 10.97 + .30 - 9.20 52 33.66	+11.28
(δ) - D $\frac{d'}{100}$											
δ_2	+14.29 -116.92	54 9.28		58 16.64							
d	+23.8 1.37658 9.78869 1.28321	3.580	57.0	18	57.50	52 3 +	50.85 43.12 17.91		15	52 4 1.03 - .15 + .78 + 10.12 + .30 - 7.70 4 5.06	+11.05
(δ) - D $\frac{d'}{100}$											
δ_1	+14.09 -117.28	59 8.27		2 47.8							
d	+20.5 1.31175 9.78869 1.18838	3.577	52.9	18	53.80	52 3 +	54.53 47.61 15.43		15	4 3.04 - .12 + .784 + 10.11 + .30 - 8.80 4 5.27	+11.03
(δ) - D $\frac{d'}{100}$											
δ_2	+14.09 -117.28	59 8.28		2 48.0							

Star.	α	δ	Mag.	T_0	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
10.59.36	-2.2	8.0	59.539	59.35.5	43.3	47.5	57.5	58.7	233.5	46.70	11.26	59.35.4	
58.36.6	52.32	8.3							-2.92	87		-2.850	
(8) - D	κ'											-5	
α_1												59.32.57	
												-1.19	
												31.38	
κ												+14	
(8) - D	κ'											-17	
α_2													
11.23.59	2.1	8.8	23.38.3	59.5	7.6	11.7	15.6	19.7	54.1	10.82	11.27	59.29.32	
23.2.4	52.7.6	8.7							-2.90			+3.12	
(8) - D	κ'											-10	
α_1												59.32.32	
												-1.08	
												59.31.24	
κ												+14.0	
(8) - D	κ'											-17	
α_2													
25.52	28.0	8.6	25.34.1	53.8	2.0	6.0	10.0	14.1	25.9	0.58	11.38	25.53.80	
24.55.8	52.33.5	8.5							-2.90			-2.83	
(8) - D	κ'											-5	
α_1												25.56.65	
												1.35	
												23.55.30	
κ												+13.36	
(8) - D	κ'											-19	
α_2													
25.52	28.0	8.6	25.34.1	53.8	2.0	6.0	10.0	14.1	25.9	0.58	11.38	25.53.67	
24.55.8	52.33.5	8.5							-2.90			+3.11	
(8) - D	κ'											-10	
α_1												23.56.66	
												1.26	
												23.55.40	
κ												+13.3	
(8) - D	κ'											-19	
α_2													
25.52	28.0	8.6	25.34.1	53.8	2.0	6.0	10.0	14.1	25.9	0.58	11.38	25.53.80	
24.55.8	52.33.5	8.5							-2.90			-2.83	
(8) - D	κ'											-5	
α_1												25.56.90	
												1.38	
												25.49.52	
κ												+13.3	
(8) - D	κ'											-19	
α_2													
25.52	28.0	8.6	25.34.1	53.8	2.0	6.0	10.0	14.1	25.9	0.58	11.38	25.53.80	
24.55.8	52.33.5	8.5							-2.90			-2.83	
(8) - D	κ'											-5	
α_1												25.56.90	
												1.38	
												25.49.52	
κ												+13.3	
(8) - D	κ'											-19	
α_2													
25.52	28.0	8.6	25.34.1	53.8	2.0	6.0	10.0	14.1	25.9	0.58	11.38	25.53.80	
24.55.8	52.33.5	8.5							-2.90			-2.83	
(8) - D	κ'											-5	
α_1												25.56.90	
												1.38	
												25.49.52	
κ												+13.3	
(8) - D	κ'											-19	
α_2													
25.52	28.0	8.6	25.34.1	53.8	2.0	6.0	10.0	14.1	25.9	0.58	11.38	25.53.80	
24.55.8	52.33.5	8.5							-2.90			-2.83	
(8) - D	κ'											-5	
α_1												25.56.90	
												1.38	
												25.49.52	
κ												+13.3	
(8) - D	κ'											-19	
α_2													
25.52	28.0	8.6	25.34.1	53.8	2.0	6.0	10.0	14.1	25.9	0.58	11.38	25.53.80	
24.55.8	52.33.5	8.5							-2.90			-2.83	
(8) - D	κ'											-5	
α_1												25.56.90	
												1.38	
												25.49.52	
κ												+13.3	
(8) - D	κ'											-19	
α_2													
25.52	28.0	8.6	25.34.1	53.8	2.0	6.0	10.0	14.1	25.9	0.58	11.38	25.53.80	
24.55.8	52.33.5	8.5							-2.90			-2.83	
(8) - D	κ'											-5	
α_1												25.56.90	
												1.38	
												25.49.52	
κ												+13.3	
(8) - D	κ'											-19	
α_2													
25.52	28.0	8.6	25.34.1	53.8	2.0	6.0	10.0	14.1	25.9	0.58	11.38	25.53.80	
24.55.8	52.33.5	8.5							-2.90			-2.83	
(8) - D	κ'											-5	
α_1												25.56.90	
												1.38	
												25.49.52	
κ												+13.3	
(8) - D	κ'											-19	
α_2													
25.52	28.0	8.6	25.34.1	53.8	2.0	6.0	10.0	14.1	25.9	0.58	11.38	25.53.80	
24.55.8	52.33.5	8.5							-2.90			-2.83	
(8) - D	κ'											-5	
α_1												25.56.90	
												1.38	
												25.49.52	
κ												+13.3	
(8) - D	κ'											-19	
α_2													
25.52	28.0	8.6	25.34.1	53.8	2.0	6.0	10.0	14.1	25.9	0.58	11.38	25.53.80	
24.55.8	52.33.5	8.5							-2.90			-2.83	
(8) - D	κ'											-5	
α_1												25.56.90	
												1.38	
												25.49.52	
κ												+13.3	
(8) - D	κ'											-19	
α_2													
25.52	28.0	8.6	25.34.1	53.8	2.0	6.0	10.0	14.1	25.9	0.58	11.38	25.53.80	
24.55.8	52.33.5	8.5							-2.90			-2.83	
(8) - D	κ'											-5	
α_1												25.56.90	
												1.38	
												25.49.52	
κ												+13.3	
(8) - D	κ'											-19	
α_2													
25.52	28.0	8.6	25.34.1	53.8	2.0	6.0	10.0	14.1	25.9	0.58	11.38	25.53.80	
24.55.8	52.33.5	8.5							-2.90			-2.83	
(8) - D	κ'											-5	
α_1												25.56.90	
												1.38	
												25.49.52	
κ												+13.3	
(8) - D	κ'											-19	
α_2													
25.52	28.0	8.6	25.34.1	53.8	2.0	6.0	10.0	14.1	25.9	0.58	11.38	25.53.80	
24.55.8	52.33.5	8.5							-2.90			-2.83	
(8) - D	κ'											-5	
α_1												25.56.90	
												1.38	
												25.49.52	
κ												+13.3	
(8) - D	κ'											-19	
α_2													
25.52	28.0	8.6	25.34.1	53.8	2.0	6.0	10.0	14.1	25.9	0.58	11.38	25.53.80	
24.55.8	52.33.5	8.5							-2.90			-2.83	
(8) - D	κ'											-5	
α_1												25.56.90	
												1.38	
												25.49.52	
κ												+13.3	
(8) - D	κ'											-19	
α_2													
25.52	28.0	8.6	25.34.1	53.8	2.0	6.0	10.0	14.1	25.9	0.58	11.38	25.53.80	
24.55.8	52.33.5	8.5							-2.90			-2.83	

Reg. - 0 7.73 R
6.60

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Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	s'
d	-18.55 1.26717 9.78967 1.14478	4.558	55.0	24	57.40	57 51	56.95 49.22 13.96		20-	51 57 35.26 + 96 + 10.20 + 30 - 7.60 57 39.57	+11.17
(8) - D $\frac{d'}{100}$											
δ_1	+14.07 -117.44	59 45.45		56 22.1							
d	-16.5 1.21448 9.78967 1.09509	4.520	50.7	24	57.35	57 51	57.00 50.06 12.45		20.	57 37.61 + 983 + 9.99 + 30 - 8.70 57 46.06 + 1.13	+11.15
(8) - D $\frac{d'}{100}$											
δ_2	+14.07 -117.44	59 45.31		56 22.6							
d	+21.3 1.32838 9.78902 1.20534	0.524	48.7	20	50.53	1 52	57.80 50.07 16.04		20	52 2 6.11 - 12 + .16 + 10.78 + 30 - 6.50 2 11.16	+10.42
(8) - D $\frac{d'}{100}$											
δ_1	+13.36 -119.24	24 8.66		0 51.9							
d	+10.7 1.02938 9.78902 0.90634	0.408	38.1	20	39.45	2 52	8.90 1.96 8.06		20	2 10.02 - 3 + 18.3 + 10.27 + 30 - 7.70 2 12.79	+10.47
(8) - D $\frac{d'}{100}$											
δ_2	+13.36 -119.24	24 8.76		0 53.6							
d	+19.7 1.29447 9.78478 1.16419	0.111	6.8	53	8.95	27 52	39.40 31.67 14.70		55	52 27 46.37 - .11 + 2 + 10.53 + 30 - 6.50 27 51.74	+10.74
(8) - D $\frac{d'}{100}$											
δ_1	+13.32 -119.32	26 2.84		26 32.4							
d	+18.7 1.27184 9.78478 1.14456	0.8.2	5.6	53	6.85	27 52	41.50 34.56 13.95		55	27 48.51 - .10 + 2 + 10.52 + 30 - 7.80 27 51.45	+10.74
(8) - D $\frac{d'}{100}$											
δ_2	+13.32 -119.32	26 2.86		26 32.1							
d	+10.1 1.23300 9.78560 1.10654	4.21.7	20.8	59	21.25	23 52	27.10 19.37 12.78		55	52 23 32.15 - 8 + 86 + 10.46 + 30 - 6.40 23 38.42	+11.54
(8) - D $\frac{d'}{100}$											
δ_1	+13.28 -119.40	27 15.51		22 19.0							
d	-17.8 1.24497 9.78560 1.12151	3.53.3	54.3	58	54.80	23 52	53.55 46.61 13.23		55	23 33.38 - .9 + 984 + 10.45 + 30 - 7.70 23 37.08	+11.40
(8) - D $\frac{d'}{100}$											
δ_2	+13.28 -119.40	27 15.72		22 17.7							
d	-17.9 1.25285 9.78494 1.12573	0.39.1	57.2	56	38.15	27 52	10.20 2.47 13.36		55	52 26 49.11 - 9 + 12 + 10.51 + 30 - 6.40 26 54.68	+10.84
(8) - D $\frac{d'}{100}$											
δ_1	+13.26 -119.44	27 16.79		25 35.2							
d	-16.6 1.22011 9.78494 1.09299	0.37.2	34.8	53	36.00	27 52	12.35 5.41 12.39		55	26 53.02 - 8 + 181 + 10.50 + 30 - 7.70 26 56.15	+10.63
(8) - D $\frac{d'}{100}$											
δ_2	+13.26 -119.44	27 16.82		25 36.4							

Date₁ = 4/11/18

Observer W.A.R.

Recorder A.M.

Date₂ = 4/11/24

Observer W.A.R.

Recorder A.M.

14

Ru

1871phae.p

Star.	α	δ	Mag.	T_0	T_m	T_g	T_r	T_e	T_h	Sum	Mean	Red. to T_m	T
11. 39.36	38.4	7.5	39-19.8	36.6	44.7	48.7	52.7	57.0	23.9	47.94	11.43	39 36.51	
κ									-2.89			-2.82	
(8) - D) $\frac{\kappa'}{100}$												-5	
a_1												-2	
												39 33.62	
												-1.47	
												39 32.15	+12.9
													-1.99
κ		7.2	39-8.3	30.5	38.7	42.8	46.8	57.0	20.98	41.96	11.43	39 30.53	
(8) - D) $\frac{\kappa'}{100}$									-3.23	+2.99		+3.11	
a_2												-1.10	
												-2	
												39 33.52	
												-1.38	+12.9
												39 32.14	-1.19
44.16	8.3	7.3	43-45.8	44.6	14.9	19.0	22.9	27.1	90.7	18.14	11.30	44 68.4	
κ									-2.88			-2.81	
(8) - D) $\frac{\kappa'}{100}$												-5	
a_1												-2	
												44 3.96	+12.9
												-1.47	-1.20
												44 2.49	
κ			43-36.9	44.10	9.0	13.0	17.0	21.1	61.1	12.22	11.30	44 29.2	
(8) - D) $\frac{\kappa'}{100}$									-3.23	+2.99		+3.11	
a_2												-1.10	
												-2	
												44 3.91	+12.9
												-1.39	-1.20
												44 2.52	
45.00	42.4	8.8	44-45.3	56.6	4.7	8.8	13.0	17.1	69.4	13.88	11.44	45 2.44	
κ									-2.88			-2.81	
(8) - D) $\frac{\kappa'}{100}$												-5	
a_1												-2	
												44 59.56	+12.9
												-1.50	-1.20
												44 58.06	
8.4			44-45.3	56.6	4.7	8.8	13.0	17.1	40.2	08.04	11.44	44 56.60	
κ									-3.23	+2.99		+3.11	
(8) - D) $\frac{\kappa'}{100}$												-1.10	
a_2												-2	
												44 59.59	+12.9
												-1.42	-1.20
												44 58.17	
12. 1. 53	-0.1	8.3	1-30.0	53.9	2.0	6.0	10.0	14.1	26.0	05.20	11.26	1 53.94	
κ									-2.86			-2.79	
(8) - D) $\frac{\kappa'}{100}$												-5	
a_1												-2	
												1 51.08	+12.9
												-1.54	-1.20
												1 49.51	
8.4			1-27.2	48.0	56.1	60.0	64.2	68.3	298.6	59.32	11.26	1 48.06	
κ									-3.23	+2.99		+3.11	
(8) - D) $\frac{\kappa'}{100}$												-1.10	
a_2												-2	
												1 51.85	+12.9
												-1.50	-1.20
												1 49.55	
3. 38	1.7	8.4	3-20.2	39.0	47.0	57.0	55.0	59.1	251.1	50.22	11.27	3 38.95	
κ									-2.86			-2.79	
(8) - D) $\frac{\kappa'}{100}$												-5	
a_1												-2	
												3 36.09	+12.9
												-1.58	-1.20
												3 34.51	
8.2			3-9.9	33.0	41.0	45.0	49.0	53.1	221.1	44.22	11.27	3 32.95	
κ									-3.23	+2.99		+3.11	
(8) - D) $\frac{\kappa'}{100}$												-1.10	
a_2												-2	
												3 35.94	+12.9
												-1.51	-1.20
												3 34.43	

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ'
d	+167 1.22272 9.78296 1.09362	4.6.1	2.1	94	410	38 52 38 +	44.25 36.52 12.41		40	52 38 48.93 - 8 + 10.72 + 30 - 5.90 38 35.92	+11.76
(8) - D) $\frac{d'}{100}$											
δ_1	+12.91 -1.1992	39 45.06		37 36.0							
d	+222 1.34635 9.78296 1.21725	4.6.8	4.8	44	580	38 52 38 +	42.55 35.61 16.49		40	38 52.10 - 13 + 78.82 + 10.71 + 30 - 7.20 38 56.56	+11.96
(8) - D) $\frac{d'}{100}$											
δ_2	+12.91 -1.1992	39 45.05		37 36.6							
d	+210 1.32222 9.78805 1.19821	0.16.7	13.5	15	15.10	7 52 7 +	33.25 25.52 15.78		15	52 7 41.30 - 12 + 4 + 10.18 + 30 - 5.50 7 47.33	+10.40
(8) - D) $\frac{d'}{100}$											
δ_1	+12.76 -1.2004	44 15.25		6 27.3							
d	+240 1.35021 9.78805 1.25620	0 15.2	14.0	15	14.60	7 52 7 +	33.75 26.81 15.04		15	7 44.85 - 15 + 4 + 10.17 + 30 - 6.80 7 48.41	+10.38
(8) - D) $\frac{d'}{100}$											
δ_2	+12.76 -1.2004	44 15.28		6 28.4							
d	+200 1.30103 9.78246 1.17143	0.31.2	26.7	40	28.95	42 52 42 +	19.40 11.67 14.84		40	52 42 26.57 - 11 + 10 + 10.80 + 30 - 5.60 42 33.23	+10.09 1.09
(8) - D) $\frac{d'}{100}$											
δ_1	+12.74 -1.2004	45 10.80		41 13.1							
d	+113 1.05308 9.78246 0.92348	0.22.7	20.8	40	21.75	42 52 42 +	26.60 19.66 8.38		40	42 28.04 - 3 + 8 + 10.79 + 30 - 6.90 42 32.28	+11.14
(8) - D) $\frac{d'}{100}$											
δ_2	+12.74 -1.2004	45 10.91		41 12.2							
d	+239 1.37840 9.78950 1.25584	3.47.7	42.1	23	44.90	59 51 58 +	3.45 55.72 18.02		20	51 59 13.74 - 15 + 74 + 10.04 + 30 - 4.60 59 21.36	+10.93
(8) - D) $\frac{d'}{100}$											
δ_1	+12.23 -1.2020	2 1.74		58 1.0							
d	+209 1.32015 9.78950 1.19759	3.41.0	37.5	23	39.25	59 51 59 +	9.10 2.16 15.76		20	59 17.92 - 12 + 74 + 10.03 + 30 - 5.90 59 22.93	+10.91
(8) - D) $\frac{d'}{100}$											
δ_2	+12.23 -1.2020	2 1.78		58 2.7							
d	+18.7 1.27184 9.78902 1.14880	1 19.8	15.9	21	17.85	1 52 1 +	30.50 22.77 14.09		20	52 1 36.86 - 10 + 26 + 10.05 + 30 - 4.50 1 44.00	+10.51
(8) - D) $\frac{d'}{100}$											
δ_1	+12.18 -1.2020	3 46.69		0 23.8							
d	+23.1 1.36361 9.78902 1.24059	1 19.2	16.0	21	17.60	1 52 1 +	30.75 23.81 17.40		20	1 41.21 - 14 + 285 + 10.04 + 30 - 5.80 1 45.86	+10.45
(8) - D) $\frac{d'}{100}$											
δ_2	+12.18 -1.2020	3 46.61		0 25.7							

8 53° 50' 52
 Date₁ = Apr. 18

Observer W. A. R.
 Recorder W. A. R.

Date₂ = Apr. 24

Observer W. A. R.
 Recorder S. M.

16

Ru

1871phae.

Star.	α	δ	Mag.	T_s	T_m	T_o	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
12. 4. 26 ⁵ 3 34.4 K	30.9 52 36.6 7.5	7.0	7.15.5	26.7	34.8	38.8	42.9	47.0	19 0.2 -2.86	38.04	11.40	4 266.4 -2.79 -5 -2 4 23.78 -1.60 4 22.18	
$((\delta) - D) \frac{\kappa'}{100}$ a_1													
8.1	4. 14.2	20.8	29.0	33.0	37.0	41.2	161.0 -3.23	32.20	11.40	4 218.0 +3.11 -1.0 -2 4 23.79 -1.53 4 22.26			
$((\delta) - D) \frac{\kappa'}{100}$ a_2													
6. 22 5 30.5 K	39.8 52 44.8 8.0	7.5	6. 1.8	23.4	31.4	35.5	39.6	43.8	173.7 -2.86	34.74	11.44	6 233.0 -2.79 -5 -2 6 20.44 -1.61 6 18.83	
$((\delta) - D) \frac{\kappa'}{100}$ a_1													
7.8	5. 55.4	617.2	25.4	29.5	33.5	37.7	143.3 -3.23	38.56	11.44	6 179.2 +3.11 -1.0 -2 6 20.21 -1.54 6 18.67			
$((\delta) - D) \frac{\kappa'}{100}$ a_2													
4. 29. 48. Apr. 17. 28 K 33.2	3.8 52 8.2 9.5	10.0	30. 36.0	29. 50.4	58.8	2.5	(6.0)	10.5	-4.15	11.28	29 50.36 -4.10 -3 -2 29 46.21 -1.50 29 45.71		
$((\delta) - D) \frac{\kappa'}{100}$ a_1													
9. 37. 02 Apr. 17. 35 K 53.3	28.6 52 33.2 9.0	9.0	37. 35.7	37 3.6	11.9	15.7	19.8	24.4	7 54 15.08 -4.14	11.29	37 36.8 -4.09 -3 -2 36 59.55 -1.57 36 58.98		
$((\delta) - D) \frac{\kappa'}{100}$ a_2													
9. 47. 03 Apr. 17. 45 K 55.8	42.8 52 9.0 9.5	9.5	46. 39.7	47.52	13.0	17.0	22.0	(26.0)	-4.13	11.28	47 5.36 -4.08 -3 -2 47 1.23 -1.65 47 0.58		
$((\delta) - D) \frac{\kappa'}{100}$ a_1													
9. 49. 43 Apr. 17. 48 K 36.6	44.2 52 49.0 9.0	8.8	49. 20.5	45.0	53.0	57.0	1.1	5.4	28 15 56.30 -4.13	11.45	49 448.5 -4.08 -3 -2 49 40.72 -1.68 49 40.04		
$((\delta) - D) \frac{\kappa'}{100}$ a_2													
9. 41. 31. Apr. 18. 40 K 33.5	0.4 52 5.0 8.0	8.8								11.26			
$((\delta) - D) \frac{\kappa'}{100}$ a_1													
10. 17. 14 Apr. 18. 16 K 7.6	49.0 52 54.1 9.0	8.9	16. 49.7	17. 14.0	22.4	26.3	30.4	34.7	127.8 -2.75	25.56	11.48	17 140.8 -2.89 -5 -2 17 11.19 -1.89 17 10.30	
$((\delta) - D) \frac{\kappa'}{100}$ a_2													

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	s'
d	$+11.5$ 1.04532 9.78428 0.91754	$2.5.8$	5.2	5.2	45.5	30 52 30 $+$	43.85 36.12 8.27		50	52 30 44.39 $+$ 42 $+$ 10.58 $+$ 30 $-$ 4.50 30 52.29	$+11.27$
$(\delta) - D$	d'_{100}										
δ_1	$+12.15$ -120.20	4 34.33		29 32.1						30 52.29	
d	$+66$ 0.81954 1.22041 9.78428 0.69176 1.09233	159.3	57.0	57	58.15	30 52 30 $+$	50.20 43.26 12.37 492		50	30 48.18 $-$ 2 $+$ 38.78 $+$ 10.57 $+$ 30 $-$ 5.90 30 53.51	$+11.23$
$(\delta) - D$	d'_{100}										
δ_2	$+12.15$ -120.20	4 34.41		29 33.3						30 53.51	
d	$+21.5$ 1.33244 9.78296 1.20334	$3.38.2$	34.3	43	36.25	39 52 39 $+$	12.10 4.37 15.97		40	52 39 20.34 $+$ 12 $+$ 72 $+$ 10.74 $+$ 30 $-$ 4.50 39 28.61	$+11.64$
$(\delta) - D$	d'_{100}										
δ_1	$+12.09$ -120.20	6 30.92		38 8.4						39 28.61	
d	$+21.8$ 1.33846 9.78296 1.20836	$3.38.3$	32.2	43	32.75	39 52 39 $+$	15.60 8.66 16.16		40	39 24.82 $-$ 13 $+$ 66.70 $+$ 10.73 $+$ 30 $-$ 5.80 39 30.58	$+11.56$
$(\delta) - D$	d'_{100}										
δ_2	$+12.09$ -120.20	6 30.76		38 10.4						39 30.58	
d	-45.6 $+744$ -28.6 1.65896 9.78853 1.53543	$3.6.5$	5.7	18	6.10	4 52 4 $-$	42.25 34.55 34.31		15	52 4 0.24 $-$ 55 $+$ 62 $+$ 10.77 $+$ 30 $-$ 10.40 4 0.28	$+10.44$
$(\delta) - D$	d'_{100}										
δ_1	$+16.46$ -13.64	30 2.17		2 56.6						4 0.28	
d	28.0 -32.0 1.50515 9.78445 1.37754	$2.18.0$	18.0	52	18.00	30 52 30 $-$	30.35 22.65 23.85		50	52 29 58.80 $-$ 27 $+$ 46 $+$ 10.53 $+$ 30 $-$ 10.30 29 59.52	$+11.02$
$(\delta) - D$	d'_{100}										
δ_2	$+16.36$ -15.16	37 15.34		28 54.4						29 59.52	
d	$+20.7$ 1.40993 9.78869 1.28656	$3.29.3$	29.0	18	29.15	4 52 4 $+$	19.20 11.50 19.34		15	52 4 30.84 $-$ 18 $+$ 70 $+$ 10.07 $+$ 30 $-$ 10.00 4 31.73	$+10.89$
$(\delta) - D$	d'_{100}										
δ_1	$+16.05$ -17.12	47 16.63		3 24.6						4 31.73	
d	$+24.3$ 1.38561 9.78230 1.25585	$0.9.1$	9.2	40	9.15	42 52 42 $+$	39.20 31.50 18.02		40	52 42 49.52 $-$ 15 $+$ 4 $+$ 10.76 $+$ 30 $-$ 10.10 42 50.37	$+10.95$
$(\delta) - D$	d'_{100}										
δ_2	$+16.07$ -17.64	49 56.11		41 42.7						42 50.37	
d		$2.21.6$	19.8	22	20.70	0	27.65		20		
$(\delta) - D$	d'_{100}										
δ_1											
d	$+24.4$ 1.38739 9.78130 1.25663	$3.27.0$	27.2	33	27.10	49 52 49 $+$	21.25 13.52 18.06		30	52 49 31.58 $-$ 15 $+$ 68 $+$ 10.93 $+$ 30 $-$ 9.40 49 34.62	$+11.76$
$(\delta) - D$	d'_{100}										
δ_2	$+15.34$ -12.32	17 25.64		48 22.3						49 34.62	

Date₁ = 52° 53' 51" M. 11Observer S.M.
Recorder N.R.Date₂ = Apr. 24Observer
Recorder

18

Star.	α	δ	Mag.	T_s	T_m	T_o	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
10. 19. 31		52.9	9.5	19.20.3	42.3	50.7	54.6	58.8	62.9	269.3	53.86	11.42	19 42.44
Apr-18-		52.42.0	9.4							-2.96	89		-2.892
18 K 37.1													-5
(8) - D													19 39.55
α_1													-90
													19 38.65
10. 22. 04		54.8	8.5	21.44.1	32.50	13.0	17.1	21.2	25.6	42.0	16.40	11.50	22 4.90
Apr-18-		52.59.9	8.0							-2.96	89		-2.892
21 K 03													-5
(8) - D													22 2.01
α_2													-93
													22 1.08
10. 23. 05		28.4	8.3	22.48.2	23.5.8	14.0	18.0	22.0	26.2	46.0	17.20	11.38	23 5.82
Apr-18-		52.33.5	8.3							-2.96	89		-2.892
22 K 1.7													-5
(8) - D													23 2.93
α_1													-93
													23 2.00
10. 24. 38		29.9	8.8	24.17.6	38.9	47.2	51.1	55.3	59.4	251.9	50.38	11.39	24 3.89
Apr-18-		52.35.0	8.3							-2.96	89		-2.892
23 K 35.0													-5
(8) - D													24 36.10
α_2													-94
													24 35.16
10. 26. 45		48.4	8.9	26.23.3	46.7	53.0	57.0	62.0	67.3	291.0	58.20	11.47	26 46.73
Apr-18-		52.53.6	8.5							-2.96	89		-2.892
26 K 42.0													-5
(8) - D													26 43.84
α_1													-97
													26 42.87
11. 30. 20		20.6	8.8	29.57.3	30.21.3	24.5	33.4	37.7	41.6	163.5	32.70	11.35	30 21.35
Apr-18-		52.26.1	9.0							-2.89			-2.892
W. AR 28.9													-5
(8) - D													30 18.46
α_2													-1.40
													30 17.06
11. 32. 27		53.9	8.0	32.9.1	28.8	37.0	41.0	45.3	49.4	201.5	40.30	11.50	32 28.80
Apr-18-		52.57.5	7.8							-2.89			-2.892
WAR 31 K 31.8													-5
(8) - D													32 25.91
α_1													-1.44
													32 24.47
11. 34. 37		42.6	8.3	34.15.5	38.5	46.6	50.7	54.8	59.0	249.6	49.92	11.45	34 38.47
Apr-18-		52.45.2	8.3							-2.89			-2.892
WAR 33 K 41.9													-5
(8) - D													34 35.58
α_2													-1.44
													34 34.14
11. 36. 09		38.3	8.4	35.51.8	36.10.3	18.5	22.5	26.5	30.7	108.5	21.70	11.43	36 10.27
Apr-18-		52.43.9	8.3							-2.89			-2.892
WAR 36 K 13.4													-5
(8) - D													36 7.38
α_1													-1.45
													36 5.93
11. 37. 00		41.6	8.8	36.47.0	39.8	8.0	12.0	16.0	20.2	56.0	11.20	11.44	36 59.76
Apr-18-		52.42.2	8.9							-2.89			-2.892
WAR 36 K 4.4													-5
(8) - D													36 56.87
α_2													-1.45
													36 55.42

Runs

19

		$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ'
2		+2.21 1.34439 9.78474 1.21427 562	0.527	49.0	45	50.85	26 52 26 + 36	57.50 49.77 16.43		56-52	37 + 0.68 + .13 + .16 + 10.53 + 30 + 2.30 27 862 + 862	+10.86 11.04
5	δ_1	+15.25 -112.68	19 53.90		35 55.9							
2		+20.8 1.31806 9.78830 1.18630	2.574	56.5	27	56.95	54 52 54 + 536	51.40 43.67 15.36		25-52	54 + 0.68 + .12 + .58 + 11.03 + 30 + 9.30 53 220 + 0.68 + 290 + 96 + 10.55 + 30 - 9.20 28 6.10 + 0.68 + .12 + .58 + 10.58 + 30 - 9.10 30 29.96 + 0.68 + 19.85 + .14 + .92 + 10.93 + 30 - 9.10 49 23.24 + 1.13 + 23.98 + .15 + .52 + 10.41 + 30 - 6.30 20 29.39 + 1.13 + 53 57.32 + .10 + .80 + 11.00 + 30 + 6.30 54 4.15 + 1.13 + 42.94 + .14 + .24 + 10.98 + 30 - 6.10 41 49.15 + 1.13 + 23.62 + .8 + 90 + 10.92 + 30 - 6.00 38 50.59 + 1.13 + 29.27 + .8 + 46 + 10.76 + 30 - 6.00 40 35.87	+11.79
8	δ_2	+15.22 -113.04	22 16.30		58 49.2							
2		+17.6 1.24551 9.78478 1.11823	4.507	57.0	54	50.85	27 52 27 + 1313	57.50 49.77 13.13		50-52	28 + 0.68 + .12 + .96 + 10.55 + 30 - 9.20 28 6.10 + 0.68 + 290 + 96 + 10.55 + 30 - 9.10 30 29.96 + 0.68 + 19.85 + .14 + .92 + 10.93 + 30 - 9.10 49 23.24 + 1.13 + 23.98 + .15 + .52 + 10.41 + 30 - 6.30 20 29.39 + 1.13 + 53 57.32 + .10 + .80 + 11.00 + 30 + 6.30 54 4.15 + 1.13 + 42.94 + .14 + .24 + 10.98 + 30 - 6.10 41 49.15 + 1.13 + 23.62 + .8 + 90 + 10.92 + 30 - 6.00 38 50.59 + 1.13 + 29.27 + .8 + 46 + 10.76 + 30 - 6.00 40 35.87	+11.72
3	δ_1	+15.14 -113.16	23 17.14 24 54.13		26 52.9							
7		+21.24 1.33041 9.78445 1.20280	2.30.0	28.9	52	59.45	30 52 30 + 15.95	18.40 11.17 15.95		50-52	30 + 0.68 + .12 + .58 + 10.58 + 30 - 9.10 30 29.96 + 0.68 + 19.85 + .14 + .92 + 10.93 + 30 - 9.10 49 23.24 + 1.13 + 23.98 + .15 + .52 + 10.41 + 30 - 6.30 20 29.39 + 1.13 + 53 57.32 + .10 + .80 + 11.00 + 30 + 6.30 54 4.15 + 1.13 + 42.94 + .14 + .24 + 10.98 + 30 - 6.10 41 49.15 + 1.13 + 23.62 + .8 + 90 + 10.92 + 30 - 6.00 38 50.59 + 1.13 + 29.27 + .8 + 46 + 10.76 + 30 - 6.00 40 35.87	+11.26
6	δ_2	+15.10 -113.40	24 50.26		29 16.6							
2		+23.4 1.36922 9.78130 1.23746	3.38.2	37.9	33	38.05	49 52 49 + 1728	10.30 2.57 17.28		30-52	49 + 0.68 + .14 + .92 + 10.93 + 30 - 9.10 49 23.24 + 1.13 + 23.98 + .15 + .52 + 10.41 + 30 - 6.30 20 29.39 + 1.13 + 53 57.32 + .10 + .80 + 11.00 + 30 + 6.30 54 4.15 + 1.13 + 42.94 + .14 + .24 + 10.98 + 30 - 6.10 41 49.15 + 1.13 + 23.62 + .8 + 90 + 10.92 + 30 - 6.00 38 50.59 + 1.13 + 29.27 + .8 + 46 + 10.76 + 30 - 6.00 40 35.87	+11.81
4	δ_1	+15.07 -113.68	26 57.94		48 9.6							
2		+24.0 1.38021 9.78609 1.25424	2.36.7	33.6	2	35.10	20 52 20 + 17.96	13.25 5.52 17.96		0-52	20 + 0.68 + .15 + .52 + 10.41 + 30 - 6.30 20 29.39 + 1.13 + 53 57.32 + .10 + .80 + 11.00 + 30 + 6.30 54 4.15 + 1.13 + 42.94 + .14 + .24 + 10.98 + 30 - 6.10 41 49.15 + 1.13 + 23.62 + .8 + 90 + 10.92 + 30 - 6.00 38 50.59 + 1.13 + 29.27 + .8 + 46 + 10.76 + 30 - 6.00 40 35.87	+11.08
6	δ_2	+13.18 -119.56	30 30.24		19 9.8							
4		+19.7 1.29447 9.78047 1.16288	3.69.3	56.4	28	57.85	53 52 53 + 1455	50.50 42.77 14.55		25-52	53 + 0.68 + .10 + .80 + 11.00 + 30 + 6.30 54 4.15 + 1.13 + 42.94 + .14 + .24 + 10.98 + 30 - 6.10 41 49.15 + 1.13 + 23.62 + .8 + 90 + 10.92 + 30 - 6.00 38 50.59 + 1.13 + 29.27 + .8 + 46 + 10.76 + 30 - 6.00 40 35.87	+12.00
1	δ_1	+13.13 -119.64	32 37.60		52 44.5							
2		+23.0 1.36173 9.78263 1.23230	1.16.2	13.3	41	14.75	41 52 41 + 17.07	33.60 25.87 17.07		40-52	41 + 0.68 + .14 + .24 + 10.98 + 30 - 6.10 41 49.15 + 1.13 + 23.62 + .8 + 90 + 10.92 + 30 - 6.00 38 50.59 + 1.13 + 29.27 + .8 + 46 + 10.76 + 30 - 6.00 40 35.87	+11.18
8	δ_2	+13.06 -119.72	34 47.20		40 29.4							
4		+18.5 1.26717 9.78313 1.13824	4.31.7	29.8	44	30.75	38 52 38 + 13.75	17.60 9.87 13.75		40-52	38 + 0.68 + .8 + 90 + 10.92 + 30 - 6.00 38 50.59 + 1.13 + 29.27 + .8 + 46 + 10.76 + 30 - 6.00 40 35.87	+11.84
3	δ_1	+13.01 -119.80	36 18.94		37 10.8							
2		+12.8 1.10721 9.78280 0.97795	2.22.8	18.9	42	20.85	40 52 40 + 9.50	27.50 19.77 9.50		40-52	40 + 0.68 + .8 + 90 + 10.92 + 30 - 6.00 38 50.59 + 1.13 + 29.27 + .8 + 46 + 10.76 + 30 - 6.00 40 35.87	+11.47
7	δ_2	+12.99 -119.80	37 8.41		39 16.1							

10 52° to 53°
 Date₁ = Apr. 18

Observer A. M.
 Recorder W. A. R.

Date₂ = Apr. 24

Observer W. A. R.
 Recorder A. M.

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Run

Star.	α	δ	Mag.	T_s	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
11. 53.16		18.7	8.6	52.598	52.165	24.5	28.7	32.7	36.8	139.2	27.84	11.24	53 165.0
AR 52 K 22.7		52 24.3	8.9							-2.87			-2.80
													-5
													-2
													53 13.63
													-1.53
													53 12.10
(δ) - D) κ'_{100}													
α_1													
9. 58.43		5.1	9.5	58.23.1	46.4	54.2	58.0	62.0	66.3	286.9	57.38	11.28	58 461.0
Apr. 24		52 10.0	9.4							-3.25	+3.01		+3.13
57 K 42.7													-1.0
													-2
													58 49.11
													-59
													58 48.52
(δ) - D) κ'_{100}													
α_2													
11. 58.1		9.5		9. 56.6.4	27.5	35.4	39.5	43.7	47.7	193.8	38.76	11.30	56 27.46
9. 56.32		52 14.4	9.0							-3.25	+3.01		+3.13
Apr. 24													-1.0
55 K 25.8													-2
													56 30.47
													-54
													56 29.90
(δ) - D) κ'_{100}													
α_1													
11. 30.20		20.6	9.0	11. 29.48.8	30.15.4	23.6	27.6	31.4	35.7	133.7	26.74	11.35	30 18.39
29 33.9		52 26.1	9.0							-3.25	+2.99		+3.11
Apr. 24													-1.0
													-2
													30 18.38
													-1.31
													30 17.07
(δ) - D) κ'_{100}													
α_2													
κ													
(δ) - D) κ'_{100}													
α_1													
κ													
(δ) - D) κ'_{100}													
α_2													
κ													
(δ) - D) κ'_{100}													
α_1													
κ													
(δ) - D) κ'_{100}													
α_2													

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ'
d	167. 1.22272 9.78609 1.09675	3.5.7	0.8	3	325	52 19 19 +	15.10 37.89 12.50		0.	52 19 49.87 + 1.13 - 62 + 10.39 + 30 - 5.10 19 57.13	+11.23
$((\delta) - D) \frac{d'}{100}$											
δ_1	+12.49 -12.20	53 24.59	18 36.9								
d	+230. 1.36173 9.78653 1.23820	3.4.5	2.7	18	360	52 4 4 +	44.75 37.81 17.31		15	52 4 55.12 - .14 + .59 + 16.14 + 30 - 10.60 4 55.38	+10.86
$((\delta) - D) \frac{d'}{100}$											
δ_2	+15.75 -12.28	59 4.27	3 46.1								
d	+21.1 1.32428 9.78805 1.20027	4 22.1	21.7	14	21.90	52 8 8 +	26.45 19.51 15.86		10	52 8 35.37 - 12 + 84 + 10.18 + 30 - 10.70 8 35.87	+11.20
$((\delta) - D) \frac{d'}{100}$											
δ_1	+15.82 -18.88	56 45.72	7 27.0								
d	+26.6 1.42488 9.78609 1.29891	2 35.2	33.2	2	34.20	52 20 20 +	14.15 7.21 19.90		0	52 20 27.11 - 19 + 49 + 10.39 + 30 - 7.50 20 30.60	+10.99
$((\delta) - D) \frac{d'}{100}$											
δ_2	+13.18 -119.56	30 30.25	19 11.0								
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											

Date₁ = April 2 -
 m = 7.15

Observer A. M.
 Recorder A. M.

Date₂ =

Observer
 Recorder

22

Star.	α	δ	Mag.	T_s	T_m	T_o	T_r	T_g	T_h	Sum	Mean	Red. to T_m	T
8. 10. 22	51.40	8.0	8. 9. 55.2	10.7	8	16.0	20.0	23.9	28.0	9.57	19.14	11.18	10 7.96
9	10.7	51.432	8.0							+15.78			+15.61
													+ .19
(8) - D	$\frac{\kappa'}{100}$												- 2
a_1													10 23.74
													- .19
													10 23.55
14. 0	51.38	8.8	8 13. 26.0	52.7	8	52.7	56.7	0.5	4.7	27.93	55.86	11.17	13 44.69
12 49.1	51.41.1	8.7	44.7							+15.79			+15.62
													+ .19
(8) - D	$\frac{\kappa'}{100}$												- 2
a_2													14 0.48
													- 22
													14 0.26
18. 12	51.31	8.9	17. 42.4	58.3	8	6.3	10.3	14.0	18.3	34.72	69.44	11.14	17 58.30
17 1.5	51.34.0	8.3								+15.79			+15.62
													+ .19
(8) - D	$\frac{\kappa'}{100}$												- 2
a_1													18 14.09
													- 25
													18 13.84
22. 31	51.03	7.6	22. 2.0	14.9	8	22.8	26.8	30.8	34.7	13.60	26.60	11.03	22 14.97
21 2.0	51.6.4	7.5								+15.79			+15.62
													+ .19
(8) - D	$\frac{\kappa'}{100}$												- 2
a_2													22 30.76
													- 29
													22 30.47
25. 39	50.54	8.2	25. 10.0	22.8	8	30.6	34.5	38.4	42.5	16.88	33.76	11.00	25 22.76
24 10.7	50.53.4	8.5								+15.78			+15.62
24 28.9	50.6.6												+ .18
(8) - D	$\frac{\kappa'}{100}$												- 2
a_1													25 38.54
													- 31
													25 38.23
29. 25	51.07	8.8	28. 52.7	24.9	8	17.3	21.2	24.3	3	10.26	20.52	11.05	29 9.47
28 15.3	51.2.0	8.7								+15.79			+15.62
	9.9												+ .19
(8) - D	$\frac{\kappa'}{100}$												- 2
a_2													29 25.26
													- 34
													29 24.92
33. 50	50.28	8.5	33. 18.5	33.4	8	41.2	44.9	48.9	52.9	22.13	44.26	10.90	33 33.36
32 40.1	50.2.2	8.4								+15.78			+15.62
													+ .18
(8) - D	$\frac{\kappa'}{100}$												- 2
a_1													33 49.14
													- 37
													33 48.77
37. 07	51.47	8.8	36. 33.3	30.1	8	58.0	2.0	6.1	10.2	36.64	61.28	11.21	36 50.07
35 57.5	51.50.7	8.7								+15.79			+15.62
													+ .19
(8) - D	$\frac{\kappa'}{100}$												- 2
a_2													37 5.86
													- 42
													37 5.44
39. 44	51.36	9.2	39. 13.5	28.1	8	36.1	40.2	43.9	48.1	19.64	39.28	11.16	39 28.12
38 34.4	51.39.4	9.2								+15.79			+15.62
													+ .19
(8) - D	$\frac{\kappa'}{100}$												- 2
a_1													39 43.91
													- 44
													39 43.47
47. 18	8.7	—	50. 16.5	27.2	8	34.9	39.1	42.7	46.5	19.04	38.08	10.84	50 27.24
50. 43	50.14									+15.78			+15.62
49 34.7	50.17.5	8.7											+ .18
(8) - D	$\frac{\kappa'}{100}$												- 2
a_2													50 43.02
													- 51
													50 42.51

Runs *Rys* *Rus.*
 Apr. 2 - 0 ~~6.70~~ M. +22
 210

23

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	8'
d	+128 1.10421 9.79240 0.98755	1.47.0	42.3	41	44.65	41 51 40 +	3.70 57.00 41 160 9.72		40.	51 41 672 - 5 + 37 + 9.75 + 30 - 1050 41 -7.09	1138 +10.37 11.69
$(\delta) - D) \frac{d'}{100}$											
δ_1	+17.98 -0.4328	10 41.573	40 28.41								
d	+18.7 1.27184 9.79288 1.15266	4.23.4	18.2	44	20.80	38 51 38 +	27.55 20.85 25.45 14.21		40.	51 38 3566 - 10 + 95 + 9.69 + 30 - 290 38 36.00	39.66 +10.84 40.60
$(\delta) - D) \frac{d'}{100}$											
δ_2	+17.92 -0.4436	11 18.18	37 56.2								
d	+159 1.20140 9.79415 1.08349	2.28.7	23.8	32	26.25	30 51 30 +	22.10 15.40 20.00 12.12		50	51 30 2752 - 87 + 53 + 9.56 + 30 - 980 30 28.04	32.12 +10.32 32.64
$(\delta) - D) \frac{d'}{100}$											
δ_1	+17.82 -0.4560	18 31.66	29 47.0								
d	+130 1.11394 9.79840 1.00828	4.25.8	19.0	19	22.40	3 51 3 +	25.95 14.25 23.85 10.01		15	51 3 2926 - 5 + 97 + 9.07 + 30 - 960 3 29.75	33.86 +10.29 34.55
$(\delta) - D) \frac{d'}{100}$											
δ_2	+17.66 -0.4680	22 48.13	2 47.8								
d	+128 1.10721 9.79981 0.99496	3.20.2	14.9	28	18.55	54 50 54 +	30.80 24.70 28.70 9.88		25	50 54 2398 - 5 + 73 + 8.91 + 30 - 950 54 34.37	35.58 +9.89 38.97
$(\delta) - D) \frac{d'}{100}$											
δ_1	+17.58 -0.4772	25 55.81	53 51.2								
d	+16.8 1.22531 9.79778 1.11103	1.17.2	10.6	16	18.90	6 51 6 +	34.45 24.75 32.35 12.91		15	51 6 4066 - 8 + 26 + 9.13 + 30 - 950 6 40.77	45.26 +9.61 45.37
$(\delta) - D) \frac{d'}{100}$											
δ_2	+17.55 -0.4876	29 42.47	5 56.6								
d	+14.9 1.17319 9.80397 1.06500	1.33.0	57.8	56	0.55	26 50 26 +	42.80 17.60 45.70 11.61		35	50 26 55.71 - 6 + 22 + 8.48 + 30 - 920 26 55.71	0.318 +8.87 56.98
$(\delta) - D) \frac{d'}{100}$											
δ_1	+17.36 -0.4996	34 6.13	26 7.0								
d	+16.8 1.22531 9.79160 1.10485	1.30.6	23.3	36	26.95	46 51 46 +	21.40 14.40 19.80 12.73		35	51 46 2743 - 8 + 31 + 9.83 + 30 - 950 46 28.29	32.03 +10.36 32.89
$(\delta) - D) \frac{d'}{100}$											
δ_2	+17.54 -0.5084	37 22.95 36 47.9	45 42.0								
d	+14.6 1.16435 9.79335 1.04564	3.11.9	6.0	48	8.95	34 51 34 +	39.40 32.70 37.30 11.11		45	51 34 4381 - 6 + 68 + 9.62 + 30 - 940 34 44.75	46.41 +10.54 48.55
$(\delta) - D) \frac{d'}{100}$											
δ_1	+17.46 -0.5156	40 34 0.93	33 58.0								
d	+10.7 1.02938 9.80610 0.92342	0.8.7 4.26.5	9 18.2	9	20.85	13 50 13 +	27.50 20.80 25.40 8.38		5	50 13 2918 - 3 + 95 + 8.18 + 25 - 880 13 27.73	33.78 +9.35 34.33
$(\delta) - D) \frac{d'}{100}$											
δ_2	+17.01 -0.5444	59.52 50 25.50	12 39.9								

Date₁ = April 2.Observer *A. M.*
Recorder *A. M.*Date₂ =Observer
Recorder

24

Star.	α	δ	Mag.	T_s	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
8.	54.2	50.32	9.3	53.42.0	56.0	3.8	7.6	11.6	15.6	33.46	66.92	10.91	53 52.01
	54.53.7	50.36.0	9.32							+15.78			+15.62
	53 2.0	39.1											+18
	(δ) - D)	$\frac{\kappa'}{100}$											-2
	α_1												54 11.79
													54 11.25
													+17.0
													-0.5
59.	55	49.50	9.2	59.29.0	46.3	54.2	57.7	1.6	5.5	285.3	57.06	10.75	59 46.31
	58 48.0	50.61								+15.78			+15.62
	κ	54.8	49.53.6										+18
	(δ) - D)	$\frac{\kappa'}{100}$											-2
	α_2												00 2.09
													-57
													0 15.2
													+16.0
													-0.5
9	49	52.31	9.3	9.14.3	31.0	39.0	43.0	47.0	57.2	21.12	42.24	11.40	9 30.84
	8 37.7	52.34.7	9.0							+15.80			+15.63
	κ												+19
	(δ) - D)	$\frac{\kappa'}{100}$											-2
	α_1												9 46.64
													-70
													9 45.94
													+17.0
													-0.5
15.	58	50.43	8.9	15.31.0	42.8	50.3	54.5	58.4	2.4	26.84	53.68	10.95	15 42.73
	14 57.6	50.47.5								+15.79			+15.63
	κ												+18
	(δ) - D)	$\frac{\kappa'}{100}$											-2
	α_2												15 58.52
													15 57.81
													+16.0
													-1.0
29.	44	50.28	8.0	29.12.5	29.3	37.2	41.0	45.0	49.0	20.15	40.30	10.90	29 29.40
	28 38.9	50.32.3								+15.79			+15.63
	κ												+18
	(δ) - D)	$\frac{\kappa'}{100}$											-2
	α_1												29 45.19
													-81
													29 44.38
													+16.0
													-1.0
32.	21	49.81	9.3	31.55.7	32.57	13.6	17.3	21.2	24.8	8.26	16.52	10.75	32 57.7
	31 15.9	50.53	9.0							+15.79			+15.63
	κ												+18
	(δ) - D)	$\frac{\kappa'}{100}$											-2
	α_2												32 21.56
													-81
													32 20.75
													+16.0
													-1.0
35.	48	50.04	8.6	35.16.7	33.4	41.2	44.7	48.7	52.6	22.06	44.12	10.80	35 33.32
	34 43.4	50.4.6	8.5							+15.79			+15.63
	κ												+18
	(δ) - D)	$\frac{\kappa'}{100}$											-2
	α_1												35 49.11
													-84
													35 48.27
													+16.0
													-1.0
40.	16	51.29	9.3	39.45.3	40.18	9.8	13.4	17.7	21.7	6.44	12.88	11.14	40 1.74
	39 11.7	51.33.4	9.1							+15.80			+15.63
	κ												+19
	(δ) - D)	$\frac{\kappa'}{100}$											-2
	α_2												40 17.54
													-89
													40 16.65
													+16.0
													-1.0
44.	45	51.14	7.0	44.16.0	31.2	39.0	42.9	47.0	57.0	21.11	42.22	11.08	44 31.14
	43 41.3	51.16.6	7.0							+15.80			+15.63
	κ												+19
	(δ) - D)	$\frac{\kappa'}{100}$											-2
	α_1												44 46.94
													-91
													44 46.03
													+15.0
													-1.0
50.	28	51.16	9.0	49.57.3	50.15.2	23.0	27.0	30.8	34.6	130.6	26.12	11.08	50 15.04
	49 23.0	51.21.0	9.0							+15.80			+15.63
	κ												+19
	(δ) - D)	$\frac{\kappa'}{100}$											-2
	α_2												50 30.84
													-98
													50 29.86
													+15.0
													-1.0

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ'
d	+14.8 1.14613 980259 1.03666	2 1.3	156.1	46	58.70	35 49.65 50 35 41.75 + 10.88	47.55		45-	50 35 52.83 - 5 + 44 + 8.54 + 30 - 8.80 35 54.81	58.43 +9.28 58.91
(δ) - D $\frac{d'}{100}$				35 36 34 48.6							
+1700 -0 55.32 δ_1		54 28.25									
d	+17.3 1.23805 950972 1.13571	4 5.1	0.7	34	2.90	48 45.45 49 48 38.75 + 13.67	43.35		30-	49 48 52.42 - 8 + 88 + 7.75 + 25 - 8.60 48 52.82	57.02 +8.80 57.42
(δ) - D $\frac{d'}{100}$											
+1676 -0 56.76 δ_2		0 18.28		48 0.7							
d	+16.5 1.21748 978428 1.08970	2.1.2	1.55.6	51	58.40	30 49.95 52 30 45.25 + 12.29	47.85		50	52 30 55.54 - 7 + 44 + 10.62 + 35 - 8.90 30 57.48	0.14 +11.34 31 2.58
(δ) - D $\frac{d'}{100}$											
+1700 -0 59.16 δ_1		10 2.94		30 3.4							
d	+11.8 1.06819 980151 0.95764	4.27.3	22.8	39	25.25	43 23.30 50 43 16.60 + 9.07	21.20		35-	50 43 25.51 - 4 + 97 + 8.72 + 30 - 8.10 43 27.52	30.27 +9.95 32.12
(δ) - D $\frac{d'}{100}$											
+16.57 -1 0.60 δ_2		16 14.38		42 31.5							
d	+16.9 1.22789 980397 1.11980	1.20.2	14.3	56	17.25	26 31.10 50 26 24.90 + 13.18	25.00		55-	50 26 37.54 - 8 + 29 + 8.41 + 30 - 7.70 26 38.80	42.18 +8.92 43.40
(δ) - D $\frac{d'}{100}$											
+16.23 -1 3.64 δ_1		30 0.61		25 39.8							
d	+10.1 1.00432 950957 0.90183	2.17.5	11.6	32	14.55	50 33.80 49 50 27.10 + 9.98	31.70		30	49 50 35.08 - 3 + 48 + 7.78 + 25 - 7.60 50 38.76	39.68 +6.48 39.76 40.56
(δ) - D $\frac{d'}{100}$											
+1609 -1 4.20 δ_2		32 36.84		119 36.4							
d	+21.5 1.40654 980792 1.30240 1.11597	2.11.1	5.2	22	8.15	0 40.20 50 0 38.50 + 13.06 + 20.06	38.10		20	50 0 45.56 - 8 + 46 + 7.96 + 25 - 7.40 0 47.95	57.16 +8.59 52.35
(δ) - D $\frac{d'}{100}$											
+1603 -1 4.92 δ_1		36 4.30		59 47.4							
d	+16.4 1.21484 979447 1.09725	4.43.8	38.7	54	41.25	28 7.10 51 28 6.40 + 12.51	5.00		50	51 28 12.71 - 7 + 10.3 + 9.54 + 30 - 7.60 28 16.11	10.1751 +8.80 20.71
(δ) - D $\frac{d'}{100}$											
+16.13 -1 5.80 δ_2		40 32.78		27 14.9							
d	+15.1 1.17898 979684 1.06376	4.29.2	22.7	9	25.95	13 22.40 51 13 15.70 + 11.58	20.30		5-	51 13 27.28 - 6 + 97 + 9.25 + 30 - 7.40 13 30.34	31.88 +10.46 34.94
(δ) - D $\frac{d'}{100}$											
+15.99 -1 6.68 δ_1		45 2.02		12 28.5							
d	+17.8 1.24797 979636 1.13227	1.59.8	55.7	6	59.95	15 50.60 51 15 43.90 + 13.56	48.50		5-	51 15 57.16 - 9 + 44 + 9.29 + 30 - 7.20 16 0.20	2.06 +9.94 4.80
(δ) - D $\frac{d'}{100}$											
+15.85 -1 7.80 δ_2		50 45.71		14 57.0							

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Date₁ = April 2 $n = +15$ Observer A.M.
March 8 $n = +16$ Recorder A.M.

Date₂ = _____

Observer

Recorder

Ru:

[illegible]

Runs 8
 Apr 2 - 0 2.10
 8 8.46 m. +22
 21

27

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	8'
d	15.9 1.20140 9.79793 1.08727	2.9.3	2.2	14	5.95	51 5 + 12.23	42.60 35.90 12.23	40.50	15- 51	5 48.13 - 1 + 46 + 9.12 + 30 - 7.00 5 50.94	5273 +9.81 55.54
(8) - D) $\frac{d'}{100}$											
δ_1	+15.76 -1.836	53 43.48		4 47.2							
d	+15.0 1.14609 9.79731 1.06134	2.31.3	25.0	12	28.15	51 10 + 11.82	2020 13.50 11.82	18.10	10 51	10 22.42 - 6 + 55 + 9.20 + 30 - 6.90 10 28.11	29.62 9 +9.95 32.71
(8) - D) $\frac{d'}{100}$											
δ_2	+15.68 -1.896	57 7.74		9 23.8							
d	+16.6 1.22011 9.79463 1.10268	1.1.8	0.56.7	55	58.45	51 26 + 12.67	49.90 43.20 12.67	47.80	55- 51	26 55.57 - 8 + 88 + 9.48 + 30 - 6.80 26 59.65	0.47 +10.58 4.25
(8) - D) $\frac{d'}{100}$											
δ_1	+15.62 -1.964	1 4.72		25 54.6							
d	+23.1 1.36361 9.80397 1.25552 (8) - D) $\frac{d'}{100}$	1 8.2 +17.9 1.25285 9.80397 1.14476	6.1	56	9.15	50 26 + 13.96	41.20 32.74 13.96 15.01	+13.96	55- 50	26 46.70 - 9 + 23 + 8.09 + 30 - 8.60 26 46.63 50.68	50.75 +8.53
(8) - D) $\frac{d'}{100}$											
δ_2	+16.23 -1.364	30 0.80		25 43.0							
d	+18.5 1.26714 9.80792 1.16303	1 59.3	58.7	21	59.00	50 0 + 14.56	49.35 40.89 14.56		20- 50	0 55.45 - 9 + 42 + 7.65 + 25 - 8.40 0 55.28	+8.23
(8) - D) $\frac{d'}{100}$											
δ_1	+16.03 -1.492	36 4.38		59 50.4							
d	+18.0 1.25524 9.79684 1.13905	4.16.8	16.2	9	16.50	51 13 + 13.77	31.85 23.39 13.77		5- 51	13 37.16 - 9 + 90 + 8.89 + 30 - 8.40 13 38.76	+10.00
(8) - D) $\frac{d'}{100}$											
δ_2	+15.99 -1.668	45 2.10		12 32.1							
d	+16.5 1.21748 9.79636 1.10178	1.50.8	49.7	6	50.25	51 15 + 12.64	58.10 49.64 12.64		5- 51	16 22.8 - 7 + 38 + 8.94 + 30 - 8.30 16 3.53	+9.55
(8) - D) $\frac{d'}{100}$											
δ_1	+15.85 -1.780	50 45.80		14 55.7							
d	+12.9 1.11050 9.79793 0.99646	1.55.9	55.0	16	55.45	51 5 + 9.92	52.90 44.44 9.92		15- 51	5 54.36 - 5 + 40 + 8.77 + 30 - 8.10 5 55.68	+9.42
(8) - D) $\frac{d'}{100}$											
δ_2	+15.76 -1.836	53 43.34		4 47.3							
d	+12.6 1.10034 9.79715 0.98546	2.16.8	16.8	12	16.80	51 10 + 9.67	31.55 23.09 9.67		10- 51	10 32.76 - 5 + 48 + 8.84 + 30 - 8.00 10 34.33	+9.57
(8) - D) $\frac{d'}{100}$											
δ_1	+15.68 -1.896	57 7.77		9 25.4							
d	+14.7 1.16732 9.79463 1.04989	0.47.1	46.7	53	46.90	51 27 + 11.22	14.5 52.99 11.22		55- 51	27 4.21 - 6 + 17 + 9.13 + 30 - 7.90 27 5.85	+9.54
(8) - D) $\frac{d'}{100}$											
δ_2	+15.62 -1.964	1 4.56		25 56.2							

141 53
 Date₁ = Apr. 23-
 n = 211

Observer *A.m.*
 Recorder *A.m.*

Date₂ =

Observer
 Recorder

28

Star.	α	δ	Mag.	T_s	T_m	T_a	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
9.	44.45	51.14	7.0	44.26.8	43.7	57.6	55.6	54.5	3.7	27.41	54.82	11.08	44 43.74 +2.98 - .14 - .2 44 40.60 46.56 - 4.87 44 44.13 46.09
κ	43 41.3	51 18.6	7.0							-3.44	+2.82		+15.9 -16.
$(\delta) - D) \frac{\kappa'}{100}$													
α_1													
50.28	51.16	—	50.13.5	27.5								11.08	27.50
κ	49 25.0	51 21.0	9.0										
$(\delta) - D) \frac{\kappa'}{100}$													
α_2													
53.29	51.7	7.8										11.05	
κ	52 26.3	51 11.6	7.5										
$(\delta) - D) \frac{\kappa'}{100}$													
α_1													
56.53	52.10	7.0										11.06	
κ	53 50.5	51 14.6	7.0										
$(\delta) - D) \frac{\kappa'}{100}$													
α_2													
10.0.50	57.28	—										11.13	
κ	9 59 48.4	51 32.8	7.1										
$(\delta) - D) \frac{\kappa'}{100}$													
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													

Apr. 23 - 0^h 9.06 m. +19^m
Runs

29

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	s'
d	+16.94	4.17.8	16.9	9	17.35	13	31.00		5-	51 13 3490	
(8) - D) $\frac{a'}{100}$	1.22759					51 13	21.94				+10.18
δ_1	9.79684					+	12.96			+ .82	
	1.11267									+ 9.19	
										+ 2.5	
										-1060	
										13 3448	
d	+14.40	1.49.1	46.7	6	47.90	16	0.45		5-		
(8) - D) $\frac{a'}{100}$	9.79636					51 15	51.39				
δ_2						+					
d		1.58.9	57.1	16					15-		
(8) - D) $\frac{a'}{100}$											
δ_1											
d		2.19.4	18.8						10-		
(8) - D) $\frac{a'}{100}$											
δ_2											
d		0.45.4	43.8						35-		
(8) - D) $\frac{a'}{100}$											
δ_1											
d											
(8) - D) $\frac{a'}{100}$											
δ_2											
d											
(8) - D) $\frac{a'}{100}$											
δ_1											
d											
(8) - D) $\frac{a'}{100}$											
δ_2											
d											
(8) - D) $\frac{a'}{100}$											
δ_1											
d											
(8) - D) $\frac{a'}{100}$											
δ_2											

30

Star.	α	δ	Mag.	T_s	T_m	T_o	T_g	T_h	Sum	Mean	Red. to T_m	T
1871phae.	0. 39.23	18.4	9.2	lost observation							11.09	
10	38 25.0 51 23.4	9.0										
28 59	(8) - D	$\frac{\kappa'}{100}$										
35 3	a_1											
39 23												
		9.2		lost.								
	(8) - D	$\frac{\kappa'}{100}$										
	a_2											
41. 06	40 7.6	8.5	40.42.0 41.4.0	11.7	15.9	19.8	23.8	7 5.2	15.04	11.09	41 29.5	
	51 22.9	8.0						+3.24			+3.37	
											- .11	
	(8) - D	$\frac{\kappa'}{100}$									- 2	
	a_1										41 7.14	
											- .88	
											41 6.31	+14.5
												-1.15
	(8) - D	$\frac{\kappa'}{100}$									41 38.69	
	a_2										+3.44	
											- .12	
											- 2	
											41 5.99	
											- .85	
											41 6.17	+14.5
												-1.15
	(8) - D	$\frac{\kappa'}{100}$									41 38.69	
	a_2										+3.30	
											13.78	
											11.09	
											41 38.69	
											+3.44	
											- .12	
											- 2	
											41 5.99	
											- .85	
											41 6.17	+14.5
												-1.15
	(8) - D	$\frac{\kappa'}{100}$									42 29.38	
	a_1										+3.37	
											- .11	
											- 2	
											42 32.62	
											- .88	
											42 31.74	+14.5
											-1.15	
	(8) - D	$\frac{\kappa'}{100}$									42 29.38	
	a_2										+3.44	
											- .12	
											- 2	
											42 31.28	
											- .82	
											42 31.466	+14.4
												-1.15
	(8) - D	$\frac{\kappa'}{100}$									43 41.77	
	a_1										+3.37	
											- .11	
											- 2	
											43 45.01	
											- .71	
											43 44.10	+14.4
												-1.15
	(8) - D	$\frac{\kappa'}{100}$									43 48.47	
	a_2										+3.44	
											- .13	
											- 2	
											43 43.76	
											- .84	
											43 43.92	+14.4
												-1.15
	(8) - D	$\frac{\kappa'}{100}$									44 26.89	
	a_1										+3.37	
											- .11	
											- 2	
											44 30.13	
											- .90	
											44 29.23	+14.4
												-1.15
	(8) - D	$\frac{\kappa'}{100}$									44 28.69	
	a_2										+3.44	
											- .12	
											- 2	
											44 28.99	
											- .84	
											44 29.15	+14.4
												-1.15

Apr 26 - 0 8.12 M. +18
 Runs 29 7.78 M. +17

31

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	s'
d	5	11	11	1	11				1		
((8) - D) $\frac{a'}{100}$											
δ_1											
d											
((8) - D) $\frac{a'}{100}$											
δ_2											
d	+21.9 1.34044 9.79621 1.22459	0.32.2	31.1	5	31.65	51 17 17 +	16.70 8.58 16.77		5	51 17 25.35 - 13 + 9 + 9.33 + 2.5 - 9.50 17 25.39	+9.54
((8) - D) $\frac{a'}{100}$											
δ_1	+14.54 -15.52	41 20.85		16 9.9							
d	+22.4 1.245514 9.79621 1.12966m	0.2.8	1.8	5	2.30	51 17 17 -	46.05 38.27 13.48		5	17 24.79 - 9 + 2 + 9.07 + 2.5 - 10.00 17 24.04	+9.25
((8) - D) $\frac{a'}{100}$											
δ_2	+14.54 -15.52	41 20.71		16 8.5							
d	+18.1 1.25468 9.79872 1.14434	1.53.3	53.6	21	53.45	51 0 0 +	54.90 46.78 13.94		20	51 1 0.72 - 9 + 34 + 9.05 + 2.5 - 9.40 1 0.87	+9.55
((8) - D) $\frac{a'}{100}$											
δ_1	+14.48 -15.72	42 46.12		59 45.2							
d	+19.8 1.24667 9.79872 1.18333	1.52.2	52.8	21	52.50	51 0 0 +	55.85 48.07 15.25		20	1 3.32 - 11 + 32 + 8.80 + 2.5 - 9.90 1 2.68	+9.24
((8) - D) $\frac{a'}{100}$											
δ_2	+14.48 -15.72	42 46.14		59 47.0							
d	+13.3 1.12385 9.79288 1.00467	4.20.3	20.7	44	20.50	51 38 38 +	27.85 19.73 10.11		40	51 38 29.84 - 5 + 77 + 9.71 + 30 - 9.50 38 31.07	+10.73
((8) - D) $\frac{a'}{100}$											
δ_1	+14.49 -15.84	43 58.59		37 15.1							
d	+17.2 1.13553 9.79288 1.11635	4.22.9	22.0	44	22.45	51 38 38 +	25.90 18.12 13.07		40	38 31.19 - 8 + 75 + 9.45 + 30 - 10.00 38 31.61	+10.42
((8) - D) $\frac{a'}{100}$											
δ_2	+14.49 -15.84	43 58.41		37 15.8							
d	+23 1.244974 9.79934 1.13525m	0.20.4	20.3	25	20.35	50 57 57 -	28.00 19.88 13.65		25	50 57 6.23 - 9 + 5 + 8.99 + 2.5 - 9.30 57 6.13	+9.79
((8) - D) $\frac{a'}{100}$											
δ_1	+14.42 -15.92	44 43.65		55 50.2							
d	-10.8 1.01284m 9.79934 0.90012m	0.25.5	25.6	25	25.55	50 57 57 -	22.80 16.02 7.94		25	57 7.08 - 3 + 7 + 8.73 + 2.5 - 9.50 57 6.30	+9.02
((8) - D) $\frac{a'}{100}$											
δ_2	+14.42 -15.92	44 43.57		55 50.4							

51 to 52
Date₁ = M. 26

Observer
Recorder

S.M.
W.A.R.

Date₂ = Apr. 29

Observer
Recorder

S.M.
W.A.R.

32

Star.	α	δ	Mag.	T_s	T_m	T_e	T_r	T_g	T_h	Sum	Mean	Red. to T_m	T
0. 45. 31	44. 33.8	51 47.2	8.0	45.52.2	45.29.7	37.3	41.4	45.4	49.8	2036	40.72	11.15	45 29.57
			8.9							+3.24			+3.37
													- .11
(8) - D) $\frac{\kappa'}{100}$													45 - 2
α_1													45 32.81
													- .92
													45 31.89
													+14.3
													-116.5
			8.8	45.16.3	28.3	36.4	40.4	44.4	48.6	1981	39.62	11.15	45 28.47
										+3.30			+3.45
κ													- .13
(8) - D) $\frac{\kappa'}{100}$													- 2
α_2													45 31.77
													- .86
													45 31.91
													+14.4
													-116.4
			8.6	47.14.6	33.0	41.0	45.0	49.0	53.0	2210	44.20	11.16	47 33.04
			8.2							+3.24			+3.37
(8) - D) $\frac{\kappa'}{100}$													- .11
α_1													- 2
													47 36.28
													- .94
													47 35.34
													+14.3
													-116.4
			8.2	47.16.4	31.8	40.0	44.1	47.9	52.0	2158	43.16	11.16	47 33.00
										+3.30			+3.45
κ													- .13
(8) - D) $\frac{\kappa'}{100}$													- 2
α_2													47 35.30
													- .88
													47 35.42
													+14.3
													-116.4
			9.0	48.58.5	49.17.8	25.8	29.8	33.4	37.7	1445	25.90	11.07	49 17.83
			9.5							+3.24			+3.37
(8) - D) $\frac{\kappa'}{100}$													- .11
α_1													- 2
													49 21.07
													- .84
													49 20.13
													+14.3
													-116.4
			9.5	48.57.3	49.16.8	24.5	28.6	32.6	36.7	1392	27.84	11.07	49 18.77
										+3.31			+3.45
κ													- .12
(8) - D) $\frac{\kappa'}{100}$													- 2
α_2													49 20.08
													- .88
													49 20.20
													+14.3
													-116.4
			8.6	50.11.4	25.5	33.4	37.4	41.4	45.4	1831	36.62	11.12	50 25.50
			9.0							+3.24			+3.37
(8) - D) $\frac{\kappa'}{100}$													- .11
α_1													- 2
													50 28.74
													- .96
													50 27.78
													+14.2
													-116.4
			8.5	50.47.8	50.24.5	32.0	36.3	40.0	44.3	1771	35.42	11.12	50 27.30
										+3.30			+3.45
κ													- .13
(8) - D) $\frac{\kappa'}{100}$													- 2
α_2													50 27.60
													- .89
													50 27.71
													+14.2
													-116.4
			9.2	55.7.9	31.9	35.7	39.7	43.6		1749	34.98	11.00	55 23.98
			9.3							+3.24			+3.37
(8) - D) $\frac{\kappa'}{100}$													- .11
α_1													- 2
													55 27.22
													- .98
													55 26.24
													+14.1
													-117.2
			9.2	55.2.6	22.4	30.5	34.4	38.2	42.4	1679	33.58	11.00	55 23.58
										+3.32			+3.46
κ													- .12
(8) - D) $\frac{\kappa'}{100}$													- 2
α_2													55 25.90
													- .92
													55 25.98
													+14.1
													-117.2

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	8'
d	-226 1.354112 9.79224 1.23429	0.170	4.0	40	1700	42 51 42 23.23 17.15	31.35		40	51 42 6.08 - .14 + .5 + 9.78 + .30 - 7.50 42 6.57	+9.99
((6) - D) $\frac{d'}{100}$											
δ_1	+14.44 -116.04	45 46.38		40 50.5							
d	+122 1.08636 9.79224 0.96654	0.444	44.1	40	44.25	42 51 41 56.32 9.26	4.10		40	42 5.88 - .4 + .11 + 9.51 + .30 - 10.00 42 5.46	+9.88
((6) - D) $\frac{d'}{100}$											
δ_2	+14.44 -116.04	45 46.35		40 49.4							
d	+184 1.06482 9.79319 1.14595	1.454	44.8	46	45.10	36 51 35 55.13 13.99	3.25		45	51 36 9.12 - .9 + .31 + 9.68 + .30 - 8.40 36 9.92	+10.20
((6) - D) $\frac{d'}{100}$											
δ_1	+14.38 -116.28	47 49.72		34 53.6							
d	+156 1.10312 9.79319 1.07425	1.443	41.2	46	41.25	36 51 35 59.32 11.86	7.10		45	36 11.18 - .7 + .29 + 9.40 + .30 - 9.90 36 11.20	+9.92
((6) - D) $\frac{d'}{100}$											
δ_2	+14.38 -116.28	47 49.80		34 54.9							
d	+193 1.28556 9.79684 1.17034	0.67	5.0	10	5.85	12 51 12 42.50 34.38 14.80			10	51 12 49.18 - .10 + .2 + 9.26 + .25 - 9.20 12 49.41	+9.43
((6) - D) $\frac{d'}{100}$											
δ_1	+14.30 -116.48	49 34.48		11 32.9							
d	+195 1.29003 9.79684 1.17481	0.94	10.1	10	8.85 9.75	12 51 12 39.50 38.60 30.82 31.72 14.96			10	12 40.76 46.68 - .10 + .3 + 9.01 + .25 - 9.70 12 45.27 46.17	+9.19
((6) - D) $\frac{d'}{100}$											
δ_2	+14.30 -116.48	49 34.50		11 29.7							
d	+141 1.14922 9.79510 1.03226	3.463	44.8	58	45.55	24 51 23 54.68 10.77	2.80		55	51 24 5.45 - .5 + .68 + 9.46 + .30 - 9.30 24 6.54	+10.39
((6) - D) $\frac{d'}{100}$											
δ_1	+14.28 -116.56	50 42.06		22 50.0							
d	-227 1.35603 9.79510 1.23907	3.173	16.8	58	17.05	24 51 24 31.30 23.52 17.34			55	24 6.18 - .14 + .56 + 9.20 + .30 - 9.80 24 6.30	+9.92
((6) - D) $\frac{d'}{100}$											
δ_2	+14.28 -116.56	50 41.99		22 49.7							
d	+161 1.20683 9.79950 1.09427	2.49	4.8	27	4.85	55 50 55 43.50 35.38 12.42			25	50 55 47.80 - .4 + .35 + 8.97 + .25 - 9.00 55 48.33	+9.53
((6) - D) $\frac{d'}{100}$											
δ_1	+14.12 -117.08	55 40.36		54 31.3							
d	+200 1.30103 9.79950 1.18847	2.59	7.0	27	6.45	55 50 55 41.90 34.12 15.43			25	55 49.55 - .11 + .36 + 8.71 + .25 - 9.40 55 49.36	+9.21
((6) - D) $\frac{d'}{100}$											
δ_2	+14.12 -117.08	55 40.10		54 32.3							

Date₁ = 17 51° to 52° 55'

Observer *S.M.*
Recorder *W.A.R.*

Date₂ = Apr 29

Observer *S. M.*
Recorder *W. R. T.*

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Run

[illegible]

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	8'
d	+186.0 1.26951 9.79128 1.14873	4.29.8	28.9	34	59.35	48 51 48 +	19.00 10.88 14.08		30'	51 48 24.96 - .10 + .81 + 9.89 + .30 - 9.10 48 26.76	+10.90
(8) - D) $\frac{d'}{100}$											
δ_1	+1405 -11748	0 1.38		47 9.3						48 26.76	
d	+121 1.68279 9.79128 0.96201	4.23.8	23.6	34	23.70	48 51 48 +	24.65 16.87 9.16		30	48 26.03 - .4 + .75 + 9.61 + .30 - 9.60 48 27.05	+10.62
(8) - D) $\frac{d'}{100}$											
δ_2	+1405 -11748	0 1.44		47 9.6						48 27.05	
d	+29.8 -30.2302 1.482012 9.79256 1.36051m	2.50.0	52.5	42	51.25	39 51 39 +	57.10 48.98 22.94		40	51 39 26.04 - .24 + .50 + 9.73 + .30 - 8.90 39 27.43	+10.29
(8) - D) $\frac{d'}{100}$											
δ_1	+13.95 -11776	3 3.96		38 9.7						39 27.43	
d	+27.2 1.43457 9.79256 1.31507	3.37.4	34.9	43	36.15	39 51 39 +	12.20 4.42 20.66		40	39 25.08 - .19 + .61 + 9.45 + .30 - 8.90 39 25.85	+10.17
(8) - D) $\frac{d'}{100}$											
δ_2	+13.95 -11776	3 3.91		38 8.1						39 25.85	
d	+23.2 1.36549 9.79558 1.24901	2.9.3	8.3	2	8.80	20 51 20 +	39.55 31.43 17.74		0	51 20 49.17 - .14 + .38 + 9.40 + .25 - 8.60 20 50.46	+9.89
(8) - D) $\frac{d'}{100}$											
δ_1	+13.85 -11800	5 55.06		19 48.7						20 50.46	
d	+22.8 1.35793 9.79558 1.24145	2.9.7	8.8	2	9.25	20 51 20 +	39.10 31.32 17.44		0	20 48.76 - .14 + .37 + 9.14 + .25 - 8.20 20 49.18	+9.62
(8) - D) $\frac{d'}{100}$											
δ_2	+13.85 -11800	5 54.88		19 47.4						20 49.18	
d	+26.8 1.42813 9.79573 1.31180	2 26.7	26.3	2	26.50	20 51 20 +	21.85 13.73 20.50		0	51 20 34.23 - .19 + .43 + 9.40 + .25 - 8.50 20 35.62	+9.89
(8) - D) $\frac{d'}{100}$											
δ_1	+13.77 -11824	8 52.00		19 17.4						20 35.62	
d	+21.5 1.33244 9.79573 1.21611	2.20.8	21.2	2	21.00	20 51 20 +	27.55 19.57 16.45		0	20 36.02 - .12 + .41 + 9.14 + .25 - 9.10 20 36.60	+9.68
(8) - D) $\frac{d'}{100}$											
δ_2	+13.77 -11824	8 53.89		19 18.4						20 36.60	
d	+18.4 1.25527 9.79063 1.13384	0.55.8	0.56.5	30	56.15	51 51 51 +	52.20 44.08 13.61		30	51 51 57.69 - .9 + .16 + 9.96 + .30 - 8.70 51 59.32	+10.33
(8) - D) $\frac{d'}{100}$											
δ_1	+13.76 -11832	10 8.32		50 40.5						51 59.32	
d	+17.2 1.23553 9.79063 1.11410	56.5 56.7	53.9	30	54.80	51 51 51 +	53.55 45.77 13.00		30	51 58.77 - .15 + .69 + .30 - 8.00 51 59.53	+10.06
(8) - D) $\frac{d'}{100}$											
δ_2	+13.76 -11832	10 8.28		50 41.2						51 59.53	

51° to 52°
 15 55
 Date₁ = *Am. 20*

Observer
 Recorder

*A.M.
 W.A.R.*

Date₂ = *Am. 29*

Observer
 Recorder

*A.M.
 W.A.R.*

36

Ru

Star.	α	δ	Mag.	T_s	T_m	T_p	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
14.45	23.8	8.4	14.4	14.40.6	48.6	52.5	56.4	0.6	25.87	51.74	11.12	19	40.62
13 49.9	51 29.3	9.0	15.11.8						+3.25			14	+3.38
κ													- .11
(S) - D	κ'_{100}											14	- .2
α_1												14	43.84
												14	-1.14
												14	42.73
													+13.6
													-1.86
18.06	12.0	8.0	17.44.0	18.15	9.4	13.4	17.3	21.2	6.28	12.56	11.07	18	40.42
17 10.8	51 17.5	7.5	18.15						+3.33			14	+3.47
κ													- .12
(S) - D	κ'_{100}											14	- .2
α_2												14	43.75
												14	-1.08
												14	42.67
													+13.6
													-1.86
19.02	3.5	9.5	18.45.0	18.13	9.1	13.0	17.0	21.0	6.14	12.28	11.07	18	1.49
18 7.1	51 9.0	9.3	18.13						+3.33			18	+3.38
κ													- .11
(S) - D	κ'_{100}											18	- .2
α_1												18	4.74
												18	-1.16
												18	3.58
													+13.5
													-1.86
21.05	26.0	9.7	21.32.9	18.54.1	7.0	10.9	14.9	18.4	35.09	70.18	11.03	18	1.21
21 0.1	51 31.5	9.4	18.54.1						+3.33			18	+3.47
κ													- .12
(S) - D	κ'_{100}											18	- .2
α_2												18	4.54
												18	-1.10
												18	3.44
													+13.5
													-1.86
21.05	26.0	9.7	21.32.9	18.54.1	7.0	10.9	14.9	18.4	35.03	70.06	11.03	18	5.915
21 0.1	51 31.5	9.4	18.54.1						+3.33			18	+3.38
κ													- .11
(S) - D	κ'_{100}											19	- .2
α_1												19	2.40
												19	-1.16
												19	1.24
													+13.44
													-1.89
21.05	26.0	9.7	21.32.9	18.54.1	7.0	10.9	14.9	18.4	35.03	70.06	11.03	18	5.903
21 0.1	51 31.5	9.4	18.54.1						+3.33			18	+3.47
κ													- .12
(S) - D	κ'_{100}											19	- .2
α_2												19	2.36
												19	-1.10
												19	1.26
													+13.44
													-1.86
21.05	26.0	9.7	21.32.9	18.54.1	7.0	10.9	14.9	18.4	31.61	63.22	11.12	21	5.310
21 0.1	51 31.5	9.4	18.54.1						+3.25			21	+3.38
κ													- .11
(S) - D	κ'_{100}											21	- .2
α_1												21	55.35
												21	-1.19
												21	54.16
													+13.39
													-1.19
21.05	26.0	9.7	21.32.9	18.54.1	7.0	10.9	14.9	18.4	31.59	63.18	11.12	21	5.206
21 0.1	51 31.5	9.4	18.54.1						+3.32			21	+3.47
κ													- .13
(S) - D	κ'_{100}											21	- .2
α_2												21	55.38
												21	-1.14
												21	54.24
													+13.39
													-1.19
22.36	9.0	8.8	22.31.4	22.38	38.8	42.4	46.6	50.7	20.95	41.90	11.00	22	3.090
21 40.8	51 0.1	9.0	22.31.4						+3.25			22	+3.38
κ			22 59.8										- .11
(S) - D	κ'_{100}											22	- .2
α_1												22	34.15
												22	-1.18
												22	32.97
													+13.36
													-1.19
22.36	9.0	8.8	22.31.4	22.38	38.8	42.4	46.6	50.7	20.95	41.90	11.00	22	30.73
21 40.8	51 0.1	9.0	22 59.8						+3.34			22	+3.48
κ													- .12
(S) - D	κ'_{100}											22	- .2
α_2												22	34.04
												22	-1.13
												22	32.94
													+13.3
													-1.19

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ'
d	25.8 31.2 1.49415w 9.79510 1.37719w	3.857	37.0	58	36.45	24 51 24 -	11.90 3.78 23.83		55	51 23 39.95 - .26 + .65 + 9.46 + .25 - 8.80 23 41.75	+10.10
$(\delta) - D) \frac{d'}{100}$											
δ_1	+13.60 -118.68	14 56.33		22 23.1							
d	+22.7 1.35603 9.79510 1.23907	4.16.0	16.9	59	16.45	23 51 23 +	31.90 24.12 17.34		55	23 41.96 - .14 + .73 + 9.20 + .25 - 8.90 23 42.60	+10.08
$(\delta) - D) \frac{d'}{100}$											
δ_2	+13.60 -118.68	14 56.27		22 23.9							
d	+17.5 1.24304 9.79699 1.12497	0.34.5	34.1	10	34.30	12 51 12 +	14.05 5.93 13.43		10	51 12 12.36 - .8 + .11 + 9.25 + .25 - 8.20 12 20.67	+9.53
$(\delta) - D) \frac{d'}{100}$											
δ_1	+13.50 -118.88	18 17.08		11 1.8							
d	+21.2 1.32634 9.79699 1.21127	0.35.4	35.0	10	35.20	12 51 12 +	13.15 5.37 16.27		10	12 21.64 - .12 + .10 + 9.00 + .25 - 8.70 12 22.17	+9.23
$(\delta) - D) \frac{d'}{100}$											
δ_2	+13.50 -118.88	18 16.94		11 3.3							
d	+14.2 1.15229 9.79809 1.03822	3.5.0	4.0	18	4.50	4 51 4 +	43.85 35.73 10.92		15	51 4 46.65 - .5 + .56 + 9.12 + .25 - 8.10 4 48.43	+9.88
$(\delta) - D) \frac{d'}{100}$											
δ_1	+13.46 -118.96	19 14.70		3 29.5							
d	-33.6 +24.4 1.52634w 9.79809 1.41237w	2.24.1	24.0	17	24.05	5 51 5 -	24.30 16.52 25.85		15	4 50.67 - .30 + .41 + 8.86 + .25 - 8.60 4 51.29	+9.22
$(\delta) - D) \frac{d'}{100}$											
δ_2	+13.46 -118.96	19 14.72		3 32.3							
d	+19.2 1.28330 9.79478 1.16602	1.38.1	38.3	56	38.20	26 51 26 +	10.15 2.03 14.66		55	51 26 16.69 - .10 + .29 + 9.49 + .25 - 8.10 26 18.52	+9.93
$(\delta) - D) \frac{d'}{100}$											
δ_1	+13.39 -119.12	22 9.58		24 59.4							
d	+20.5 1.31170 9.79478 1.19447	1.41.0	40.1	56	40.55	26 51 26 +	7.80 0.02 15.65		55	26 15.67 - .11 + .29 + 9.23 + .25 - 8.60 26 16.73	+9.66
$(\delta) - D) \frac{d'}{100}$											
δ_2	+12.39 -119.12	22 9.63		24 57.6							
d	-28.9 1.46090 9.79965 1.34849 1.36326w	2.35.4	36.0	27	35.70	55 50 55 -	12.65 4.53 23.88 22.31		25	50 54 9.745 42.22 - .24 + .47 + 8.96 + .25 - 8.10 54 92.77 54 43.56 54 46.77 55 33.29 46.20 - .35 + .39 + 8.71 + .25 - 8.50 55 34.09 54 42.27 54 46.50	+9.44 +9.30 +8.80
$(\delta) - D) \frac{d'}{100}$											
δ_1	+13.36 -119.16	22 46.33		53 26.4							
d	-47.5 1.67669 9.79965 1.56428 1.01792	277.6	17.8	27	17.70	55 50 55 +	30.65 22.87 10.42 35.90 36.67		25	55 33.29 - .35 + .39 + 8.71 + .25 - 8.50 55 34.09 54 42.27 54 46.50	+9.30 +8.80
$(\delta) - D) \frac{d'}{100}$											
δ_2	+13.36 -119.16	22 46.30		53 27.3							

Runs

1871phae.pr

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ'	
d	-18.0 1.25524 9.79063 1.13384	$0.21.0$	20.0	30	20.50	52 51	27.85 19.73 13.61		30	51 52	6.12 9 $+ 5$ $+ 9.96$ $+ 30$ $- 7.80$ 52 8.54	$+10.22$
$(\delta) - D$	$\frac{d'}{100}$											
δ_1	$+13.17$ -119.56	30 19.99		50 49.0								
d	$+26.1$ 1.41664 9.79063 1.29521	$0.52.5$	52.1	30	52.20	51 51	56.05 48.27 19.73		30	52	8.00 $- 18$ $+ 15$ $+ 9.69$ $+ 30$ $- 8.40$ 52 9.56	$+9.96$
$(\delta) - D$	$\frac{d'}{100}$											
δ_2	$+13.17$ -119.56	30 20.06		50 50.0								
d	$+22.6$ 1.35411 9.79589 1.23794	$3.28.3$	29.3	3	28.80	19 51	19.55 11.43 17.30		0	51 19	28.73 $- 14$ $+ 63$ $+ 9.38$ $+ 25$ $- 7.40$ 19 31.45	$+10.12$
$(\delta) - D$	$\frac{d'}{100}$											
δ_1	$+12.97$ -119.80	36 36.51		18 11.6								
d	$+17.5$ 1.24304 9.79589 1.12687	$3.24.1$	24.1	3	24.10	19 51	24.25 16.47 13.39		0	19	27.86 $- 8$ $+ 58$ $+ 9.11$ $+ 25$ $- 8.00$ 19 31.72	$+9.86$
$(\delta) - D$	$\frac{d'}{100}$											
δ_2	$+12.97$ -119.80	36 36.52		18 11.9								
d	$+17.8$ 1.25042 9.79128 1.12964	$4.20.0$	20.6	34	20.30	48 51	28.05 19.93 13.48		30	51 48	33.41 $- 9$ $+ 17$ $+ 9.40$ $+ 30$ $- 7.50$ 48 36.79	$+10.88$
$(\delta) - D$	$\frac{d'}{100}$											
δ_1	$+12.95$ -119.84	37 39.59		47 17.0								
d	$+11.6$ 1.06446 9.79128 0.94368	$4.13.0$	13.1	34	13.05	48 51	35.30 27.52 8.78		30	48	36.30 $- 4$ $+ 71$ $+ 9.64$ $+ 30$ $- 8.10$ 48 38.81	$+10.84$
$(\delta) - D$	$\frac{d'}{100}$											
δ_2	$+12.95$ -119.84	37 39.65		47 19.0								
d	$+19.6$ 1.29226 9.79383 1.17403	$0.54.3$	52.5	50	53.40	31 51	54.95 46.83 14.93		50	51 32	1.76 $- 11$ $+ 16$ $+ 9.60$ $+ 30$ $- 7.40$ 32 4.81	$+9.95$
$(\delta) - D$	$\frac{d'}{100}$											
δ_1	$+12.90$ -119.88	39 43.35		30 44.4								
d	$+19.3$ 1.28556 9.79383 1.16733	$0.53.1$	52.6	50	52.85	31 51	55.50 47.72 14.70		50	32	2.42 $- 10$ $+ 15$ $+ 9.33$ $+ 30$ $- 8.00$ 32 4.10	$+9.68$
$(\delta) - D$	$\frac{d'}{100}$											
δ_2	$+12.90$ -119.88	39 43.27		30 44.2								
d	$+7.3$ 0.86332 9.79605 0.74731	$3.52.3$	53.0	4	17.60	18 51	30.75 22.63 5.59		0	51 18	25.22 $- 2$ $+ 77$ $+ 9.36$ $+ 25$ $- 7.30$ 18 31.28	$+10.36$
$(\delta) - D$	$\frac{d'}{100}$											
δ_1	$+12.88$ -119.92	39 47.0		17 11.4								
d	-21.9 1.34044 9.79605 1.22443	$3.52.3$	53.0	3	52.65	18 51	55.90 47.92 16.77		0	18	31.15 $- 13$ $+ 66$ $+ 9.11$ $+ 25$ $- 7.90$ 18 33.14	$+9.89$
$(\delta) - D$	$\frac{d'}{100}$											
δ_2	$+12.88$ -119.92	39 50.10		17 13.2								

Date₁ = Apr-26-Observer A.M.
Recorder W.A.R.Date₂ = Apr-29-Observer A.M.
Recorder W.A.R.

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Star.	α	δ	Mag.	T_s	T_m	T_e	T_r	T_g	T_h	Sum	Mean	Red. to T_m	T
11-40.26 39 31.9 κ	29.7 51 35.3	8.8 9.3		40.45.5	18.3	26.3	30.1	34.0	38.3	14.70 +3.25	29.40	11.14	40 18.26 +3.38 -1.1 -2 40 21.51 -1.32 40 20.19
(8) - D $\frac{\kappa'}{100}$ α_1													
κ			9.2	40.45.5	18.3	25.9	29.8	34.0	38.0	14.60 +3.34	29.20	11.14	40 18.06 +3.49 -1.3 -2 40 21.40 -1.27 40 20.13
(8) - D $\frac{\kappa'}{100}$ α_2													
40.12 44 18.8 κ	-3.4 51 2.2	8.9 9.0		44.43.5	16.8	14.4	18.5	22.5	26.5	8.87 +3.25	17.74	11.01	45 6.73 +3.38 -1.1 -2 45 9.98 -1.33 45 8.65
(8) - D $\frac{\kappa'}{100}$ α_1													
κ			8.9	44.40.3	16.6	14.5	18.4	22.3	26.2	8.80 +3.35	17.60	11.01	45 6.59 +3.49 -1.2 -2 45 9.94 -1.28 45 8.66
(8) - D $\frac{\kappa'}{100}$ α_2													
10.28.59 Apr-26- 27 54.3 κ	22.5 51 27.4 24.2	9.5 9.8		29.54.6	26.5	7.0	10.8	14.8	18.8	35.04 +3.24	70.08	11.11	28 58.97 +3.37 -1.1 -2 29 2.21 -7.8 29 1.43
(8) - D $\frac{\kappa'}{100}$ α_1													
10.22.10 Apr-26- 21 10.5 κ	39.9 51 44.7	7.3 6.6		21.57.3	22.7	15.5	19.5	23.4	27.6	9.35 +3.24	18.70	11.18	22 7.52 +3.37 -1.1 -2 22 10.76 -7.4 22 10.02
(8) - D $\frac{\kappa'}{100}$ α_2													
10.35-3 Apr-26 34 4.4 κ	28.8 51 33.8	7.0 6.5		34.38.0	39.6	7.6	11.4	15.3	19.5	353.3 +3.24	70.66	11.14	34 59.52 +3.37 -1.1 -2 35 2.76 -8.42 35 1.94
(8) - D $\frac{\kappa'}{100}$ α_1													
10.39.23 Apr-26 38 25.0 κ	18.4 51 23.4	9.2 9.0		double obs. see above.								11.09	
(8) - D $\frac{\kappa'}{100}$ α_2													
10.51.38 Apr-26 50 36.8 κ	41.1 51 46.2	9.0 9.0		57.18.9	32.1	40.0	44.0	48.0	52.3	27.64 +3.24	43.28	11.18	51 3.310 +3.37 -1.1 -2 51 35.34 -9.4 51 34.37
(8) - D $\frac{\kappa'}{100}$ α_1													
11.6.17 April-29- 5 21.6 κ	63.9 51 58.9	8.5 8.8		6.47.7	6.144	22.4	26.5	30.6	34.5	12.54 +3.32	25.68	11.24	6 14.44 +3.47 -1.3 -2 6 17.76 -9.03 6 16.73
(8) - D $\frac{\kappa'}{100}$ α_2													

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ'
d	252 1.43454 9.79415 1.31666	2.11.6	10.6	52	11.16	30 51 30	37.25 29.13 20.73		50	51 30 8.40 - .19 + .40 + 9.57 + .28 - 7.30 30 11.16	+10.06
$((\delta) - D) \frac{d'}{100}$											
δ_1	+12.86 -119.92	40 33.05	28 51.2								
d	-364 1.56110 9.79415 1.44309	2.3.3	4.9	52	4.10	30 51 30	44.25 36.47 27.74		50	30 8.73 - .36 + .36 + 9.30 + .28 - 7.90 30 10.41	+9.58
$((\delta) - D) \frac{d'}{100}$											
δ_2	+12.86 -119.92	40 32.99	28 50.5								
d	+232 1.36549 9.79934 1.25277	0.28.0	28.1	25	28.95	57 50 57	20.30 12.18 17.90		25	50 57 30.08 - .14 + .9 + 8.99 + .25 - 7.00 57 32.27	+9.19
$((\delta) - D) \frac{d'}{100}$											
δ_1	+12.71 -120.04	45 19.36	56 12.2								
d	+263 1.41996 9.79934 1.30724	0 30.1	30.8	25	30.45	57 50 57	12.790 18.12 20.29		25	57 30.41 - .18 + .5 + 8.74 + .25 - 7.60 57 41.67	+8.86
$((\delta) - D) \frac{d'}{100}$											
δ_2	+12.71 -120.04	45 14.37	56 11.6								
d	-556 1.74507 9.79558 1.62859 0.52644	2.4.3	3.0	2	3.65	20 51 20	44.70 36.58 - 3.36 - 42.52		0	51 30.22 - .1 + .38 + 9.39 + .27 - 9.90 20 35.55	+10.03
$((\delta) - D) \frac{d'}{100}$											
δ_1	+14.87 -114.00	29 16.30	18 40.2								
d	+102 1.60860 9.79272 0.88926	3.36.7	36.3	43	36.50	39 51 39	11.85 3.73 7.75		40	51 39 11.48 - .3 + .65 + 9.73 + .28 - 7.80 39 12.11	+10.63
$((\delta) - D) \frac{d'}{100}$											
δ_2	+15.08 -113.04	22 25.10	37 59.1								
d	+21.6 1.33244 9.79447 1.21485	4.31.3	33.1	54	32.20	28 51 28	16.15 8.03 16.40		50	51 28 24.43 - .12 + .87 + 9.53 + .27 - 9.50 28 25.22	+10.49
$((\delta) - D) \frac{d'}{100}$											
δ_1	+14.72 -114.80	35 16.66	27 10.4								
d		4.61.0	59.1		0.05		48.30				
$((\delta) - D) \frac{d'}{100}$											
δ_2											
d	+132 1.12054 9.792576 1.60107	2.19.1	17.9	42	18.50	40 51 40	29.85 21.73 10.02		40	51 40 31.95 - .5 + .41 + 9.76 + .28 - 9.20 40 32.75	+10.40
$((\delta) - D) \frac{d'}{100}$											
δ_1	+14.27 -116.68	51 48.64	39 16.1								
d	387 1.52244										
$((\delta) - D) \frac{d'}{100}$											
δ_2	+13.87	8 30.60									

51° - 52°

21 57
Date₁ = May 1.
n = -10

Observer *A. M.*
Recorder *N. A. R.*

Date₂ = May 2 -
n = -16

Observer *W. A. R.*
Recorder *A. M.*

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[illegible]

May 1 - 0 9.14 m. +.16
 Runs 2 4.89 R. .16

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ'
d	+2.55 1.31175 9.79699 1.19668	0.36.0	34.1	16	34.55	12 51 12 +	13.80 4.66 15.73		10	51 12 20.39 + .11 + .10 + 8.96 + .26 - 9.80 12 20.50	+9.21
(8) - D $\frac{d'}{100}$											
δ_1	+13.50 -1.18.88	18 17.05		11 1.6						12 20.50	
d	+10.6 1.02531 9.79699 0.91024	0.28.2	27.1	10	27.65	12 51 12 +	26.70 12.81 8.13		10	12 20.94 - .3 + 8.96 + .26 - 9.80 12 20.91	+9.27
(8) - D $\frac{d'}{100}$											
δ_2	+13.50 -1.18.88	18 17.01		11 2.0						12 20.91	
d	+2.17 1.33646 9.79063 1.21503	0.59.3	57.4	30	58.35	51 51 51 +	50.00 40.86 16.41		30	51 51 57.27 - .13 + .16 + 9.65 + .29 - 8.80 51 58.44	+9.97
(8) - D $\frac{d'}{100}$											
δ_1	+13.17 -1.19.56	30 19.99		50 38.9						51 58.44	✓
d	+2.55 1.40654 9.79063 1.28511	0.32.0	32.1	30	57.05	51 51 51 +	57.30 49.41 19.28		30	52 86.9 - .17 + .14 + 9.65 + .29 - 9.80 52 9.60	+9.91
(8) - D $\frac{d'}{100}$											
δ_2	+13.17 -1.19.56	30 20.01		50 50.0						52 9.60	✓
d	+2.1.9 1.34044 9.79585 1.22427	3.25.3	25.2	3	25.25	19 51 19 +	23.10 13.96 16.76		0	51 19 30.72 - .13 + .54 + 9.09 + .27 - 8.40 19 32.09	+9.77
(8) - D $\frac{d'}{100}$											
δ_1	+12.97 -1.19.80	36 36.49		18 12.3						19 32.09	
d	-15.0 1.17609w 9.79585 1.05992w	2 58.2	58.7	2	56.95	19 51 19 -	51.40 43.51 11.48		0	19 32.03 - .6 + .46 + 9.09 + .27 - 8.60 19 33.19	+9.76
(8) - D $\frac{d'}{100}$											
δ_2	+12.97 -1.19.80	36 36.77		18 13.4						19 33.19	
d	+1.54 1.18752 9.79128 1.06674	4.16.7	16.4	34	16.55	48 51 48 +	31.80 22.66 11.66		30	51 48 34.32 - .6 + .69 + 9.54 + .29 - 8.50 48 36.33	+10.51
(8) - D $\frac{d'}{100}$											
δ_1	+12.95 -1.19.84	37 39.56		47 16.5						48 36.33	
d	-17.7 1.23885w 9.79128 1.11727w	3.33.0	50.4	33	57.70	48 51 48 -	56.65 48.76 13.10		30	48 35.66 - .8 + .62 + 9.59 + .25 - 8.70 48 37.38	+10.42
(8) - D $\frac{d'}{100}$											
δ_2	+12.95 -1.19.84	37 39.47		47 17.5						48 37.38	
d	+2.4.7 1.39270 9.79934 1.27998	0 29.0	27.9	25	28.45	57 50 57 +	19.90 10.76 19.05		25	50 57 29.81 - .17 + .8 + 8.70 + .25 - 8.00 57 30.67	+8.66
(8) - D $\frac{d'}{100}$											
δ_1	+12.71 -1.20.04	45 21.39		56 10.6						57 30.67	
d	+2.9.9 1.44567 9.79934 1.36295	0 33.0	31.9	25	32.45	57 50 57 +	15.90 8.0A 23.96		25	57 31.07 - .24 + .8 + 8.70 + .25 - 8.20 57 31.66	+8.79
(8) - D $\frac{d'}{100}$											
δ_2	+12.71 -1.20.04	45 21.29		56 11.6						57 31.66	

51° 52'

Date₁ = May 1⁵⁷Observer A.M.
Recorder J.M.R.Date₂ = May 2⁵⁸Observer J.M.R.
Recorder J.M.

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Star.	α	δ	Mag.	T_s	T_m	T_e	T_r	T_g	T_h	Sum	Mean	Red. to T_m	T
May 1	11. 48. 48	43.5	8.5	48.22.1	43.6	57.8	55.8	59.6	5.6	274.4	54.8	11.19	48 43.6 8.3
	47 54.9	51 49.1	8.0							+3.09			+3.24
													- .13
													- 2
	(δ) - D	κ'_{100}											48 46.78
	a_1												-1.30
													48 45.48
May 2			8.8	48.15.9	43.7	51.7	55.6	57.7	3.6	274.8	54.8	11.19	48 43.6 8.3
										+2.93			+3.15
													- .20
													- 2
	(δ) - D	κ'_{100}											48 46.60
	a_2												-1.28
													48 45.32
May 1	50. 5	19.8	8.7	49. 43.6	50. 0.4	8.3	12.2	16.1	20.3	57.3	11.46	11.10	50 43.6 8.3
	49 16.4	51 25.4	9.0							+3.10			+3.24
													- .12
													- 2
	(δ) - D	κ'_{100}											50 3.46
	a_1												-1.30
													50 2.16
May 2			9.0	49. 36.9	50. 0.5	8.3	12.2	16.2	20.3	57.5	11.50	11.10	50 43.6 8.3
										+2.93			+3.15
													- .20
													- 2
	(δ) - D	κ'_{100}											50 3.33
	a_2												-1.28
													50 205
May 1	53. 13	46.0	9.2	52.46.6	53. 8.5	16.6	20.7	24.5	28.6	98.9	19.78	11.21	53 8.57
	52 18.9	51 54.6	9.0							+3.09			+3.24
													- .13
													- 2
	(δ) - D	κ'_{100}											53 11.66
	a_1												-1.33
													53 10.33
May 2			9.2	52.43.4	53. 8.7	16.7	20.7	24.7	28.7	99.5	19.90	11.21	53 8.69
										+2.93			+3.15
													- .20
													- 2
	(δ) - D	κ'_{100}											53 11.62
	a_2												-1.32
													53 10.30
May 1	11. 19. 2	3.5	8.8	18.46.3	59.3	7.2	11.0	14.8	19.0	35.13	70.26	11.03	11 19.2
	18 18.1	51 9.0	9.3										+3.24
													- .13
													- 2
	(δ) - D	κ'_{100}											11 11.66
	a_1												-1.33
													11 10.33
May 2			9.2	18.43.4	59.3	7.2	11.0	14.8	19.0	35.13	70.26	11.03	11 19.2
													+3.15
													- .20
													- 2
	(δ) - D	κ'_{100}											11 11.62
	a_2												-1.32
													11 10.30
May 1	11. 23. 03	-2.0	8.8	21 38.8	59.0	6.8	10.8	14.6	18.8	35.00	70.00	11.02	21 58.98
	21 13.4	51 3.6	8.7							+3.09			+3.24
													- .12
													- 2
	(δ) - D	κ'_{100}											22 2.07
	a_1												-1.09
													22 0.98
May 2			9.0	40.37.0	40.18.6	26.2	30.1	34.0	38.2	147.1	29.42	11.14	40 18.98
	39 31.9	51 35.3	9.3							+3.09			+3.24
													- .13
													- 2
	(δ) - D	κ'_{100}											40 21.37
	a_2												-1.24
													40 20.13
May 1	10. 29. 22	14.6	8.5	10.29.3.1	24.8	32.3	36.4	40.5	44.6	178.6	35.72	11.08	29 24.64
	28 23.0	51 14.5	8.4							+2.98			+3.20
													- .20
													- 2
	(δ) - D	κ'_{100}											29 27.62
	a_1												- .65
													29 26.97
May 2			8.0	10.40.33.9	44.0	48.1	52.3	56.0	23.9	75.3	15.06	11.09	41 3.97
	40 7.6	51 22.9								+2.97			+3.19
													- .20
													- 2
	(δ) - D	κ'_{100}											41 6.94
	a_2												- .75
													41 6.19

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ'
d	9.6 1.33445 9.79208 1.21447	4.86.3	31.4	59	31.05	43 51 43 +	17.90 8.16 16.39		35	51 43 24.55 - .13 + .72 + 9.49 + .29 - 8.00 43 26.72	+10.87
((8) - D) $\frac{d'}{100}$											
δ_1	+12.62 -120.12	4.8 58.04		42 6.65							
d	12.8 1.44404 9.79208 1.32406	4.87.2	36.3	39	36.75	43 51 43 +	11.60 3.71 21.09		35	43 24.80 - .21 + .74 + 9.49 + .29 - 8.10 43 27.01	+10.81
((8) - D) $\frac{d'}{100}$											
δ_2	+12.62 -120.12	4.8 58.00		42 6.9							
d	+16.8 1.22531 9.79573 1.10898	3 8.8	8.8	3	8.80	19 51 19 +	39.55 30.41 12.85		0	51 19 43.26 - .8 + .50 + 9.09 + .27 - 7.80 19 45.24	+9.78
((8) - D) $\frac{d'}{100}$											
δ_1	+12.58 -120.16	50 14.74		18 25.1							
d	+23.5 1.37107 9.79573 1.25474	3 16.8	18.7	3	14.75	19 51 19 +	33.60 25.71 17.98		0	19 43.69 - .14 + .51 + 9.09 + .27 - 8.00 19 45.42	+9.73
((8) - D) $\frac{d'}{100}$											
δ_2	+12.58 -120.16	50 14.63		18 25.3							
d	+22.0 1.34242 9.79144 1.22180	0 59.7	59.7	35	59.70	46 51 46 +	48.65 39.51 16.66		35	51 46 56.17 - .13 + .16 + 9.55 + .29 - 7.80 46 58.24	+9.87
((8) - D) $\frac{d'}{100}$											
δ_1	+12.49 -120.20	53 22.82		45 38.0							
d	59.23 +3.23 -12 -2 1.40312 9.79144 1.28250 +12.9	1.3.9	3.2	36	35.5	46 51 46 +	44.80 36.91 19.16		35	46 56.07 - .17 + .16 + 9.55 + .29 - 8.00 46 57.90	51 4 49.18 - .5 + .48 + 8.83 + .25 - 9.10 4 49.59
((8) - D) $\frac{d'}{100}$											
δ_2	+12.49 -120.20	51 46 56.07 +9.83	51 4 49.18 +9.51	36 35.5	35.5	46 51 46 +	44.80 36.91 19.16		15	46 56.07 - .17 + .16 + 9.55 + .29 - 8.00 46 57.90	51 4 49.18 - .5 + .48 + 8.83 + .25 - 9.10 4 49.59
d	+20.2 1.30535 9.79918 1.19247	4.35.6	35.7	24	35.35	58 50 58 +	13.00 4.86 15.58		20	50 58 20.44 - .11 + .74 + 8.73 + .25 - 8.90 58 21.15	+9.61
((8) - D) $\frac{d'}{100}$											
δ_1	+13.37 -119.12	22 14.35		57 2.0							
d	-18.7 1.27154 9.79415 1.15393	2.16.8	15.4	52	16.10	30 51 30 -	32.25 23.11 14.25		50	51 30 8.86 - .10 + .37 + 9.26 + .28 - 8.30 30 10.37	+9.81
((8) - D) $\frac{d'}{100}$											
δ_2	+12.86 -119.92	40 32.99		28 50.4							
d	+21.5 1.33244 9.79684 1.21722	4.48.7	46.3	9	47.50	13 51 12 +	0.85 52.96 16.49		5	51 13 9.45 - .12 + .77 + .26 - 10.80 Ref. + 8.96 13 8.52	+9.87
((8) - D) $\frac{d'}{100}$											
δ_1	+14.85 -114.08	29 41.82		11 54.4							
d	+30.1 1.44785 9.79621 1.36272	0 38.9	37.8	5	38.35	17 51 17 +	10.00 2.11 23.05		5	51 17 25.16 - .24 + .10 + 9.04 + .27 - 10.40 17 23.93	+9.17
((8) - D) $\frac{d'}{100}$											
δ_2	+14.54 -115.52	41 20.73		16 8.4							

May 1

51° 53'

Date₁ = May 2.

Observer

Recorder

Date₂ = May 2

Observer

Recorder

Star.	α	δ	Mag.	T_s	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	
0	42.31	0 1.1	9.5	10.42.9.0	29.5	37.1	41.0	45.0	49.4	202.0	40.40	11.02	42.29.38
	41.1	51.6	9.4							+2.97			+3.19
													-20
													-2
													42 32.35
													-76
													42 31.59
													+14.6
													-1.15
10	43.52	-3.4	8.5	43.23.2	57.3	57.3	3.3	7.0	11.3	31.2	2	62.44	11.01
	42.57.8	57.1.7	8.3							+2.97			43 51.48
													+3.19
													-20
													-2
													43 54.40
													-77
													43 53.63
													+14.5
													-1.1
49	20	12.8	9.5	48 56.6	44.18.0	25.7	29.8	33.9	37.9	14.53	29.06	11.07	49 17.99
	48 23.5	51.17.9	9.5							+2.97			+3.189
													-20
													-2
													49 20.96
													-82
													49 20.14
													+14.5
													-1.16
50	28	24.3	8.7	50.0.5	25.7	33.5	37.4	41.5	45.5	163.6	36.72	11.12	50 25.60
	49 28.7	51.29.4	9.0							+2.97			+3.189
													-20
													-2
													50 28.54
													-83
													50 27.74
													+14.2
													-1.16
58	20	31.3	8.6	57.52.7	58.19.5	27.4	31.5	35.4	39.5	153.3	30.66	11.14	58 19.52
	57 24.3	51.36.5	8.5							+2.96			+3.18
													-20
													-2
													58 22.48
													-90
													58 21.58
													+14.2
													-1.15
11	0-15	13.7	9.5	10.59.48.6	0.13.5	21.0	25.1	29.0	33.2	121.8	24.36	11.08	0 13.38
	10 59 18.8	51.15.2	9.4							+2.96			+3.18
													-20
													-2
													0 16.24
													-91
													0 15.23.33
													+14.0
													-1.17
2	50	38.5	9.5	2.20.1	47.7	55.3	59.7	4.0	8.0	294.9	58.98	11.17	20 47.81
	1 54.0	51.43.7	9.5							+2.96			+3.18
													-20
													-2
													2 50.77
													-94
													2 49.83
													+13.5
													-1.17
4	46	47.3	8.4	4.25.0	43.6	51.6	55.6	59.6	3.5	239.5	47.78	11.21	4 43.57
	3 50.8	51.52.6	9.0							+2.96			+3.18
													-20
													-2
													4 46.53
													-946
													4 43.57
													+13.5
													-1.17
6	17	53.9	9.0	5.57.6	6.14.9	22.7	26.7	30.9	34.8	130.0	26.00	11.24	6 14.76
	5 21.6	51.55.9	8.8							+2.96			+3.18
													-20
													-2
													6 17.72
													-97
													6 16.75
													+13.3
													-1.17
8	39	20.5	9.0	9.2.1	8.36.4	44.3	52.0	56.2			47.22	11.10	8 36.46.12
	7 43.4	51.25.8	9.0							+2.96			+3.18
													-20
													-2
													8 39.22.08
													-97
													8 38.45.38.11
													10 13.68
													+13.77
													-1.18
10	16	-2.2	8.9	9.52.3	10.18.7	21.5	25.5	29.3	33.5	123.5	24.70	11.02	10 13.68
	9 21.4	51.3.2	9.0										+13.77
													-1.18

1871phae proj. 1571

47

Runs
+13.70
-1 18.36

10 29.35 56 24.5

50 57 43.56
12
+ 8.68
+ 8.68
+ 2.5
- 2.50
57 43.90

	T _m - T	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	
d	90.4 1.30963 9.79872 1.19629	1.52.3	60.8	21	57.55	0 46.91 +	56.80 46.91 15.71		20	57 1 46.2 11 + 30 + 8.77 + 2.5 - 10.30 1 3.53
(8) - D) $\frac{d'}{100}$										+9.21
δ_1	+14.48 -1 15.72	42 46.07		59 47.8						
d	+28.2 1.45025 9.79958 1.33769	1.45.0	43.2	26	44.10	56 50 55 +	42.5 56.36 21.76		25	50 56 18.12 21 + 27 + 8.68 + 2.5 - 10.20 56 16.91
(8) - D) $\frac{d'}{100}$										+8.99
δ_2	+14.43 -1 15.84	44 8.06		55 1.1						
d	+21.4 1.33041 9.79684 1.21519	0.8.0	5.3	10	6.65	12 51 12 +	41.70 33.81 16.41		10	51 12 50.22 12 + 2 + 8.98 + 2.6 - 10.20 12 47.09 ¹⁶
(8) - D) $\frac{d'}{100}$										+9.14
δ_1	+14.30 -1 16.48	49 34.44		11 32.7						
d	+25.1 1.39967 9.79510 1.28271	3.53.8	57.2	38	52.50	23 51 23 +	55.85 47.96 19.17		33	51 24 7.13 17 + 62 + 9.16 + 2.7 - 10.20 24 6.81
(8) - D) $\frac{d'}{100}$										+9.88
δ_2	+14.28 -1 16.56	50 42.02		22 50.2						
d	+26.8 1.42813 9.79383 1.30990	3.3.6	1.3	57	24.5	370 51 370 +	45.90 38.01 20.41		50	57 370 58.42 19 + 16 + 9.29 + 2.8 - 10.00 370 57.96
(8) - D) $\frac{d'}{100}$										+9.64
δ_1	+14.07 -1 17.28	58 35.65		29 40.7						
d	+24.7 1.39270 9.79668 1.27432	4.11.8	10.9	9	10.95	13 51 13 +	37.40 29.51 18.94		5	57 13 48.45 17 + 67 + 8.99 + 2.6 - 9.80 13 48.40
(8) - D) $\frac{d'}{100}$										+9.75
δ_2	+14.00 -1 17.52	0 29.33		12 30.9						
d	+27.7 1.44248 9.79272 1.32314	336.3	34.8	43	35.55	39 51 39 +	12.80 4.91 21.04		40	57 39 25.95 20 + 58 + 9.42 + 2.8 - 9.90 39 26.13
(8) - D) $\frac{d'}{100}$										+10.08
δ_1	+13.95 -1 17.76	3 37.8		38 8.4						
d	+18.6 1.26951 9.79128 1.14873	4.48.0	46.9	34	47.45	48 51 47 +	0.90 53.01 14.08		30	57 48 70.9 10 + 77 + 9.57 + 2.9 - 9.80 48 7.82
(8) - D) $\frac{d'}{100}$										+10.53
δ_2	+13.90 -1 17.92	4 59.47		46 49.9						
d	+23.2 1.36549 9.79063 1.24406	0.14.9	12.7	30	13.80	52 51 52 +	34.35 26.66 17.54		30	57 52 44.20 14 + 3 + 9.63 + 2.9 - 9.80 52 44.23
(8) - D) $\frac{d'}{100}$										+9.83
δ_1	+13.87 -1 18.04	6 30.62		51 26.2						
d	+26.4 1.42247 9.79558 1.29466 8.49	1.44.1	41.8	1	42.9	21 51 20 -	5.40 57.51 19.58 88		0.5	57 20 37.23 ⁶³ 18 + 27 + 9.11 + 2.7 - 9.60 20 37.80 50
(8) - D) $\frac{d'}{100}$										+9.47
δ_2	+13.77 -1 18.24	8 27.95		19 19.3						
d	+21.4	0.14.7	12.1	25	13.40	57 50 57 +	34.95 27.06 16.50		20.5	# 50 57 43.56

May 12 - { Obs. & M. } in Carmine-
 $n = 17$ { Rec. & M. }
 Date₁ = May 7 - 24
 $n = 108$
 Observer A.
 Recorder A.

Observer *A. M. - 4*
Recorder *A. M. - 2*

Date₂ = May 15-
n = 18

Observer *M. A.R.*
Recorder *M. A.R. & H.G.*

[illegible]

May 4 - 0^h 7.29 m. +.15
 12 16.95 m. +.15
 15 16.24 R. +.15

		$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	8'
76	d +	+31.9 ^s 1.50379 9.78494 1.37664	1.11.4	9.7	56	10.80	26 52 -26 +	37.55 30.26 23.81		58	52 26 54.07 - .27 + .18 + 10.29 + .30 - 10.10 26 54.47	50 +10.68
	(8) - D $\frac{d'}{100}$											
	δ_1	+13.26 -1 19.44	27 46.77		25 35.0							
	d -	+30.8 1.48855 9.78494 1.36143	0 59.2	58.6	58	58.90	26 52 26 +	49.45 33.21 22.98		58	26 56.19 - .25 + .15 + 10.18 + .30 - 11.20 26 55.37	+10.38
	(8) - D $\frac{d'}{100}$											
	δ_2	+13.26 -1 19.44	27 46.89		25 35.9							
76	d	+15.2 1.18184 9.78609 1.05584	2 25.6	24.0	2	24.80	20 52 20 +	23.55 16.26 11.37		0	52 20 27.63 - .6 + .36 + 10.16 + .30 - 9.90 20 28.47	+10.76
	(8) - D $\frac{d'}{100}$											
	δ_1	+13.18 -1 19.56	30 30.26		19 8.9							
	d +	+21.0 1.52222 9.78609 1.19625	2.17.6	17.1	2	17.35	20 52 20 +	31.00 14.76 15.71		0	20 30.47 - .12 + .34 + 10.36 + .30 - 11.10 20 29.95	+10.58
	(8) - D $\frac{d'}{100}$											
	δ_2	+13.18 -1 19.56	30 30.29		19 10.4							
76	d	+19.0 1.27875 9.78043 1.14716	3.53.9	52.8	28	53.35	53 52 53 +	55.00 47.71 14.03		25	52 54 17.4 - .10 + .58 + 10.77 + .30 - 10.00 54 3.27	+11.55
	(8) - D $\frac{d'}{100}$											
	δ_1	+13.13 -1 19.64	32 37.71		52 43.6							
	d	+14.4 1.28780 9.78047 1.15621	4.40.6	37.9	29	39.25	53 52 52 +	4.10 52.86 14.33		25	19 - .10 + 10.66 + .30 - 11.20	exp. circ. Read
	(8) - D $\frac{d'}{100}$											
	δ_2	+13.13	32 37.81									
76	d	+20.6 1.31387 9.78246 1.16427	1 8.1	5.8	41	6.95	41 52 41 +	41.40 34.11 15.29		40	52 41 49.40 - .11 + .16 + 10.55 + .30 - 9.90 41 50.40	+10.90
	(8) - D $\frac{d'}{100}$											
	δ_1	+13.06 -1 19.72	34 47.22		40 30.7							
	d	+21.6 1.33445 9.78246 1.20485	0 57.0	57.2	40	57.10	41 52 41 +	57.25 35.01 16.03		40	41 57.64 - .13 + .15 + 10.44 + .30 - 11.10 41 50.70	+10.76
	(8) - D $\frac{d'}{100}$											
	δ_2	+13.06 -1 19.72	34 47.21		40 31.0							
76	d	+23.0 1.36173 9.78280 1.23247	2 23.3	22.0	42	22.65	40 52 40 +	25.70 18.41 17.08		40	52 40 35.49 - .14 + .36 + 10.53 + .30 - 9.80 40 36.74	+11.05
	(8) - D $\frac{d'}{100}$											
	δ_1	+12.99 -1 19.80	37 8.44		39 16.9							
	d	+25.1 1.39967 9.78280 1.27041	2 14.9	13.0	42	13.75	40 52 40 +	34.40 18.16 18.64		40	40 36.80 - .16 + .33 + 10.42 + .30 - 11.00 40 36.69	+10.69
	(8) - D $\frac{d'}{100}$											
	δ_2	+12.99 -1 19.80	37 8.44		39 16.9							

Date₁ =May 12⁶²

Observer

Recorder

4 m.
4 m.Date₂ =May 15⁶⁵

Observer

Recorder

W. R. - 76.6

Ru

Star.	α	δ	Mag.	T_s	T_m	T_e	T_r	T_g	T_h	Sum	Mean	Red. to T_m	T
11.	39. 36.	52. 38	7.6	39. 10.5	30.7	38.8	42.9	47.0	51.1	21.05	42.10	11.43	39 30.67
	38 57.9	52 43.9	7.5							+2.53			+2.876
	κ	40.8											-1.2
(8) - D	$\frac{\kappa'}{100}$												39 33.30
α_1													39 32.16
													+12.1
													-1.19
κ			7.9	39. 01.7	31.0	39.0	43.1	47.1	57.3	21.15	42.30	11.43	29 30.87
										+2.28			+2.53
(8) - D	$\frac{\kappa'}{100}$												-2.23
α_2													39 33.15
													-99
													39 32.16
													+12.9
													-1.19
11.	50. 05	51. 20	8.8	49. 40.3	50. 06	8.5	12.6	16.5	20.7	58.9	11.78	11.80	50 06.8
	49 11.4	51 25.4	9.0							+2.65			+2.877
	κ												-2.0
(8) - D	$\frac{\kappa'}{100}$												-1.2
α_1													50 3.33
													-1.19
													50 2.14
													+12.5
													-1.20
κ			9.0	50. 17.3	50. 1.0	8.9	12.8	16.8	20.8	6.03	12.06	11.10	50 0.96
										+2.29			+2.53
(8) - D	$\frac{\kappa'}{100}$												-2.2
α_2													50 3.25
													-1.04
													50 2.21
													+12.5
													-1.20
11.	53. 13	51. 46	9.3	52. 45.2	53. 8.7	16.8	20.8	24.8	28.8	9.99	19.98	11.31	53 8.77
	52 19.9	51 51.6	9.0							+2.65			+2.877
	κ												-2.0
(8) - D	$\frac{\kappa'}{100}$												-1.2
α_1													53 11.42
													-1.23
													53 10.19
													+12.4
													-1.20
κ			9.0	52. 36.2	49. 1	53. 1	57. 0	1.1	9.0	10.08	20.16	11.21	53 8.95
				53. 9.0	17.0	20.8	25.0	29.0		+2.28			+2.53
(8) - D	$\frac{\kappa'}{100}$												-2.3
α_2													53 11.23
													-1.08
													53 10.15
													+12.4
													-1.20
12.	5. 16	51. 33	8.0	12. 4. 59.1	5. 12.2	20.2	24.0	28.0	32.2	11.06	23.32	11.15	5 12.17
	4 24.8	51 35.8	7.9							+2.65			+2.877
	κ												-2.0
(8) - D	$\frac{\kappa'}{100}$												-1.2
α_1													5 17.92
													-1.31
													5 14.82
													-1.22
													5 12.51
													+12.3
													-1.20
Comp. precedes 0.5. 8 10" base.				14. 43.4	12.3	20.3	24.3	28.0	32.3	14.72	23.44	11.15	5 13.29
max. 9.6. κ										+2.29			+2.53
(8) - D	$\frac{\kappa'}{100}$												-2.2
α_2													5 14.58
													-1.16
													5 13.42
													+12.1
													-1.24
12.	24. 37	51. 41		24. 15.0	33.3	41.4	45.3	49.1	53.3	22.24	44.48	11.18	24 33.30
	23 48.1	51 47.0	7.9							+2.66			+2.877
	κ												-2.0
(8) - D	$\frac{\kappa'}{100}$												-1.2
α_1													24 33.32
													-1.44
													24 35.06
													-1.44
													24 34.32
													+12.3
													-1.20
κ				24. 57.0	24. 33.7	44.6	46.5	49.5	53.7	22.40	44.80	11.18	24 33.62
										+2.29			+2.53
(8) - D	$\frac{\kappa'}{100}$												-2.3
α_2													24 35.91
													-1.31
													24 34.60
													+11.5
													-1.19

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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'
6	$+20.2$ 1.30535 9.78296 1.17625	4 1.6'	1.1'	44	1.35	38 52 38 + 15.01	47.00 39.71 15.01		40	52 38 54.72 - .10 + .60 + 10.50 + .30 - 9.70 38 56.32	+11.30
	(8) - D $\frac{d'}{100}$ $+12.91$ -119.92	$39 45.07$		$37 36.4$							
	$+30.2$ 1.48001 9.78296 1.35091	3.89.0	59.0	43	59.00	38 52 38 + 22.43	49.35 33.11 22.43		40	38 55.54 - .24 + .60 + 10.39 + .30 - 11.00 38 55.59	+11.05
	(8) - D $\frac{d'}{100}$ $+12.91$ -119.92	$39 45.07$		$37 35.7$							
7	$+20.4$ 1.30963 9.79573 1.19330	3 12.5	9.6	3	11.05	19 51 19 + 15.61	37.30 30.01 15.61		0	51 19 45.62 - .11 + .48 + 9.12 + .27 - 9.00 19 46.38	+9.76
	(8) - D $\frac{d'}{100}$ $+12.58$ -120.16	$50 14.72$		$18 26.2$							
	-16.7 1.21219w 9.79573 1.09586w	2. 31.8	31.7	2	31.75	20 51 20 - 12.47	16.60 0.36 12.47		0	19 47.89 - .7 + .37 + 9.03 + .27 - 10.30 19 47.19	+9.60
	(8) - D $\frac{d'}{100}$ $+12.58$ -120.16	$50 14.79$		$18 27.0$							
77	$+23.6$ 1.37291 9.79144 1.25229	1.3.2	0.4	36	1.80	46 51 46 + 17.88	46.55 39.26 17.88		35	51 46 57.14 - .15 + .15 + 9.59 + .29 - 9.00 46 58.02	+9.58
	(8) - D $\frac{d'}{100}$ $+12.49$ -120.20	$53 22.68$		$45 37.8$							
	$+32.7$ 1.51455 9.79144 1.39393	0.58.4	57.8	35	58.10	46 51 46 + 24.77	50.25 39.01 24.77		35	46 58.78 - .28 + .15 + 9.49 + .29 - 10.40 46 58.03	+9.65
	(8) - D $\frac{d'}{100}$ $+12.49$ -120.20	$53 22.64$		$45 37.8$							
77	$+13.1$ 1.11424 9.79367 1.224	4.35.9	33.8	49	34.85	33 51 33 + 11.45	13.50 6.21 11.45		45	51 33 17.66 - .15 + .69 + 9.35 + .28 - 8.40 33 19.53	33 17.20
	(8) - D $\frac{d'}{100}$ $+12.13$ -120.20	$51 33 17.66$		$51 33 17.20$							
	$+13.1$ 1.37840 9.79367 1.26001	4.32.8	32.0	49	32.40	33 51 32 + 18.20	15.95 59.00 18.20		45	33 19.53 - .15 + .67 + 9.17 + .28 - 9.30 33 17.87	
	(8) - D $\frac{d'}{100}$ $+12.13$ -120.20	$51 33 17.66$		$51 33 17.20$							
	$+28.8$ 1.46090 9.79367 1.34251	4.44.8	44.0	49	44.40	33 51 32 + 22.00	3.95 47.71 22.00		45	33 9.71 - .22 + .70 + 9.24 + .28 - 9.00 33 9.81	+10.00
	(8) - D $\frac{d'}{100}$ $+12.13$ -120.20	$52 5.65$		$31 49.6$							
78	$+33.22$ 1.26245 9.79224 1.14263	1.19.3	17.1	41	18.20	41 51 41 + 13.89	30.15 22.86 13.89		40	51 41 36.75 - .8 + .19 + 9.51 + .29 - 7.50 41 39.16	41 38.65
	(8) - D $\frac{d'}{100}$ $+11.56$ -119.76	$51 41 36.75$		$51 41 38.65$							
	$+33.22$ 1.44440w 9.79224 1.32422w	2.31.9	31.4	40	31.65	42 51 41 + 21.10	16.70 59.75 21.10		40	41 39.16 - .17 + .9 + 9.41 + .29 - 9.20 41 38.60	+9.62
	(8) - D $\frac{d'}{100}$ $+11.56$ -119.76	$24 46.22$		$40 18.8$							

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	8'
079	+16.5	3.44.2	42.6	32	43.40	49	4.95		30	51 49 10.30	49 1203
240	1.22272					51 48	51.66			- .8	- .21
-21 d	9.79111					+	12.64			+ .55	+ .45
-2 1.10177	-27.7	2.59.3	57.2	32	58.25	49	50.10		30	+ 9.63	+ 9.45
276(8) - D		51 49 10.30	51 49 12.03			51 49	33.15			+ .29	+ .29
-139	1.44560	+10.39	+ 9.98			-	21.12			- 7.40	- 8.50
+1149	9.79111	27 12.86	47 53.6							49 13.29	49 13.51
-1964	1.32465	12.86	53.9								
271.37	+14.9	#23.36	30.1	33	30.60	49	17.75		30	49 12.79	+10.28
+1149	1.17319					51 49	1.51			- .6	
-1964	9.79111					+	11.28			+ .52	
d	1.05224									+ 9.53	
(8) - D										+ .29	
+1149		27 12.84	47 54.3							- 9.10	
-1964										49 13.97	
78	+19.7	3.29.0	26.8	23	27.90	59	20.45		20	50 59 28.35	+9.43
d	1.29447					50 59	13.16			- .11	
(8) - D	9.79903					+	15.19			+ .52	
+1138	1.18144									+ 8.75	
-1944		31 45.35	58 11.2							+ .25	
d										- 7.10	
(8) - D										59 30.68	
+1138	-25.3	2.40.1	42.0	22	41.05	0	7.30		20	59 31.56	+9.16
-1944	1.40312					50 59	51.06			- .17	
d	9.79903					-	19.50			+ .40	
(8) - D	1.29009									+ 8.68	
+1138		31 45.36	58 12.6							+ .25	
-1944										- 8.70	
d										59 32.02	
(8) - D											
+1129	+13.4	0.26.2	23.7	40	24.95	42	23.40		40	51 42 26.28	+9.80
-1936	1.12910					51 42	16.11			- .5	
d	9.79224					+	10.17			+ .6	
(8) - D	1.00728									+ 9.51	
+1129		33 55.68	41 9.5							+ .28	
-1936										- 7.20	
d										42 28.88	
(8) - D											
+1129	+23.0	0.21.4	21.1	40	21.25	42	27.10		40	42 28.31	+9.77
-1936	1.36173					51 42	10.86			- .14	
d	9.79224					+	17.45			+ .6	
(8) - D	1.24191									+ 9.41	
+1129		33 55.83	41 9.8							+ .28	
-1936										- 8.80	
d										42 29.12	
(8) - D											
+1090	+24.2	3.50.8	48.9	28	49.85	53	58.50		25	51 54 9.49	+10.44
-1852	1.38382					51 53	51.21			- .15	
d	9.79031					+	18.28			+ .57	
(8) - D	1.26207									+ 9.72	
+1090										+ .30	
-1852		47 9.10	52 54.9							- 6.50	
d										54 13.43	
(8) - D											
+1090	-20.5	3.35.0	4.3	28	46.5	54	43.70		25	54 11.97	+10.27
-1852	1.31175					51 54	27.96			- .11	
d	9.79031					-	15.49			+ .46	
(8) - D	1.19000									+ 9.62	
+1090		47 9.12	52 55.4							+ .30	
-1852										- 8.30	
d										54 13.94	
(8) - D											
+1090	+21.0	1 17.5	16.2	36	16.85	46	31.50		35	51 46 40.12	+9.81
-1824	1.32222					51 46	24.21			- .12	
d	9.79144					+	15.91			+ .4	
(8) - D	1.20160									+ 9.59	
+1080		50 56.13	45 25.4							+ .25	
-1824										- 6.30	
d										46 43.62	
(8) - D											
+1080	+22.4	1 8.1	6.0	36	7.05	46	41.30		35	46 42.83	+9.81
-1824	1.35025					51 46	25.06			- .13	
d	9.79144					+	16.97			+ .16	
(8) - D	1.22963									+ 9.49	
+1080		50 56.14	45 25.5							+ .25	
-1824										- 8.10	
d										46 43.74	
(8) - D											

Date₁ =Observer
RecorderA.M.
L.M?Date₂ = May 15Observer
RecorderN.R.
N.R. - N.G.

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Star.	α	δ	Mag.	T_s	T_m	T_e	T_r	T_g	T_h	Sum	Mean	Red. to T_m	T	
25.57	16	51.42.7	7.8	56.47.8	57.12.4	20.2	24.3	28.3	32.2	1174	23.48	11.19	57 13.29	
	κ	56 30.8 57 48.9	7.4							+2.67			+2.67	
(8) - D	κ'			56 46.6	12.1	20.2	24.2	28.2	32.2	11.69	23.38	11.19	57 13.19	
a_1										+2.67			57 14.96	
													57 13.32	
				Lost										+10.61 -1.17
(8) - D	κ'												57 13.32	
a_2													57 13.32	
59.10	51.52.6	8.0	59.34.8	59.3.3	11.3	15.2	19.1	23.3	27.22	14.44	11.23	59 3.21	2.9	
58	24.6	51.55.2	7.8							+2.67			+2.67	
(8) - D	κ'			59 28.2	59.3.0	11.3	15.0	18.8	23.0	7.11	14.22	11.23	59 3.21	
a_1										+2.66			59 3.21	
													59 3.21	
8.6	58 42.5	59.3.5	11.6	15.5	19.5	23.7	27.8	31.8	35.8	14.76	11.23	59 3.53	2.9	
(8) - D	κ'									+2.29			59 3.53	
a_2													59 3.53	
1 27	51.55.4	9.0	1.9.2	27.9	35.7	39.8	43.7	47.8	19.49	38.98	11.16	1 27.82	3.0	
0	11.8	51.40.9	9.0							+2.67			+2.67	
(8) - D	κ'			2. 6.5	37.0	45.1	49.0	53.0	57.0	24.11	48.22	11.16	1 27.82	
a_1													1 27.82	
													1 27.82	
8.8	1. 11.3	28.1	36.2	40.1	44.0	48.3	19.67	39.34	11.16			1 28.18	3.0	
(8) - D	κ'									+2.29			1 28.18	
a_2													1 28.18	
3. 37	51.49.4	7.5	3. 28.0	28.3	4.3	4.2	8.2	29.73	59.46	11.22	3 48.24	3 48.24	3.0	
3	6.8	51.54.9	7.5	48.3	56.3	0.3				+2.67			+2.67	
(8) - D	κ'												3 48.24	
a_1													3 48.24	
													3 48.24	
3 22.0	48.7	56.5	0.5	4.5	8.6	29.88	59.70	11.22	8 48.54				3 48.54	
(8) - D	κ'									+2.29			8 48.54	
a_2													8 48.54	
7 52	51.48.4	8.6	7. 27.3	50.2	58.3	2.3	6.2	10.5	30.75	61.50	11.21	7 50.38	50.31	
7	8.3	51.53.9	8.4							+2.68			+2.68	
(8) - D	κ'			7. 27.0	50.3	58.3	2.3	6.3	10.4	30.76	61.52	11.21	7 50.38	
a_1										+2.66			7 50.38	
													7 50.38	
7. 29.0	50.8	58.8	2.8	6.7	10.8	30.99	61.96	11.21	7 50.72				7 50.72	
(8) - D	κ'									+2.29			7 50.72	
a_2													7 50.72	

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ'
12.19 +290 -21 d -21.26903 14.84(8) - D $\frac{d'}{100}$ -1.58 5713.28 δ_1 +1061 -1172 d (8) - D $\frac{d'}{100}$ δ_2	+24.5 1.38917 979192 +25.6 1.40824 979192 1.28810	4.4.2	3.1	39 38 57.00 +10.28 +10.04 42.2	36.5 53.80	43 51 43 43 51 43 +	4470 3741 1858 5455 3760 19.41		35- 35- 35- 35-	51 43 55.99 - .16 + .61 + 9.54 + 29 - 6.06 44 0.27	43 57.00 - .18 + .58 + 9.35 + .29 - 7.10 43 59.94
2.99 +290 -221.37 d 794 -2 565(8) - D $\frac{d'}{100}$ -1.60 +1055 -1736 δ_1 +1055 -1736 d (8) - D $\frac{d'}{100}$ δ_2	-31.6 1.49969 979031 -25.2 1.40140 979031 1.27965 +9.10 1.32222 979031 1.20047	4.6.2 3.36.8 3.30.0 51 43 55.99 +10.30 59 14.77 14.80 4 5.2	4.9 35.1 28.8 51 43 57.00 +10.18 52 28.1 28.5	28 28 52 28.1 28.5	35.95 29.90 50.5	54 51 54 51 54 53 51 53 +	12.40 5.11 18.95 2.00 19.04 43.30 27.06 15.87	25- 25- 25- 25- 25- 25-	51 53 41.23 - .26 + .54 + 9.72 + .30 - 5.90 53 45.63 53 42.93 - .12 + .61 + 9.62 + .30 - 7.70 53 45.64	53 42.96 - .17 + .52 + 9.53 + .30 - 7.10 53 46.04 +10.41 +	
39.06 +290 -21.1 d 5080 -2 39.73(8) - D $\frac{d'}{100}$ -1.60 +1050 -1736 δ_1 +1050 -1736 d (8) - D $\frac{d'}{100}$ δ_2	+18.6 1.26951 979335 -31.4 1.49693 979335 1.37822 +16.9 1.22789 979335 1.10918	2.27.8 2.3.4 51 35 27.66 +9.93 2 15.6 15.1	4.9 4.9 51 85 49.6 +9.52 47 15.1	47 47 34 14.5	27.55 25.5 15.25	35 51 35 35 51 35 35 51 35 +	20.80 13.51 14.5 45.80 28.85 23.87 33.00 16.76 12.86	45- 45- 45- 45- 45- 45-	51 35 27.66 - .10 + .37 + 9.38 + .28 - 5.70 35 31.87 35 29.62 - .8 + .34 + 9.24 + .28 - 7.50 35 31.75	35 49.6 - .26 + .30 + 9.20 + .28 - 6.50 35 7.68 +9.83 +10.21	
+20.2 1.30535 979095 1.18424 (8) - D $\frac{d'}{100}$ δ_1	4.34.2 2.25.2 3 59.66	33.7 22.2 49 20.1	32 32 49 20.1	23.90	23.90	50 51 50 +	24.65 17.36 15.28	30 30 30	51 50 32.64 - .11 + .36 + 9.67 + .29 - 3.60 50 37.25	+10.21	
+26.5 1.42325 979095 1.30214 (8) - D $\frac{d'}{100}$ δ_1	4.24.3 2.17.0 3 59.67	23.2 17.8 49 20.3	32 32 49 20.3	17.40	17.40	51 50 51 50 +	30.95 14.71 20.25	30 30 30	50 34.76 - .18 + .34 + 9.57 + .29 - 7.40 50 37.38	+10.02	
50.31 +290 -22.1 d 4095 -2 52.97(8) - D $\frac{d'}{100}$ -1.64 7.51.33 δ_1 +1030 -11672 d (8) - D $\frac{d'}{100}$ δ_2	+23.0 1.36173 979128 +23.3 1.36736 979128 1.24658 +21.8 1.33846 979128 1.21768	4.34.2 4.24.3 51 48 24.53 +10.45 4 2.27 21.6	33.7 28.2 51 48 25.29 +10.24 47 12.9 12.2	34 34 47 12.9 12.2	33.95 23.75 22.15	48 51 48 48 51 48 48 51 48 +	14.40 7.11 17.42 24.60 7.65 17.64 26.20 9.96 16.51	30 30 30 30 30 30	51 48 24.53 - .14 + .69 + 9.61 + .29 - 5.40 48 29.58 48 26.47 - .13 + .66 + 9.51 + .29 - 7.20 48 29.60	48 25.29 - .14 + .66 + 9.43 + .29 - 6.60 48 28.93 +10.33	

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Date₁ = May 7

Observer A.M.
Recorder A.M.

Date₂ = May 15

Observer W.R.
Recorder W.R. & G.B.

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Star.	α	δ	Mag.	T_0	T_m	T_e	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
3-14-25		57.70	7.3	13-57.01	20.9	28.7	35.7	36.6	40.7	1596	31.92	11.05	208.4
13	41.9	51 12.3	6.5							+2.68			+2.90
(8) - D	$\frac{\kappa'}{100}$			14.29.0	56.4	4.3	8.4	12.3	16.3	3377	67.54	11.05	56.49
14	16.7	51 11.8								+2.67			+2.91
α_1													-2.1
κ													-2.1
(8) - D	$\frac{\kappa'}{100}$												-2.1
α_2													-2.1
11	45.12	51.22	9.0	45.28.8	(7.1)	14.0	23.0	23.0	27.0	+229		11.03	45 7.19
may 15	51 2.2					15.0	19.0						+2.53
(8) - D	$\frac{\kappa'}{100}$												-2.2
α_1													-2.2
κ													-2.2
(8) - D	$\frac{\kappa'}{100}$												-2.2
α_2													-2.2
12-15-18		50.57	9.7	15-35.9	15.0	16.9	20.8	24.7	29.0	+230		11.01	15 9.07
may 15	51 2.3												+2.54
(8) - D	$\frac{\kappa'}{100}$												-2.2
α_1													-2.2
κ													-2.2
(8) - D	$\frac{\kappa'}{100}$												-2.2
α_2													-2.2
12-44-56		51.3.8	9.5	44.35.1	53.6	1.6	5.4	9.3	13.3	323164.62	11.04		44 53.58
may 15	51 9.4									+2.30			+2.54
(8) - D	$\frac{\kappa'}{100}$												-2.2
α_1													-2.2
κ													-2.2
(8) - D	$\frac{\kappa'}{100}$												-2.2
α_2													-2.2
12-44-56		51.3.8	9.5	44.35.1	53.6	1.6	5.4	9.3	13.3	323164.62	11.04		44 53.58
may 15	51 9.4									+2.30			+2.54
(8) - D	$\frac{\kappa'}{100}$												-2.2
α_1													-2.2
κ													-2.2
(8) - D	$\frac{\kappa'}{100}$												-2.2
α_2													-2.2
12-44-56		51.3.8	9.5	44.35.1	53.6	1.6	5.4	9.3	13.3	323164.62	11.04		44 53.58
may 15	51 9.4									+2.30			+2.54
(8) - D	$\frac{\kappa'}{100}$												-2.2
α_1													-2.2
κ													-2.2
(8) - D	$\frac{\kappa'}{100}$												-2.2
α_2													-2.2

The observations for these dates have been copied by Mr. Bennett but they do not seem to be in the same chronograph as Record Book. Examine.

✓

1871phae.profiles

29
10
x

Observer N. A. R.
Recorder A. M.

Date₁ = May 10 -
NE -11

Observer A. M.
Recorder N. A. R.

Date₂ = May 11 -
NE -12

58

Run

Star.	α	δ	Mag.	T_a	T_m	T_e	T_r	T_g	T_h	Sum	Mean	Red. to T_m	T	
0. 58-21. 57 24.9	50.52 50 56.9	7.0 6.8		57.47	58.16.6	24.2	28.2	32.1	36.0	13 71 +2.80 4	27.42	10.99 Add +.02 to (ΔT_m) for May 10 + 11 3/4 has been added to one of equivalent and June 2.4	58 16.43 +2.957 +.02 - .13 - 2 58 19.23 - .72 58 18.535	
10 12 3 15 5 14 6 29 8 41 9 40	(8) - D) $\frac{\kappa'}{100}$ a_1 a_2			57.59.7	58.16.5	24.4	28.2	32.2	36.3	13 76 +2.85 0	27.52	10.99	58 16.53 +3.022.95402 - .15 - 2 58 19.38 - .69 58 18.634	
11. 11-50 10 54.9	50.40 50 45.4	8.6 8.1		11. 30.8	47.8	55.4	59.3	3.0	7.1	29 2.65 +2.8082 +.02	8.52	10.94	11 47.58 +2.957 - .13 - 2 11 50.38 - .83 11 49.579	
(8) - D) $\frac{\kappa'}{100}$ a_1				7.6	11. 20.9	47.6	55.5	59.3	3.0	7.2	29 2.65 +2.86 78+.02	8.52	10.94	11 47.58 +3.032.95 - .15 - 2 11 50.44 - .80 11 49.528
11. 14.40 13 45.1	50.22 50 27.5	9.3 9.2		14- 8.1	37.0	44.6	48.6	52.1	56.1	23 8.4 +2.8082 +.02	47.68	10.87	14 36.81 +2.957 - .13 - 2 14 39.61 - .84 14 38.7781	
(8) - D) $\frac{\kappa'}{100}$ a_1				9.2	15. 10.3	14 37.0	44.8	48.6	52.3	23 8.7 +2.87 79+.02	47.74	10.87	14 36.81 +3.032.95 - .14 - 2 14 39.82 - .82 14 38.992	
11. 15.44 14 47.2	50.33 50 38.1	9.4 9.3		15- 24.2	42.0	49.9	53.4	57.5	1.4	26 4.2 +2.8082 +.02	52.84	10.92	15 41.92 +2.957 - .13 - 2 15 44.72 - .86 15 43.86	
(8) - D) $\frac{\kappa'}{100}$ a_1				9.0	16. 16.4	15 42.0	49.8	53.5	57.6	1.5	26 4.4 +2.86 78+.02	52.88	10.92	15 41.92 +3.032.95 - .15 - 2 15 44.82 - .83 15 43.993
16. 5-7 16 1.6	50.6 50 11.0	8.7 8.5		16- 26.5	54.0	1.9	5.7	9.1	13.2	32 3.9 +2.8082 +.02	64.78	10.81	16 53.97 +2.957 - .13 - 2 16 56.74 - .86 16 55.885	
(8) - D) $\frac{\kappa'}{100}$ a_1				8.6	17. 24.0	16.54.0	1.7	5.7	9.4	13.4	32 4.2 +2.87 80+.02	64.84	10.81	16 54.03 +3.032.96 - .14 - 2 16 56.90 - .83 16 56.072

Run R. n.
May 10 - 0 14.65 +15 R.
Runs 11 15.15 +15 m.

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		$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	8'
7+02	d	+29.4 1.46835 9.80012 1.35641	0 48.3	46.5	30	47.40	52 50 51 + 22.72	0.95 46.30 22.72		30	50 52 9.02 - .23 + .12 + 8.80 + .25 - 11.00 52 6.96	+8.94
5	δ_1	+14.03 -117.28	58 32.58		50 49.7							
2.95	d	+16.8 1.22531 9.80012 1.11337	0 35.7	35.8	30	35.75	52 50 51 + 12.98	126.0 57.45 12.98		30	52 10.43 - .8 + .9 + 8.66 + .25 - 11.00 52 8.35	+6.92
4	δ_2	+14.03 -117.28	58 32.67		50 51.1							
7	d	+16.8 1.22531 9.80182 1.11507	1 57.9	58.2	41	59.05	40 50 40 + 13.03	49.30 39.65 13.03		40	50 40 47.68 - .8 + .30 + 8.59 + .24 - 10.60 40 46.13	+9.05
9	δ_1	+13.64 -118.48	12 3.23		39 27.6							
2.95	d	+26.7 1.42651 9.80182 1.31627	2 6.7	7.1	42	6.90	40 50 40 + 20.71	41.45 26.30 20.71		40	40 47.01 - .20 + .31 + 8.46 + .24 - 10.70 40 45.12	+8.81
	δ_2	+13.64 -118.48	12 3.22		39 26.6							
7	d	+28.7 1.45758 9.80458 1.35040	0 16.8	13.3	0	15.05	22 50 22 + 22.41	33.30 18.65 22.41		0	50 22 41.06 - .22 + .4 + 8.27 + .22 - 10.50 22 38.87	+8.31
	δ_1	+13.55 -118.68	14 52.36		21 20.2							
2.95	d	+26.6 -3.34 1.52375m 9.80458 1.41627	4 25.0	25.7	59	25.20	23 50 23 - 26.08	23.15 8.00 26.08		50	22 41.92 - .30 + .66 + 8.14 + .22 - 10.50 22 40.14	+8.72
2	δ_2	+13.55 -118.68	14 52.41		21 21.5							
7	d	+17.7 1.24797 9.80270 1.13881	4 10.4	7.9	49	9.15	33 50 33 + 13.77	39.20 24.55 13.77		40	50 33 38.32 - .9 + .63 + 8.47 + .23 - 10.50 33 37.06	+9.24
	δ_1	+13.53 -118.72	15 57.43		32 18.3							
2.95	d	+25.6 -3.64 1.53656m 9.80290 1.42740m	3 25.5	24.0	48	24.75	34 50 34 - 26.75	23.60 8.45 26.75		40	33 41.70 - .32 + .51 + 8.34 + .23 - 10.60 33 39.86	+8.76
3	δ_2	+13.53 -118.72	15 57.46		32 21.1 33 26.3							
7	d	+27.5 1.43930 9.80731 1.33458	2 54.0	57.3	17	52.65	4 50 4 + 21.61	55.70 41.05 21.61		15	50 5 266 - .20 + .43 + 7.96 + .20 - 10.30 5 0.75	+8.39
8.5	δ_1	+13.48 -118.84	17 9.43		3 41.9							
2.96	d	+30.0 -30.0 1.47712m 9.80731 1.37237m	2 7.0	5.8	17	6.40	5 50 5 - 23.57	41.95 26.80 23.57		15	5 323 - .24 + .31 + 7.84 + .20 - 10.40 5 0.94	+8.11
3	δ_2	+13.48 -118.84	17 9.50		3 42.1							

Date₁ = May 10Observer N.A.R.
Recorder J.M.Date₂ = May 11Observer J.M.
Recorder N.A.R.

Star.	α	δ	Mag.	T_s	T_m	T_a	T_r	T_g	T_h	Sum	Mean	Red. to T_m	T
11. 18. 19 [*]		50° 5'	8.1	17.44.4	18.5.7	13.3	17.5	20.8	25.0				
22.08		50 10.0	7.8							+2.80	82.02	10.81	18 5.59
25 33 ((S) - D)													+2.907
a_1													-1.13
κ													-2
((S) - D)													18 8.39
a_2													-84
													18 7.5x6
													+13.4
													-118
26. 45		50.31	8.8	17.53.7	18.5.7	13.3	17.2	21.0	24.9	82.1	16.42	10.81	18 5.61
25 49.6		50 36.4	8.5							+2.87	80x02		+2.032.96
((S) - D)													-1.14
a_1													-2
κ													18 8.48
((S) - D)													-84
a_2													18 7.5x9
													+13.4
													-118
26. 45		50.31	8.8	26.20.0	40.5	48.2	52.0	56.0	0.0	25.67	51.34	10.91	26 404.3
25 49.6		50 36.4	8.5							+2.80	82x02		+2.957
((S) - D)													-1.13
a_1													-2
κ													26 43.23
((S) - D)													-94
a_2													26 42.3x3
													+13.2
													-119
26. 45		50.31	8.8	26.13.2	40.5	48.2	52.2	56.3	0.1	25.73	51.46	10.91	26 405.5
25 49.6		50 36.4	8.5							+2.86	89x02		+2.032.96
((S) - D)													-1.15
a_1													-2
κ													26 43.41
((S) - D)													-92
a_2													26 42.4x4
													+13.2
													-119
27. 45		50.12	9.5	27.26.9	42.0	49.8	53.4	57.4	1.7	26.43	52.86	10.83	27 42.03
26 49.9		50 17.5	9.3							+2.80	82x02		+2.957
((S) - D)													-1.13
a_1													-2
κ													27 44.53
((S) - D)													-95
a_2													27 43.9x2
													+13.1
													-119
27. 45		50.12	9.5	27.24.6	42.0	50.1	53.9	57.9	1.5	26.54	53.08	10.83	27 42.25
26 49.9		50 17.5	9.3							+2.87	80x02		+2.032.96
((S) - D)													-1.14
a_1													-2
κ													27 45.12
((S) - D)													-92
a_2													27 44.1x5
													+13.1
													-119
28. 40		50.24	8.7	28.22.3	36.4	44.2	48.0	51.6	53.7	23.59	47.18	10.88	28 363.0
27 44.9		50 29.8	9.0							+2.80	82x02		+2.957
((S) - D)													-1.13
a_1													-2
κ													28 39.10
((S) - D)													-96
a_2													28 38.1x8
													+13.1
													-119
28. 40		50.24	8.7	28.23.0	36.4	44.1	48.0	52.0	55.8	23.63	47.26	10.88	28 363.8
27 44.9		50 29.8	9.0							+2.87	80x02		+2.032.96
((S) - D)													-1.14
a_1													-2
κ													28 39.25
((S) - D)													-93
a_2													28 38.2x7
													+13.1
													-119
28. 56		50.31	7.5	30.37.7	50.7	58.3	2.2	6.0	10.0	30.72	61.44	10.91	30 50.53
30 1.6		50 36.5	7.8							+2.80	82x02		+2.957
((S) - D)													-1.13
a_1													-2
κ													30 53.13
((S) - D)													-98
a_2													30 52.5x7
													+13.1
													-119
28. 56		50.31	7.5	30.30.6	50.7	58.6	2.3	6.3	10.2	30.81	61.62	10.91	30 50.71
30 1.6		50 36.5	7.8							+2.86	79x02		+2.032.96
((S) - D)													-1.15
a_1													-2
κ													30 53.57
((S) - D)													-95
a_2													30 52.5x7
													+13.1
													-119

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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'
59 987 13 2 39 27 336	d	+21.2 1.32634 9.80731 1.22159	2.42.9	40.1	14	4150	5 50 4 +	6.85 52.20 16.66		15	50 5 - .12 + .10 + 7.96 + .20 - 10.30 5 7.00	+8.114
	$((\delta) - D) \frac{d'}{100}$											
+13.45 -118.88	δ_1		18 21.01		3 18.1							
2.96	d	+21.9 1.07555 9.80731 0.97080	2.32.7	32.6	17	3265	5 50 5 +	15.70 0.55 9.35		15	5 9.90 - .4 + .37 + 7.84 + .20 - 10.40 5 7.87	+8.37
	$((\delta) - D) \frac{d'}{100}$											
+13.45 -118.88	δ_2		18 21.04		3 49.0							
7	d	+20.4 1.30963 9.80320 1.20677	0 13.0	10.2	50	1160	50 32 50 32 +	36.75 22.10 15.88		50	50 32 37.98 - .11 + .3 + 8.44 + .23 - 10.20 32 36.37	+8.59
	$((\delta) - D) \frac{d'}{100}$											
+13.22 -119.40	δ_1		26 55.55		51 17.0							
2.96	d	+27.4 1.43775 9.80320 1.32889	0 16.1	15.1	50	1560	50 32 50 32 +	32.75 17.60 21.32		50	32 38.92 - .19 + .4 + 8.32 + .23 - 10.20 32 37.12	+8.40
	$((\delta) - D) \frac{d'}{100}$											
+13.22 -119.40	δ_2		26 55.66		31 17.7							
7	d	+16.4 1.151 1.20682	3.19.3	16.7	8	1880	14 50 14 +	30.35 15.70 14.83		5	50 14 27.53 - .6 + .99 + 8.12 + .21 - 10.00 14 26.29	+8.76
	$((\delta) - D) \frac{d'}{100}$											
+13.18 -119.44	δ_1		27 57.10		13 6.8							
2.96	d	+17.7 1.24797 9.80320 1.14186	3 17.6	17.1	8	1735	14 50 14 +	31.00 15.85 13.86		5	14 29.71 - .9 + .49 + 8.00 + .21 - 10.10 14 28.22	+8.61
	$((\delta) - D) \frac{d'}{100}$											
+13.18 -119.44	δ_2		27 57.33		13 8.8							
7	d	+14.0 1.14613 9.80428 1.03835	2 44.8	43.1	57	4395	25 50 24 +	44.0 49.75 10.92		55	50 25 06.7 - .5 + .40 + 8.32 + .23 - 10.10 24 59.47	+8.90
	$((\delta) - D) \frac{d'}{100}$											
+13.17 -119.48	δ_1		28 57.35		23 40.0	x1						
3.296	d	+13.4 1.12710 9.80428 1.01932	2.42.3	41.6	57	4195	25 50 24 +	64.0 50.25 10.45		55	25 0.70 - .5 + .40 + 8.19 + .23 - 10.10 24 59.37	+8.77
	$((\delta) - D) \frac{d'}{100}$											
+13.17 -119.48	δ_2		28 57.44		23 39.9							
57 3 2 3 8 37 37	d	+12.6 1.10137 9.80336 0.99167	1 17.3	140	57	1565	31 50 31 +	32.70 18.05 9.27		50	50 31 27.88 - .5 + .19 + 8.42 + .23 - 10.00 31 26.81	+8.79
	$((\delta) - D) \frac{d'}{100}$											
+13.11 -119.60	δ_1		31 5.50		30 7.2							
3.296	d	+20.1 1.30320 9.80336 1.19450	1.17.9	181	57	1820	31 50 31 +	30.35 15.20 15.65		50	31 30.85 - .11 + .19 + 8.30 + .23 - 10.10 31 29.36	+8.61
	$((\delta) - D) \frac{d'}{100}$											
+13.11 -119.60	δ_2		31 5.68		30 9.8							

Date₁ = May 10⁶⁰Observer W.R.
Recorder S.M.Date₂ = May 11⁶¹Observer S.M.
Recorder W.R.

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Star.	α	δ	Mag.	T_a	T_m	T_s	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
11.35.56 ³¹ 35 1.4 κ	50.40 ⁶⁰ 50 45.4 κ	8.3 7.8	35.24.4	57.8	59.6	3.5	7.4	11.4	31.37 +2.80 82+02	62.74 +2.80 82+02	10.94	35 57.80 +2.957 -1.13 -2 35 54.60 -1.02 35 53.62	+12.91 -1.19
((δ) - D) κ'_{100}													
a_1													
κ	7.0	35.23.0	52.0	59.8	3.5	7.5	11.5	31.43 +2.86 80+02	62.86 +2.86 80+02	10.94	35 57.92 +3.03297 -1.15 -2 35 54.78 -1.00 35 53.78 ⁴	+12.91 -1.19	
((δ) - D) κ'_{100}													
a_2													
37.49 36 54.4 κ	50.36.4 50 41.9 κ	8.9 9.1	37.30.2	44.3	52.0	56.0	54.7	3.7	27.57 +2.80 82+02	55.14 +2.80 82+02	10.93	37 44.31 +2.957 -1.13 -2 37 47.01 -1.03 37 46.02	+12.92 -1.19
((δ) - D) κ'_{100}													
a_1													
κ	9.0	37.21.7	44.3	52.0	55.9	54.9	3.7	27.58 +2.86 80+02	55.16 +2.86 80+02	10.93	37 44.23 +3.03297 -1.15 -2 37 47.09 -1.01 37 46.02 ⁴	+12.92 -1.19	
((δ) - D) κ'_{100}													
a_2													
38.58- 38 3.7 κ	50.36 50 40.1 κ	8.9 9.2	38.31.2	53.7	1.5	5.4	9.1	13.3	32.30 +2.80 82+02	64.60 +2.80 82+02	10.92	38 53.68 +2.957 -1.13 -2 38 56.48 -1.04 38 55.48	+12.88 -1.19
((δ) - D) κ'_{100}													
a_1													
κ	9.2	38 37.0	53.7	1.4	5.3	9.2	13.2	32.28 +2.86 80+02	64.56 +2.86 80+02	10.92	38 53.64 +3.03297 -1.15 -2 38 56.50 -1.02 38 55.42 ⁴	+12.88 -1.19	
((δ) - D) κ'_{100}													
a_2													
41.5 40 10.3 κ	50.32 50 38.1 κ	6.5 7.0	40.38.5	58.0	6.0	9.9	13.8	17.4	34.51 +2.80 82+02	69.02 +2.80 82+02	10.91	40 58.11 +2.957 -1.13 -2 41 0.91 -1.05 40 59.88 -1.00	+12.81 -1.19
((δ) - D) κ'_{100}													
a_1													
κ	7.5	40.34.3	58.2	5.9	9.6	13.6	17.6	34.49 +2.86 80+02	68.98 +2.86 80+02	10.91	40 58.07 +3.03297 -1.15 -2 41 0.93 -1.03 40 59.84 ⁶	+12.81 -1.19	
((δ) - D) κ'_{100}													
a_2													
43.7 42 12.4 κ	49.57 50 2.1 κ	8.8 8.7	42.35.4	43.21	9.8	13.6	17.3	21.3	64.11 +2.80 82+02	12.82 +2.80 82+02	10.78	43 2.04 +2.957 -1.13 -2 43 4.84 -1.06 43 3.82	+12.82 -1.19
((δ) - D) κ'_{100}													
a_1													
κ	8.7	42 38.0	43.20	10.0	13.6	17.3	21.5	64.12 +2.87 81+02	12.88 +2.87 81+02	10.78	43 2.10 +3.03297 -1.14 -2 43 4.97 -1.04 43 3.87 ⁹	+12.76 -1.20	
((δ) - D) κ'_{100}													
a_2													

Runs

		$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ'
7	d	+27.4 1.46775 9.80197 1.32766	2 24.3	22.9	42	23.60	40 50 40 + 21.26	24.75 10.10 21.26		40	50 40 31.36 - .20 + .36 + 8.59 + .24 - 9.90 40 36.45	+8.99
2	δ_1	+12.97 -1 19.76	36 6.59		39 10.7						40 36.45	
97	d	+28.9 1.46090 9.80197 1.35081	2 24.3	24.0	42	24.15	40 50 40 + 22.43	24.20 9.05 22.43		40	40 31.48 - .22 + .36 + 8.46 + .24 - 10.00 40 30.32	+8.84
4	δ_2	+12.97 -1 19.76	36 6.71		39 10.6						40 30.32	
2	d	+14.0 1.14613 9.80244 1.03651	0.380	36.5	45	37.25	37 50 36 + 10.88	11.10 56.45 10.88		45	50 37 7.33 - .5 + .9 + 8.53 + .24 - 9.80 37 6.34	+8.81
97	δ_1	+12.92 -1 19.84	37 58.94		35 46.5						37 6.34	
97	d	+22.5 1.35218 9.80244 1.24256	0.437	42.7	45	43.20	37 50 36 + 17.48	5.15 50.00 17.48		45	37 7.48 - .13 + .10 + 8.40 + .24 - 9.90 37 6.19	+8.67
4	δ_2	+12.92 -1 19.84	37 58.96		35 46.5						37 6.19	
97	d	+22.5 1.35218 9.80274 1.24286	3.27	0.9	48	1.80	34 50 34 + 17.49	46.55 31.90 17.49		45	50 34 49.39 - .13 + .45 + 8.48 + .23 - 9.80 34 48.62	9.03 +8.43
97	δ_1	+12.88 -1 19.88	39 8.36		33 28.7						34 48.62	
97	d	+16.6 1.22011 9.80274 1.11079	2.465 56.5	46.8 56.8	47	56.65	35 50 34 + 12.91	51.70 36.55 12.91		45	34 49.46 - .8 + .43 + 8.35 + .23 - 9.90 34 48.49	+8.93
97	δ_2	+12.88 -1 19.88	39 8.32		33 28.6						34 48.49	
97	d	+22.6 1.35411 9.80320 1.24525	0.296	27.8	50	28.70	32 50 32 + 17.59	19.65 5.00 17.59		50	50 32 22.59 - .14 + .8 + 8.43 + .23 - 9.70 32 21.47	+8.60
97	δ_1	+12.82 -1 19.76	41 12.72		31 1.5						32 21.47	
97	d	+23.8 1.37658 9.80320 1.26772	0.294	28.0	50	28.70	32 50 32 + 18.52	19.65 4.50 18.52		50	32 23.02 - .15 + .8 + 8.30 + .23 - 9.80 32 21.68	+8.46
97	δ_2	+12.82 -1 19.76	41 12.68		31 1.7						32 21.68	
97	d	+26.6 1.42488 9.80852 1.32134	0.589	56.1	25	57.50	56 49 56 + 20.96	50.85 36.20 20.96		25	49 56 57.16 - .19 + .13 + 7.83 + .20 - 9.50 56 55.63	+8.99
97	δ_1	+12.76 -1 20.00	43 16.58		35 35.6 46 42.6						56 55.63	
97	d	+24.1 1.38202 9.80852 1.27848	0.555	55.3	25	55.40	56 49 56 + 18.99	52.95 37.80 18.99		25	56 56.79 - .15 + .13 + 7.71 + .20 - 9.60 56 55.08	+7.89
97	δ_2	+12.76 -1 20.00	43 16.65		35 35.2 46 42.7						56 55.08	

Date₁ = 32 May 10

Observer
Recorder

Date₂ = May 11

Observer _____
Recorder _____

Recorder

Ru

[illegible]

Runs

		$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	8'
	d	+26.7 1.42651 9.80701 1.32146	1.4.7	1.7	16	3.20	50 6 + 6	45.15 30.50 20.96		15	50 6 51.46 - .19 + .16 + 8.00 + .20 - 9.40 6 50.23	+8.17
	(8) - D) $\frac{d'}{100}$											
+12.73 -120.08	δ_1		46 21.17		5 30.2							
97	d	+24.2 1.38382 9.80701 1.27877	1.0.3	1.7	16	1.50	50 6 + 6	47.35 32.20 19.00		15	6 51.20 - .15 + .15 + 4.88 + .20 - 9.50 6 49.78	+8.08
	(8) - D) $\frac{d'}{100}$											
+12.73 -120.08	δ_2		46 21.32		5 29.7							
9	d	+27.8 1.44404 9.80625 1.33823	0.22.4	19.7	10	2.105	50 12 + 12	27.30 12.85 21.79		10	50 12 34.44 - .21 + .4 + 8.11 + .21 - 9.30 12 32.29	+8.49
	(8) - D) $\frac{d'}{100}$											
+12.56 -120.16	δ_1		50 21.43		11 13.12							
8	d	+29.7 1.47276 9.80625 1.36695	0.23.0	21.6	10	2.230	50 12 + 12	26.05 10.90 23.28		10	12 34.18 - .24 + .6 + 7.99 + .21 - 9.40 12 32.80	+8.02
	(8) - D) $\frac{d'}{100}$											
+12.56 -120.16	δ_2		50 21.53		11 12.6							
	d	+26.1 1.41664 9.80228 1.30686	0 8.4	6.8	45	7.60	50 37 + 37	40.75 26.10 20.27		45	50 37 46.37 - .18 + .2 + 8.54 + .23 - 9.30 37 45.68	+8.61
	(8) - D) $\frac{d'}{100}$											
+12.53 -120.16	δ_1		51 31.60		36 25.5							
98	d	+17.8 1.25042 9.80228 1.19264	4 61.4	61.2	45	1.30	50 37 + 37	47.05 31.90 13.89		40	37 45.79 - .9 + .0 + 8.41 + .23 - 9.40 37 44.94	+8.55
	(8) - D) $\frac{d'}{100}$											
+12.53 -120.16	δ_2		51 31.66		36 24.8							
7	d	-21.4 1.33041 9.80412 1.22247	1 15.3	12.7	56	1.400	50 26 - 26	34.35 19.70 16.69		55	50 26 3.01 - .12 + .18 + 8.33 + .23 - 9.30 26 2.33	+8.62
	(8) - D) $\frac{d'}{100}$											
+12.50 -120.16	δ_1		52 39.99		24 42.2							
298	d	-35.2 1.54654 9.80412 1.43860	0 58.7	58.1	55	58.90	50 26 - 26	49.45 34.30 27.45		55	26 68.54 - .33 + .15 + 8.20 + .23 - 9.40 26 5.78	+8.25
	(8) - D) $\frac{d'}{100}$											
+12.50 -120.16	δ_2		52 40.01		24 45.5							
7	d	+20.1 1.30320 9.80534 1.19648	4 43.2	42.3	4	42.75	50 18 + 17	5.60 50.95 15.72		0	50 18 6.67 - .11 + .10 + 8.17 + .22 - 9.20 18 6.47	+9.00
	(8) - D) $\frac{d'}{100}$											
+12.46 -120.20	δ_1		54 2.09		16 46.3							
298	d	+18.8 1.27416 9.80534 1.16744	4 40.8	41.5	4	41.15	50 18 + 17	7.20 52.05 14.70		0	18 6.75 - .10 + .10 + 8.07 + .22 - 9.30 18 6.34	+8.89
	(8) - D) $\frac{d'}{100}$											
+12.46 -120.20	δ_2		54 1.20		16 46.1							

Date₁ = May 10

Observer *W. A. R.*
Recorder *S. M.*

Date₂ = May 11

Observer *W. M.*
Recorder *W. A. R.*

Ru

[illegible]

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	8'
d	+30.7 1.48714 9.80366 1.37874	3 49.2	46.8	53	48.80	29 50 28 +	0.35 45.70 23.92		50	50 29 9.62 - .25 + 8.38 + 24 - 8.50 29 9.66	4 +8.96
(8) - D) $\frac{d'}{100}$											
+12.19 -120.20		3 41.85		27 49.5							
d	+27.9 1.44560 9.80366 1.33720	3 45.5	44.1	53	44.80	29 50 28 +	3.55 48.40 21.74		50	29 10.14 - .21 + .55 + 8.26 + 24 - 9.00 29 9.98	+8.84
(8) - D) $\frac{d'}{100}$											
+12.19 -120.20		3 41.77		27 49.8							
d	+49.7 0.99564 9.79996 0.88354	4 50.7	48.9	29	49.80	52 50 52 +	58.55 43.90 7.65		25	50 52 51.55 - .3 + .72 + 8.80 + .25 - 9.00 52 52.29	+9.74
(8) - D) $\frac{d'}{100}$											
+12.16 -120.20		4 33.70		51 32.1							
d	-26.3 1.41996 9.79996 1.30786	4 19.8	20.5	29	20.15	53 50 53 -	28.20 13.05 20.32		25	52 52.73 - .18 + .64 + 8.67 + .25 - 9.10 52 53.01	+9.38
(8) - D) $\frac{d'}{100}$											
+12.16 -120.20		4 33.77		51 32.8							
d	+11.9 1.07555 9.80610 0.96959	4 35.0	32.3	9	33.65	13 50 13 +	14.70 0.05 9.32		5	50 13 9.37 - .4 + .69 + 8.11 + .21 - 8.70 13 9.64	+8.97
(8) - D) $\frac{d'}{100}$											
+12.13 -120.20		5 36.37		11 49.4							
d	+11.1 1.04532 9.80610 0.93936	4 31.8	32.8	9	32.30	13 50 13 +	16.05 0.90 8.70		5	13 9.60 - .3 + .67 + 7.99 + .21 - 8.50 13 9.64	+8.84
(8) - D) $\frac{d'}{100}$											
+12.13 -120.20		5 36.35		11 49.4							
d	+23.6 1.37291 9.79996 1.26081	4 17.9	16.8	29	17.35	53 50 53 +	31.00 16.35 18.23		25	50 53 34.58 - .15 + .64 + 8.82 + .25 - 8.50 53 35.34	+9.56
(8) - D) $\frac{d'}{100}$											
+12.04 -120.16		8 42.33		52 15.2							
d	+29.7 1.47276 9.79996 1.36066	4 21.9	23.0	29	22.45	53 50 53 +	25.90 10.75 22.94		25	53 33.69 - .23 + .66 + 8.69 + .25 - 8.90 53 34.16	+9.37
(8) - D) $\frac{d'}{100}$											
+12.04 -120.16		8 42.37		52 14.0							
d	-35.8 1.55388 9.80927 1.45109	0 29.0	27.2	30	28.10	52 49 52 -	20.25 8.60 28.25		30	49 51 37.35 - .35 + .4 + 7.15 + .20 - 10.70 51 34.32	6 +7.87
(8) - D) $\frac{d'}{100}$											
+12.04 -120.16		8 42.37		52 14.0							
d	+24.1 1.35202 9.80746 1.27742	3 18.7	17.1	18	17.90	4 50 4 +	30.45 15.30 18.94		15	50 4 34.24 - .15 + .49 + 7.46 + .20 - 10.60 4 32.14	+6.50
(8) - D) $\frac{d'}{100}$											
+13.85 -117.80		3 26.73		3 15.3							

Date₁ = 34 May 10⁶⁰Observer M. R.
Recorder A. M.Date₂ = May 11⁶¹Observer A. M.
Recorder M. R.

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Star.	α	δ	Mag.	T_s	T_m	T_e	T_r	T_g	T_h	Sum	Mean	Red. to T_m	T
11. 5.14 ³ May 10 ⁶⁰		50.43	9.0	4.57.2	5.7.9	5.19.2	23.3	26.7	30.6	+2.80	82+02	10.95	5 1129 +2.957 -13 -2 5 14.09 -77 5 133.6
(8) - D) κ'_{100}													
a_1													+13.82 -117.9
11. 6.29 May 10 ⁶⁰		50.34	7.5	6.8.5(2)	25.4	33.1	37.1	41.0	45.1	+2.80	82+02	10.92	6 25.42 +2.957 -13 -2 6 28.22 -78 6 274.8
(8) - D) κ'_{100}													
a_2													+13.7 -118.0
11. 8.36 ¹¹ May 10 ⁶⁰		53.28	9.0	6.7.8	35.7	43.6	48.0	52.0	56.4	+2.80	82+02	11.65	23 57 47.14 11.65 35.49 35.49 35.83 +2.957 -153 -3 8 38.26 -84 8 37.48 8 37.82
(8) - D) κ'_{100}													
a_1													+13.89 -111
11. 9.40 May 10 ⁶⁰		50.40	9.3	9.28.4	38.9	46.8	50.3	54.3	58.2	+2.80	82+02	10.94	9 38.76 +2.957 -13 -2 9 41.56 -81 9 40.79
(8) - D) κ'_{100}													
a_2													+13.7 -118.
11. 22.08 May 10 ⁶⁰		50.0	9.7	21.43.0	22.4.1	12.0	15.8	19.6	23.7	+2.80	82+02	10.79	20 42.5 +2.957 -13 -2 22 7.05 -90 22 6.17
(8) - D) κ'_{100}													
a_1													+13.33 -119.
11. 25.33 May 10 ⁶⁰		50.7	9.5	25.1.0	29.7	37.4	41.3	45.0	49.1	+2.80	82+02	10.82	25 29.68 +2.957 -13 -2 26 32.48 -93 25 31.57
(8) - D) κ'_{100}													
a_2													+13.24 -119.
11. 29.59 May 10 ⁶⁰		50.35	10.0	29.44.0	36.0	3.3	7.0	11.0	15.0	+2.80	82+02	10.93	39 55.54 +2.957 -13 -2 29 58.34 -97 39 57.39
(8) - D) κ'_{100}													
a_1													+13.14 -119.
11. 36.53 May 10 ⁶⁰		50.44	9.0	36.38.5	37.1	58.9	2.8	6.6	10.7	+2.80	82+02	10.98	36 57.04 +2.957 -13 -2 36 58.84 -103 36 52.85
(8) - D) κ'_{100}													
a_2													+12.9 -119.
11. 44.56 May 11 ⁶¹		50.45	9.3	44.31.0	50.9	58.7	2.8	6.2	10.6	+2.85	80+02	10.96	44 50.8 +3.072.97 -15 -2 44 53.78 -107 44 52.6x3
(8) - D) κ'_{100}													
a_1													+12.7 -120
κ													
(8) - D) κ'_{100}													
a_2													

Runs

		$\frac{F}{T_m - T}$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	s'
7	d	+241 +144 44422 9.80166 +03882	6.15.0 1.38202 9.80166 1.27162	12.9	40	13.95	42 50 42 +	34.40 19.75 10.73 15.69		40	50 42 38.44 30.68 - 15 + 3 + 8.62 + 24 - 10.80 42 28.22 36.38	+8.84 7
6	(8) - D) $\frac{d'}{100}$	+13.83 -117.96										
	δ_1		5 27.19		41 18.48							
	d	+13.79 -118.04	44+(16.9) 1.22789 9.80305 1.11888	4-19.6	17.8	49	18.70	33 50 33 +	29.65 15.00 13.15	145	50 33 28.15 - 8 + 64 + 8.46 + 23 - 10.80 33 26.60	+9.25
	(8) - D) $\frac{d'}{100}$											
	δ_2		6 41.27		32 8.6							
	d		1.44248 9.77473 1.3051d5	+27.7 +9.8 8.99123 9.77473 0.85390	4-16.3 58 28 37.84 +12.25	15.8	54	16.05	28 53 28 +	32.30 17.65 20.19	50 53 28 37.84 - 20 + 64 + 11.58 + 23 - 11.50 28 38.59	28 24.79 - 3 + 64 + 11.58 + 23 - 11.50 28 25.71
	(8) - D) $\frac{d'}{100}$	+13.89 -118.24										
	δ_1		8 51.37 8 51.71		27 20.41 27 7.5							
	d	+10.4 1.01703 9.80197 0.90694	3.5.3	4.3	43	4.80	39 50 39 +	43.55 28.90 8.07		40	50 39 36.97 - 3 + 46 + 8.58 + 23 - 10.70 39 35.51	+9.24
	(8) - D) $\frac{d'}{100}$	+13.70 -118.32										
	δ_2		9 54.49		38 17.2							
	d	+21.3 1.32838 9.80792 1.22424	2.7.4	4.9	22	6.15	0 50 0 +	42.20 27.55 16.76		20	50 0 44.31 - 12 + 31 + 4.90 + 20 - 10.20 0 42.40	+6.29
	(8) - D) $\frac{d'}{100}$	+13.33 -119.12										
	δ_1		22 19.52		59 23.3							
	d	+28.7 1.45788 9.80686 1.35268	0-9.5	6.8	15	8.15	7 50 7 +	40.20 25.55 22.53		15	50 7 48.08 - 22 + 4 + 8.01 + 20 - 10.10 7 46.01	+8.03
	(8) - D) $\frac{d'}{100}$	+13.24 -119.32										
	δ_2		25 44.83		6 26.7							
7	d	+115 1.06070 9.80274 0.95138	2 13.0	10.1	47	11.55	35 50 35 +	36.80 22.15 8.94		145	50 35 31.09 - 3 + 33 + 8.51 + 23 - 10.10 35 30.03	+9.04
	(8) - D) $\frac{d'}{100}$	+13.14 -119.52										
	δ_1		30 10.55		34 10.5							
4	d	+125 1.09691 9.80105 0.98590	1 19.8	18.1	36	18.95	46 50 46 +	29.40 14.75 9.68		35	50 46 24.43 - 4 + 19 + 8.68 + 24 - 9.90 46 23.60	+9.07
25	(8) - D) $\frac{d'}{100}$	+12.94 -119.80										
	δ_2		37 85.79		45 3.8							
2.97	d	+19.9 1.29885 9.80120 1.18799	2 17.2	14.4	37	15.80	45 50 45 +	32.55 17.40 15.42		35	50 45 32.82 - 11 + 34 + 8.53 + 24 - 9.70 45 32.12	+9.00
2.3	(8) - D) $\frac{d'}{100}$	+12.72 -120.04										
	δ_1		45 5.35		44 12.1							
	d											
	(8) - D) $\frac{d'}{100}$											
	δ_2											

35 63
Date₁ = May 13, 1971
n = -16

Observer A.M.
Recorder W.A.R.

64
Date₂ = May 14
n = -09

Observer W.A.R.
Recorder A.M.

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1871phae.p

Star.	α	δ	Mag.	T_s	T_m	T_a	T_r	T_g	T_h	Sum	Mean	Red. to T_m	T	
11.10.16	50.58	9.0	11.10.37.8	10.14.1	22.0	25.6	29.9	33.4	+2.21	39	11.02	10 14.18		
$(\delta) - D) \frac{\kappa'}{100}$												+2.631		
α_1												-2.20		
κ												-2		
$(\delta) - D) \frac{\kappa'}{100}$												10 16.59		
α_2												-75		
												10 15.82		
												+13.7		
												-118		
11	9.2	9.6	3.0	10.14.0	22.0	25.9	29.8	33.8	12.5	5	25.10	11.02	10 14.08	
$(\delta) - D) \frac{\kappa'}{100}$												+2.38	+2.51	
α_1													-1.11	
κ													-2	
$(\delta) - D) \frac{\kappa'}{100}$													10 16.46	
α_2													-73	
													10 15.73	
													+13.7	
													-118	
14.23	53.32	9.5	14.51.7	17.2	25.3	29.5	34.0	38.0	14.4	0	28.80	11.67	14 17.13	
$(\delta) - D) \frac{\kappa'}{100}$												+2.38	+2.631	
α_1													-2.22	
κ													-3	
$(\delta) - D) \frac{\kappa'}{100}$													14 19.51	
α_2													-83	
													14 18.66	
													+13.7	
													-118	
13	24.9	53.37.2	9.0	13.47.9	14.17.3	25.3	29.4	33.7	37.9	14.3	6	28.72	11.67	14 17.05
$(\delta) - D) \frac{\kappa'}{100}$												+2.36	+2.51	
α_1													-1.12	
κ													-3	
$(\delta) - D) \frac{\kappa'}{100}$													14 19.41	
α_2													-81	
													14 18.60	
													+13.7	
													-118	
16.38	52.43	8.7	16.7.7	32.2	40.8	44.6	48.6	53.0	21.9	2	43.84	11.46	16 32.38	
$(\delta) - D) \frac{\kappa'}{100}$												+2.40	+2.631	
α_1													-2.21	
κ													-2	
$(\delta) - D) \frac{\kappa'}{100}$													16 34.78	
α_2													-84	
													16 33.92	
													+13.6	
													-118	
16.0.2	32.4	40.4	44.6	48.6	53.0	21.9	0	43.80	11.46	16 32.34			+2.51	
$(\delta) - D) \frac{\kappa'}{100}$													-1.12	
α_1													-2	
κ													16 34.71	
$(\delta) - D) \frac{\kappa'}{100}$													-82	
α_2													16 33.89	
													+13.6	
													-118	
18.46	52.49	8.0	18.12.0	41.0	49.0	53.2	57.2	1.5	26.1	9	52.38	11.48	18 40.95	
$(\delta) - D) \frac{\kappa'}{100}$												+2.40	+2.631	
α_1													-2.21	
κ													-2	
$(\delta) - D) \frac{\kappa'}{100}$													18 43.30	
α_2													-88	
													18 42.42	
													+13.5	
													-118	
18.19.2	41.0	49.2	53.1	57.4	1.5	26.2	25	244	11.48	18 40.96			+2.51	
$(\delta) - D) \frac{\kappa'}{100}$													-1.12	
α_1													-2	
κ													18 43.33	
$(\delta) - D) \frac{\kappa'}{100}$													-84	
α_2													18 42.49	
													+13.5	
													-118	
23.23	53.20	9.2	23.16.7	16.7	24.8	28.8	33.0	37.3	14.0	4	28.82	11.61	23 16.51	
$(\delta) - D) \frac{\kappa'}{100}$												+2.38	+2.621	
α_1													-2.21	
κ													-3	
$(\delta) - D) \frac{\kappa'}{100}$													23 18.89	
α_2													-80	
													23 17.94	
													+13.4	
													-119	
8.6	22.41.8	23.16.3	24.8	28.7	33.0	37.3	13.9	4	27.88	11.61	23 16.27		+2.51	
$(\delta) - D) \frac{\kappa'}{100}$													-1.12	
α_1													-3	
κ													23 18.63	
$(\delta) - D) \frac{\kappa'}{100}$													-88	
α_2													23 17.81	
													+13.4	
													-119	

May 13 - 0 16.93 + 15 m.
 14 16.29 + 15 R.
 15.84

1871phab-pi

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	8'
d	4.28.8 -23.6 1.37291m 9.79918 1.26003m	28.8	30.5	24	29.65	50 58 1.70 50 58 1.94 18.20			20	50 57 43.77 - .15 + .67 + 8.72 + .25 57 42.26 - 11.50 + 0.45	+9.49
(8) - D	$\frac{d'}{100}$										
δ_1	+13.70 -118.36	10 28.53	56 23.9								
d	0.3-8 1.32428 9.79918 1.21140	3-8	1.2	25	2.50	50 57 45.85 50 57 29.56 + 16.27			25	57 45.83 - .12 + .0 + 8.69 + .25 - 11.26 57 43.58	+8.82
(8) - D	$\frac{d'}{100}$										
δ_2	+13.70 -118.36	10 29.43	56 25.5								
d	1.4.5 -34.6 1.53908m 9.77422 1.40124m	1.4.5	4.1	51	4.30	31 31 44.05 53 31 27.32 - 25.19			50	53 31 2.13 - .31 + .16 + 11.42 + .30 - 11.60 31 2.10	+11.57
(8) - D	$\frac{d'}{100}$										
δ_1	+13.72 -118.64	14 32.38	29 43.5								
d	1.57.3 +29.2 1.46538 9.77422 1.32754	1.57.3	4.1	51	50.20	30 30 58.15 53 30 41.86 + 21.26			50	31 3.12 - .22 + .27 + 11.34 + .30 - 11.80 31 3.64	+11.72
(8) - D	$\frac{d'}{100}$										
δ_2	+13.72 -118.64	14 32.32	29 44.8								
d	2.56.4 +24.7 1.39270 9.78137 1.26261	2.56.4	56.4	37	56.40	44 44 51.95 52 44 35.22 + 18.31			35	52 44 53.53 - .16 + .43 + 10.61 + .30 - 11.30 44 53.41	+11.18
(8) - D	$\frac{d'}{100}$										
δ_1	+13.61 -118.80	16 47.53	43 34.6								
d	3 1.3 +321 1.50651 9.78197 1.37642	3 1.3	2.59.2	38	0.25	44 44 48.10 52 44 31.81 + 23.79			35	44 58.60 - .27 + .45 + 10.57 + .30 - 11.50 44 55.45	+11.05
(8) - D	$\frac{d'}{100}$										
δ_2	+13.61 -118.80	16 47.50	43 36.4								
d	2 24.6 +289 1.46090 9.78113 1.32997	2 24.6	25.1	32	24.85	50 50 23.50 52 50 6.77 + 21.38			30	52 50 28.15 - .22 + .36 + 10.73 + .30 - 11.40 50 27.92	+11.17
(8) - D	$\frac{d'}{100}$										
δ_1	+13.55 -118.92	18 55.97	49 9.0								
d	2 19.2 +21.8 1.33846 9.78113 1.20753	2 19.2	18.1	32	18.65	50 50 29.70 52 50 13.41 + 16.13			30	50 29.54 - .13 + .34 + 10.65 + .30 - 11.50 50 29.20	+11.16
(8) - D	$\frac{d'}{100}$										
δ_2	+13.55 -118.92	18 56.04	49 10.7								
d	2.9.0 -37.9 1.57864m 9.77609 1.44267m	2.9.0	9.4	82	9.20	280 280 39.15 53 280 22.42 - 27.71			0	53 19 54.71 - .38 + .33 + 11.24 + .30 - 11.30 19 54.90	+11.49
(8) - D	$\frac{d'}{100}$										
δ_1	+13.43 -119.20	23 31.37	18 35.7								
d	3.2.7 +84.5 1.53782 9.77609 1.40185	3.2.7	2.0	3	2.35	19 19 46.00 53 19 29.71 + 25.23			0	19 54.94 - .31 + .45 + 11.18 + .30 - 11.40 19 55.45	+11.62
(8) - D	$\frac{d'}{100}$										
δ_2	+13.43 -119.20	23 31.24	18 36.4								

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Date₁ = May 13

Observer A.M.
Recorder W.A.R.

641
Date₂ = May 14

Observer W.A.R.
Recorder A.M.

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Star.	α	δ	Mag.	T_s	T_m	T_e	T_r	T_g	T_h	Sum	Mean	Red. to T_m	T
1.	27.5	54.29	8.8	11.27	25.0	26.57	8.1	12.5	16.8	21.1	35.82	71.64	11.94
κ	26	7.5	54.34.7	8.3							+23.36		26.57.70
													+2.62
													-.22
													-3
(8) - D	$\frac{\kappa'}{100}$												27 2.07
a_1													-.96
													37 1.10
κ			8.4	26.30.2	57.6	8.2	12.3	16.8	21.0	35.79	71.58	11.94	26.57.64
											+23.36		+2.51
													-.12
													-3
(8) - D	$\frac{\kappa'}{100}$												27 2.00
a_2													-.96
													27 1.06
28.26	54.17	8.5	27.54.4	20.0	28.5	32.9	37.1	41.4	15.99	31.98	11.88	28.20.10	
κ	27 29.5	54.22.8	7.5								+23.36		+2.62
													-.22
													-3
													28 22.47
													-.97
													28 21.49
(8) - D	$\frac{\kappa'}{100}$												
a_1													
κ			8.2	27.54.1	28.20.2	28.7	32.8	37.0	41.3	16.00	32.00	11.88	28.20.13
											+2.36		+2.51
													-.12
													-3
(8) - D	$\frac{\kappa'}{100}$												28 22.48
a_2													-.95
													28 21.53
29.50	53.7	9.0	29.23.3	46.1	54.5	58.7	2.7	7.0	28.90	57.80	11.56	29.46.24	
κ	28 54.3	53.12.8	7.2								+2.38		+2.62
													-.21
													-3
													29 48.62
													-.95
													29 47.60
(8) - D	$\frac{\kappa'}{100}$												
a_1													
κ			9.5	29.18.2	46.2	54.5	58.4	2.6	6.8	28.85	57.70	11.56	29.46.14
											+2.36		+2.51
													-.12
													-3
(8) - D	$\frac{\kappa'}{100}$												29 48.50
a_2													-.93
													29 47.57
33.24	52.57	8.8	32.52.7	33.17.4	25.5	29.5	33.7	37.8	14.39	28.78	11.51	33.17.27	
κ	32 28.2	53.20	8.0								+2.38		+2.62
													-.21
													-3
													33 19.65
													-.98
													33 18.66
(8) - D	$\frac{\kappa'}{100}$												
a_1													
κ			8.2	34.33.7	17.2	25.3	29.4	33.5	37.6	14.30	28.60	11.51	33.17.09
											+2.35		+2.50
													-.12
													-3
(8) - D	$\frac{\kappa'}{100}$												33 19.44
a_2													-.96
													33 18.48
34.33	53.33	9.5	34.8.7	29.5	38.0	42.1	46.2	50.3	20.01	41.22	11.68	34.29.54	
κ	33 27.5	53.41.1	9.3								+2.37		+2.62
													-.22
													-3
													34 31.91
													-.91
													34 30.89
(8) - D	$\frac{\kappa'}{100}$												
a_1													
κ			9.5	34.19.7	29.6	38.0	42.0	46.0	50.2	20.58	41.16	11.68	34.29.48
											+2.35		+2.50
													-.12
													-3
(8) - D	$\frac{\kappa'}{100}$												34 31.83
a_2													-.98
													34 30.53

+13.30
-119.4

+13.36
-119.4

+13.31
-119.4

+13.3
-119.2

+13.2
-119.2

+13.2
-119.2

+13.11
-119.6

+13.0
-119.1

+13.09
-119.1

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	8'
d	$\frac{25.8}{1.40392}$ $\frac{9.76413}{1.25519}$	$3' 57.2$	60.5	58.2	58.55	28 54 28	49.50 32.77 18.10		50	54 28 14.77	+13.24
(8) - D) $\frac{d'}{100}$										- .17 + .60 + 1.246 + .35 - 11.60 28.9 16.41	
δ_1	+13.36 -119.40	27 14.47	27	26 57.0						29 16.42	
d	$\frac{29.4}{1.40392}$ $\frac{9.76413}{1.22042}$	$3' 37.5$	35.6	53	36.55	29 54 28	11.80 35.51 20.91		50	29 16.42	+13.05
(8) - D) $\frac{d'}{100}$										- .22 + .54 + 12.38 + .35 - 11.70 29 16.42	
δ_2	+13.36 -119.40	27 14.42	27	52.8						29 16.42	
d	$\frac{25.7}{1.40392}$ $\frac{9.76625}{1.26412}$	$0' 48.8$	49.4	5	49.10	16 54 16	59.25 41.52 18.37		5	54 17 0.89	+12.52
(8) - D) $\frac{d'}{100}$										- .17 + .12 + 12.24 + .33 - 11.50 17 1.91	
δ_1	+13.31 -119.48	28 34.80	15	42.4						17 1.91	
d	$\frac{26.0}{1.40392}$ $\frac{9.76625}{1.26916}$	$0' 49.5$	48.1	5	48.80	16 54 16	59.55 43.26 18.58		5	17 1.84	+12.45
(8) - D) $\frac{d'}{100}$										- .18 + .12 + 12.18 + .33 - 11.60 17 3.14	
δ_2	+13.31 -119.48	28 34.84	15	43.7						17 3.14	
d	$\frac{22.9}{1.35984}$ $\frac{9.77829}{1.22607}$	$1' 6.8$	7.5	16	7.15	6 53 6	41.20 24.47 16.83		15	53 6 41.30	+11.32
(8) - D) $\frac{d'}{100}$										- .14 + .16 + 11.00 + .30 - 11.20 6 41.42	
δ_1	+13.22 -119.52	30 0.88	5	21.9						6 41.42	
d	$\frac{27.9}{1.40392}$ $\frac{9.77829}{1.31183}$	$1' 12.1$	9.0	16	10.55	6 53 6	37.80 21.51 20.50		15	6 42.01	+11.23
(8) - D) $\frac{d'}{100}$										- .21 + .18 + 10.96 + .30 - 11.30 6 42.34	
δ_2	+13.22 -119.52	30 0.79	5	22.9						6 42.34	
d	$\frac{24.6}{1.39094}$ $\frac{9.77980}{1.25868}$	$4' 66.1$	66.3	28	66.20	57 52 57	42.15 25.42 18.14		20	52 57 43.56	+11.73
(8) - D) $\frac{d'}{100}$										- .16 + .76 + 10.83 + .30 - 11.00 57 44.29	
δ_1	+13.11 -119.68	33 30.77	56	24.6						57 44.29	
d	$\frac{20.3}{1.30750}$ $\frac{9.77980}{1.17524}$	$4' 33.3$	31.8	24	32.55	58 52 57	15.80 59.51 14.97		20	57 44.54	+11.68
(8) - D) $\frac{d'}{100}$										- .10 + .72 + 10.76 + .30 - 11.10 57 45.57	
δ_2	+13.11 -119.68	33 31.59	56	25.9						57 45.57	
d	$\frac{20.8}{1.31806}$ $\frac{9.78362}{1.28962}$	$3' 0.3$	1.4	48	0.85	34 53 34	47.50 30.77 15.47		45	53 34 46.24	+12.13
(8) - D) $\frac{d'}{100}$										- .12 + .45 + 11.50 + .30 - 11.10 34 47.27	
δ_1	+13.09 -119.72	34 43.98	33	27.6						34 47.27	
d	$\frac{9.8}{1.20123}$ $\frac{9.78362}{0.86279}$	$2' 52.8$	51.4	49	52.10	34 53 34	56.25 39.96 7.29		45	34 47.25	+12.13
(8) - D) $\frac{d'}{100}$										- .3 + .43 + 11.43 + .30 - 11.20 34 48.53	
δ_2	+13.09 -119.72	34 43.94	33	28.9						34 48.53	

Date₁ = May 13Observer A.M.
Recorder W.A.R.Date₂ = May 14Observer W.A.R.
Recorder A.M.

Run

Star.	α	δ	Mag.	T_0	T_m	T_e	T_r	T_g	T_h	Sum	Mean	Red. to T_m	T
36	54	53.7	7.0	36.27.2	58.5	58.6	2.8	6.9	11.3	31.01	62.02	11.56	36.58.46
										+2.38	36		+2.620
													36 52.84
													36 51.61
(8) - D													+13.0
α_1													-1.19
36	54	53.7	7.0	36.29.7	58.4	58.7	2.7	6.9	11.0	30.97	61.94	11.56	36.58.38
										+2.35			+2.50
													36 52.73
													36 51.74
(8) - D													+13.0
α_2													-1.19
39	21	51.16	7.4	38.45.6	39.15.4	23.1	27.2	31.3	35.4	132.4	26.48	11.08	39.15.40
										+2.46	38		+2.620
													39 17.80
													39 16.79
(8) - D													+12.8
α_1													-1.19
39	21	51.16	7.4	38.51.2	39.15.4	23.3	27.1	31.2	35.4	132.4	26.48	11.08	39.15.40
										+2.37			+2.50
													39 17.77
													39 16.80
(8) - D													+12.8
α_2													-1.19
40	46	53.45	7.5	40.33.6	59.6	7.7	12.0	16.1	20.4	35.58	71.16	11.73	40.59.43
										+2.37	35		+2.620
													40 18.0
													41 0.71
(8) - D													+12.8
α_1													-1.19
40	46	53.45	7.5	40.36.1	59.3	7.8	11.9	16.0	20.5	35.55	71.10	11.73	40.59.37
										+2.35			+2.50
													41 1.72
													41 0.68
(8) - D													+12.8
α_2													-1.19
43	14	54.32	7.6	42.44.4	43.12.2	20.5	24.7	29.0	33.3	11.97	23.94	11.95	43.11.99
										+2.36	35		+2.620
													43 14.35
													43 13.26
(8) - D													+12.8
α_1													-1.20
43	14	54.32	7.6	42.57.7	43.11.9	20.4	24.6	28.9	33.2	11.90	23.80	11.95	43.11.85
										+2.34			+2.50
													43 14.19
													43 13.13
(8) - D													+12.8
α_2													-1.20
45	26	57.20	9.2	44.56.6	45.23.0	30.9	34.8	38.8	43.2	17.07	34.14	11.10	45.33.04
										+2.39	38		+2.620
													45 25.43
													45 24.37
(8) - D													+12.7
α_1													-1.20
45	26	57.20	9.2	44.54.3	45.22.9	30.8	34.9	38.8	42.8	17.02	34.04	11.10	45.33.94
										+2.37			+2.50
													45 25.31
													45 24.28
(8) - D													+12.7
α_2													-1.20

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	8'
d	+23.3 1.36736 9.77829 1.23359	113.2	12.9	16	1305	6 53 6 +	35.30 18.57 17.12		15	53 6 35.69 - .14 + .18 + 11.02 + 30 - 10.90 6 36.15 + 8.35 6 36.47	+11.36
(8) - D) $\frac{d'}{100}$		37 4.81 36.5781		3 5 16.4						+ 11.02 + 30 - 10.90 6 36.15 + 8.35 6 36.47	
+13.00 δ_1 -119.80											
d	+20.7 1.31597 9.77829 1.18220	1.11.7	9.9	16	1080	6 53 6 +	37.55 21.26 15.21		15	6 36.47 - .11 + .18 + 10.96 + 30 - 11.00 6 36.80 57.25	+11.33
(8) - D) $\frac{d'}{100}$		37 4.74		5 17.4						+ 10.96 + 30 - 11.00 6 36.80 57.25	
+13.00 δ_1 -119.80											
d	+29.8 1.44422 9.79621 1.35837	1.8.1	8.0	6	805	16 51 16 +	40.30 23.57 22.82		5	51 16 46.39 - .24 + .16 + 9.10 + .28 - 10.40 16 45.29	+9.30
(8) - D) $\frac{d'}{100}$		39 29.68		15 25.4						+ 9.10 + .28 - 10.40 16 45.29	
+12.89 δ_1 -119.88											
d	+24.2 1.38382 9.79621 1.26797	1.2.3	1.0	6	1.65	16 51 16 +	46.70 30.41 18.53		5	16 48.94 - .15 + .15 + 9.05 + .28 - 10.50 16 47.72 47.72	+9.33
(8) - D) $\frac{d'}{100}$		39 29.69		15 25.3						+ 9.05 + .28 - 10.50 16 47.72 47.72	
+12.89 δ_2 -119.88											
d	+25.8 1.41162 9.77199 1.27155	3 59.0	60.9	38	5995	43 53 43 +	48.40 31.67 18.69		35	53 43 50.36 - .18 + .60 + 11.68 + 30 - 10.90 43 51.86	+12.40
(8) - D) $\frac{d'}{100}$		41 13.60		42 31.9						+ 11.68 + 30 - 10.90 43 51.86	
+12.89 δ_1 -119.76											
d	+23.3 1.36736 9.77199 1.22729	3 57.0	66.4	38	5670	43 53 43 +	57.65 35.36 16.88		35	43 52.24 - .14 + .58 + 11.60 + 30 - 11.00 43 52.58 54.03	+12.34
(8) - D) $\frac{d'}{100}$		41 13.57		42 34.1						+ 11.60 + 30 - 11.00 43 52.58 54.03	
+12.89 δ_2 -119.76											
d	+27.6 1.44091 9.76360 1.29245	1.15.7	16.7	51	1620	31 54 31 +	32.15 15.42 19.61		52	54 31 35.03 - .20 + .19 + 12.53 + 35 - 10.90 31 37.00	+12.87
(8) - D) $\frac{d'}{100}$		43 26.09		30 17.0						+ 12.53 + 35 - 10.90 31 37.00	
+12.83 δ_1 -120.00											
d	+20.1 1.30320 9.76360 1.15474	1.9.8	7.2	51	850	31 54 31 +	39.85 23.56 14.28		50	31 37.84 - .10 + .16 + 12.46 + 35 - 11.00 31 37.74 40.76	+12.87
(8) - D) $\frac{d'}{100}$		43 25.96		30 17.0						+ 12.46 + 35 - 11.00 31 37.74 40.76	
+12.83 δ_2 -120.00											
d	+26.4 1.42160 9.79573 1.30527	24.2	42.8	2	4300	20 51 19 +	6.85 5.35 20.20		0	51 20 8.82 - .18 + 40 + 9.157 + 28 - 10.20 20 8.27	+9.67
(8) - D) $\frac{d'}{100}$		45 37.08		18 49.8						+ 9.157 + 28 - 10.20 20 8.27	
+12.71 δ_1 -120.04											
d	+23.6 1.37291 9.79573 1.25658	2 39.1	37.8	2	3845	20 51 19 +	9.90 53.61 18.05		0	20 11.66 - .16 + .39 + 9.10 + 28 - 10.30 20 10.78 11.43	+9.62
(8) - D) $\frac{d'}{100}$		45 36.99		18 51.4						+ 9.10 + 28 - 10.30 20 10.78 11.43	
+12.71 δ_2 -120.04											

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Date₁ = May 13

Observer *A. M.*
Recorder *W. R.*

Date₂ = May 14

Observer *W. S. R.*
Recorder *S. M.*

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Rur

[illegible]

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ'
d	+33.0 1.51851 9.77112 1.37757	4' 20.2	21.8	34	2500	48 53 48 +	2735 10.62 23.85		30	53 48 34.47 - .28 + .66 + 11.78 + 30 - 10.60 48 36.33 + 2.45 38.78	+12.16
((8) - D) $\frac{d'}{100}$											
δ_1	+12.60 -120.16	50 19.93	47 16.2							48 36.33 + 2.45 38.78	
d	+9.2 0.96379 9.77112 0.82285	4.3-3-	2.2	34	275	48 53 48 +	45.60 29.31 6.65		30	48 35.96 - .3 + .60 + 11.69 + 30 - 10.80 48 37.72 38.17	+12.56
((8) - D) $\frac{d'}{100}$											
δ_1	+12.60 -120.16	50 19.86	47 16.0							48 37.72 38.17	
d	+19.0 1.27875 9.75967 1.12636	3.36.0	37.4	28	3670	54 54 53 +	11.65 54.92 13.38		25	54 54 8.30 - .9 + .54 + 12.92 + 39 - 10.80 54 11.26	+13.76
((8) - D) $\frac{d'}{100}$											
δ_1	+12.57 -120.16	51 34.61	52 51.1							54 11.26	
d	+25.3 1.40312 9.75967 1.25073	3.39.8	40.1	28	39.95	54 54 53 +	8.40 52.11 17.81		25	54 9.92 - .16 + .55 + 12.83 + 39 - 11.00 54 12.83	+13.61
((8) - D) $\frac{d'}{100}$											
δ_2	+12.57 -120.16	51 34.57	52 52.8							54 12.83	
d	+24.0 1.35021 9.76800 1.23615	0.52.8	53.5	15	53.15	54 54 6 +	55.20 38.47 17.22		15	54 6 55.69 - .15 + .13 + 12.08 + 31 - 10.70 6 57.36	+12.37
((8) - D) $\frac{d'}{100}$											
δ_1	+12.50 -120.20	53 21.65	53 7.2							6 57.36	
d	+22.9 1.35984 9.76800 1.25478	0.51.1	50.1	15	50.60	54 54 6 +	57.75 41.46 17.98		15	6 59.44 - .14 + .12 + 12.01 + 31 - 10.80 7 7.34	+12.30
((8) - D) $\frac{d'}{100}$											
δ_2	+12.50 -120.20	53 21.60	5 41.2							7 7.34	
d	+24.4 1.38739 9.77422 1.24955	1.23.7	24.1	51	2390	31 53 31 +	24.45 7.72 17.76		50	53 31 25.48 - .14 + .21 + 11.46 + 30 - 10.40 31 26.91	+11.83
((8) - D) $\frac{d'}{100}$											
δ_1	+12.46 -120.20	54 48.19	30 6.7							31 26.91	
d	+23.6 1.37291 9.77422 1.23517	1.24.4	21.0	51	2270	31 53 31 +	25.65 9.36 17.19		50	31 26.55 - .14 + .21 + 11.37 + 30 - 10.60 31 27.67	+11.74
((8) - D) $\frac{d'}{100}$											
δ_2	+12.46 -120.20	54 48.09	30 7.9							31 27.67	
d	+33.1 1.51983 9.77353 1.38130	2 24.5	25.6	47	2575	35 53 35 +	23.30 6.57 24.06		45	53 35 30.63 - .28 + .36 + 11.55 + 30 - 10.30 35 32.26	+11.93
((8) - D) $\frac{d'}{100}$											
δ_1	+12.32 -120.20	59 13.82	34 12.1							35 32.26	
d	+23.9 1.37840 9.77353 1.23987	2 17.3	16.1	47	1670	35 53 35 +	31.65 15.36 17.37		45	35 32.73 - .15 + .33 + 11.46 + 30 - 10.50 35 34.82	+11.94
((8) - D) $\frac{d'}{100}$											
δ_2	+12.32 -120.20	59 13.74	34 14.4							35 34.82	

1871 phase proj. 1571

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	8'
d	+18.9 1.27646 9.77558 1.13998	4 28.8	50.8	59	29.80	23 53	18.55 1.82 13.80		55	53 23 15.62	+12.21
(δ) - D) $\frac{d'}{100}$										+ 11.33 + 30 - 8.50 23 17.93 + 2.45	
+12.11 δ ₁ -1 20.20		5 46.91		21 57.7							
d	+27.8 1.44404 9.77558 1.30756	4. 30.0	30.7	59	30.35	23 53	18.10 1.71 20.30		55	23 22.01	+11.99
(δ) - D) $\frac{d'}{100}$										- .21 + .67 + 11.23 + 30 - 10.10 23 22.90 24.35	
+12.11 δ ₂ -1 20.20		5 46.88		22 4.8							
d	+25.0 1.39794 9.76974 1.25562	0 38.2	58.8	25	58.50	56 53	49.85 33.12 18.01		25	53 56 31.13	+12.23
(δ) - D) $\frac{d'}{100}$										- .16 + .15 + 11.94 + 30 - 10.00 56 53.36	
+12.06 δ ₁ -1 20.16		7 18.62		55 33.2							
d	+15.5 1.19033 9.76974 1.04801	0 38.1	50.6	25	51.85	56 53	56.50 40.21 11.17		25	56 51.38	+12.20
(δ) - D) $\frac{d'}{100}$										- .6 + .13 + 11.83 + 30 - 10.20 56 53.38	
+12.06 δ ₂ -1 20.16		7 18.53		55 33.2							
d	+20.4 1.43775 9.77490 1.30059	2 50.4	51.0	58.6	50.70	26 53	57.65 40.92 19.98		55	53 27 0.90	+11.62
(δ) - D) $\frac{d'}{100}$										- .20 + .12 + 11.40 + 30 - 9.80 276 2.72	
+12.00 δ ₁ -1 20.16		9 14.74		24 42.6							
d	+25.6 1.40824 9.77507 1.27125	1 49.1	46.9	56	48.20	26 53	10.35 44.06 18.67		55	26 2.73	+11.68
(δ) - D) $\frac{d'}{100}$										- .17 + .27 + 11.28 + 30 - 10.00 26 4.41 86	
+12.00 δ ₂ -1 20.16		9 14.63		24 44.7							
d	+28.8 1.45939 9.76500 1.31533	0 19.8	21.6	15	20.70	7 54	27.65 10.92 20.67		15	54 7 31.59	+12.26
(δ) - D) $\frac{d'}{100}$										- .22 + .4 + 12.13 + 31 - 9.50 7 33.95	
+11.93 δ ₁ -1 20.12		11 16.44		6 13.88							
d	+28.1 1.44871 9.76500 1.30465	0 21.8	21.2	15	21.50	7 54	26.85 10.56 20.17		15	7 30.73	+12.18
(δ) - D) $\frac{d'}{100}$										- .20 + .6 + 12.01 + 31 - 10.10 7 33.84 33.26	
+11.93 δ ₂ -1 20.12		11 16.21		6 13.1							
d	+27.4 1.43775 9.77395 1.30364	3 36.1	36.8	13	36.45	9 53	11.90 55.17 20.12		10	53 9 15.29	+11.74
(δ) - D) $\frac{d'}{100}$										- .19 + .54 + 11.09 + 30 - 9.20 9 17.43	
+11.89 δ ₁ -1 20.08		12 58.56		7 57.4							
d	+18.1 1.25768 9.77795 1.12357	3. 28.7	27.9	13	28.30	9 53	20.05 3.76 13.29		10	9 17.05	+11.73
(δ) - D) $\frac{d'}{100}$										- .52 + 10.99 + 30 - 9.80 9 18.53	
+11.89 δ ₂ -1 20.08		12 58.30 12 34.52		7 59.5 5 52.4							

53° to 54°
40
Date₁ = May 13

Observer *A. M.*
Recorder *H. R.*

Date₂ = May 14

Observer *NWR*
Recorder *A. M.*

Runs

[illegible]

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	8'
1	+26.7 1.42651 9.76889 1.28332	0 57.4	52.2	26	57.80	54 1 + 19.20	56.55 39.82 19.20		20	54 1 59.02 - .19 + 12.02 + 3.0 - 8.70 2 1.57 + 8.34	+12.25
2	+11.81 -1.2004	14 54.10	0 41.5								
3	+24.8 1.39445 9.76889 1.25126	0 50.0	48.8	20	49.45	54 1 + 17.83	58.90 42.61 17.83		20	2 0.44 - .16 + .12 + 11.91 + 3.0 - 8.90 2 3.16	+12.17
4	+11.81 -1.2004	14 53.91	0 43.1								
5	+29.4 1.46835 9.76852 1.32481	3 56.1	58.1	18	57.10	54 3 + 21.13	51.25 34.52 21.13		15	54 3 55.65 - .22 + .58 + 12.06 + 3.1 - 8.70 3 58.68	+12.73
6	+11.76 -1.2000	16 37.91	2 38.7								
7	+32.6 1.51322 9.76852 1.36968	4 1.3	3 59.2	19	0.25	54 3 + 23.42	48.10 31.81 23.42		15	3 55.23 - .28 + .60 + 11.95 + 3.1 - 8.90 3 57.56	+12.58
8	+11.76 -1.2000	16 37.78	2 38.4								
9	+30.0 1.47712 9.77558 1.34064	4 26.7	29.4	59	25.05	53 23 + 21.91	20.30 3.57 21.91		55	53 23 25.48 - .24 + .67 + 11.35 + 3.0 - 8.40 23 28.16	+12.08
10	+11.66 -1.1992	20 57.94	22 8.2								
11	+12.5 1.09691 9.77558 0.96043	4 15.9	14.7	59	15.30	53 23 + 9.13	33.05 16.76 9.13		55	23 25.89 - .4 + .64 + 11.24 + 3.0 - 8.60 23 28.13	+12.14
12	+11.66 -1.1992	20 58.2	22 9.0								
13	+26.2 1.41830 9.76957 1.27581	4 26.6	28.0	24	27.30	53 58 + 18.87	21.05 4.32 18.87		20	53 58 23.19 - .18 + .67 + 11.98 + 3.0 - 8.40 58 26.56	+12.77
14	+11.55 -1.1980	23 8.22	57 6.8								
15	+14.0 1.14613 9.76957 1.00364	4 16.7	15.4	24	16.05	53 58 + 10.08	32.30 16.01 10.08		20	58 26.09 - .5 + .64 + 11.87 + 3.0 - 8.60 58 29.35	+12.76
16	+11.55 -1.1980	23 8.29	57 9.9								
17	+25.1 1.39967 9.77147 1.25908	0 54.6	56.1	35	55.35	53 46 + 18.16	53.00 36.27 18.16		35	53 46 54.43 - .16 + .13 + 11.77 + 3.0 - 8.30 46 57.17	+12.04
18	+11.48 -1.1976	24 53.13	45 38.4								
19	+26.3 1.41996 9.77147 1.27937	0 55.1	53.8	35	54.45	53 46 + 19.03	53.90 37.61 19.03		35	46 56.64 - .18 + .13 + 11.65 + 3.0 - 8.50 46 59.14	+11.90
20	+11.48 -1.1976	24 52.99	45 39.4								

Runs

		$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	s'
60	d	+28.4	57.6	57.9	21	57.75	59	49.60		20	50 0 53.21	
19		1.45332					50	59 32.87			+ .22	+8.11
2		9.80792						22.34			+ .30	
32		1.34918									+ 7.83	
1	(8) - D										+ .20	
72	δ_1	+11.53	27 22.25	59 35.4							+ 5.30	
		-119.64									0 55.02	
3											+ .28	
11	d	+20.5	57.2	57.1	21	57.15	58	57.20		20	0 57.04	+8.12
2		1.31175					49	56 40.91			+ .11	
32		9.80792					50	0 16.13			+ .28	
0		1.20761									+ 7.75	
9	(8) - D										+ .20	
	δ_2	+11.53	27 22.12	59 37.5							- 8.50	
		-119.64									0 57.11	
60	d	+28.4	57.4	48.1	33	47.75	49	0.60		30	53 49 44.0	+12.48
2		1.45332					53	48 43.87			- .21	
32		9.77112						20.53			+ .57	
5		1.31238									+ 11.82	
5	(8) - D										+ .30	
	δ_1	+11.32	30 27.97	47 48.4							- 9.00	
		-119.52									49 7.88	
3	d	+31.3	3 48.9	48.0	33	48.45	48	59.90		30	49 6.24	+12.30
9		1.49554					53	48 43.61			- .26	
2		9.77112						22.63			+ .59	
3		1.35460									+ 11.64	
4	(8) - D										+ .30	
3	δ_2	+11.32	30 27.85	47 50.3							- 9.20	
		-119.52									49 7.79	
60	d	+35.6	0 18.1	19.4	53	18.75	27	29.60		53	54 27 31.09	+12.71
22		1.40824					54	27 17.87			- .17	
3		9.76448						18.22			+ .4	
2		1.26066									+ 12.50	
9	(8) - D										+ .34	
	δ_1	+11.26	31 45.87	26 15.3							- 9.10	
		-119.44									27 34.70	
13	d	+22.8	0 15.8	16.0	53	15.40	27	32.95		53	27 32.89	+12.59
7		1.35793					54	27 16.66			- .14	
7		9.76448						16.23			+ .4	
5		1.21035									+ 12.35	
15	(8) - D										+ .34	
	δ_2	+11.26	31 45.71	26 17.2							- 9.30	
		-119.44									27 36.63	
60	d	+28.4	0 20.9	25.0	40	25.45	42	22.90		40	51 42 27.72	+9.72
0		1.45332					51	42 6.17			- .21	
1		9.79224						21.55			+ .26	
1		1.33350									+ 9.59	
11	(8) - D										+ .28	
72	δ_1	+11.29	33 55.89	41 9.7							- 8.40	
		-119.36									42 29.04	
11	d	+25.0	0 24.0	22.0	40	23.00	42	25.35		40	42 28.03	+9.65
2		1.39794					51	42 9.06			- .17	
32		9.79224						18.97			+ .6	
40		1.27812									+ 9.48	
437	(8) - D										+ .28	
	δ_2	+11.29	33 56.16	41 10.2							- 8.60	
		-119.36									42 29.53	
60	d	+22.1	0 22.0	24.0	15	23.00	51	7 25.35		15	51 7 25.60	+9.16
0		1.34439						8.62			- .13	
2		9.79778						16.98			+ .6	
6		1.23001									+ 8.98	
16	(8) - D										+ .25	
	δ_1	+11.27	35 31.73	6 7.3							- 8.20	
		-119.24									7 28.56	
18	d	+24.8	0 27.1	24.3	15	25.40	51	7 22.65		15	7 25.42	+9.02
11		1.39445						6.36			- .17	
2		9.79778						19.06			+ .6	
39		1.28017									+ 8.88	
43	(8) - D										+ .25	
	δ_2	+11.27	35 31.70	6 7.3							- 8.40	
		-119.24									7 26.47	

Runs

		$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	8'
60	d	+32.2 1.50786 9.78837 1.38417	2'. 2'. 9	3. 2'	17	30.5	5 52	45.30 28.59 24.22		15	52 5 52.79 - .27 + .31 + 10.02 + .30 - .30 5 54.85 + .27	+10.36
	(8) - D $\frac{d'}{100}$											
+11.16 -119.12	δ_1		38 2.31	38 2.31	4 35.4 44.3 341.8							
	d	+19.8 1.29667 9.78837 1.17298	1. 57.8	55.7	16	56.75	5 52	51.60 35.31 14.89		15	5 50.20 - .11 + .28 + 9.89 + .30 - 8.50 5 52.31	+10.36
	(8) - D $\frac{d'}{100}$											
+11.16 -119.12	δ_2		38 2.26		4 33.4							
60	d	+20.3 1.40312 9.77130 1.26236	4 43.7	45.3	34	44.50	48 53	3.85 47.12 18.30		30	53 48 54.2 - .17 + .10 + 11.82 + .30 - 8.60 48 9.47	+12.65
	(8) - D $\frac{d'}{100}$											
+11.03 -119.00	δ_1		39 41.26		46 50.5 47 4.6							
	d	+26.6 1.42488 9.77130 1.28412	4. 48.7	48.8	34	48.75	47 53	59.60 47.12 19.24		30	48 2.55 - .19 + .42 + 11.67 + .30 - 8.50 48 6.70	+12.60
	(8) - D $\frac{d'}{100}$											
+11.03 -119.00	δ_2		39 41.12		46 47.7 47 4.8							
60	d	+28.3 1.45179 9.77370 1.31343	3. 58.5	60.2	48	59.35	33 53	49.00 33.27 20.58		45	53 33 52.85 - .21 + .60 + 11.55 + .30 - 8.50 33 56.59	+12.24
	(8) - D $\frac{d'}{100}$											
+10.98 -118.88	δ_1		41 39.44		32 37.7							
	d	+24.8 1.39445 9.77370 1.25609	3. 58.5	55.2	48	55.35	33 53	53.00 33.71 18.93		45	33 54.74 - .16 + .58 + 11.40 + .30 - 8.50 33 58.61	+12.12
	(8) - D $\frac{d'}{100}$											
+10.98 -118.88	δ_2		41 39.38		32 39.7							
9	d	+9.7 0.98677 9.77795 0.85266	3. 15.2	16.5	13	15.85	9 53	32.50 9.77 7.12		10	53 9 22.89 - .3 + .49 + 11.13 + .30 - 8.30 9 26.48	+11.89
	(8) - D $\frac{d'}{100}$											
+10.98 -118.84	δ_1		42 32.99		8 7.6							
	d	+15.4 1.18752 9.77795 1.05341	3. 20.2	17.3	13	18.75	9 53	29.60 9.77 11.31		10	9 24.62 - .6 + .49 + 10.99 + .30 - 8.50 9 28.29	+11.72
	(8) - D $\frac{d'}{100}$											
+10.98 -118.84	δ_2		42 32.86		8 9.4							
89	d	+24.8 1.39445 9.77744 1.25983	0. 27.4	27.1	10	27.25	12 53	21.10 12.47 18.19		10	53 12 22.56 - .16 + .6 + 11.18 + .30 - 8.20 12 25.74	+11.38
	(8) - D $\frac{d'}{100}$											
+10.87 -118.60	δ_1		45 57.05		11 7.1							
	d	+23.3 1.36736 9.77744 1.23274	0. 25.3	23.0	10	24.15	12 53	24.20 12.47 17.09		10	12 25.00 - .14 + .6 + 11.04 + .30 - 8.40 12 27.86 28.31	+11.26
	(8) - D $\frac{d'}{100}$											
+10.87 -118.60	δ_2		45 56.97		11 9.7							

Runs

	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	δ'
d	+23.8 1.37658 9.77761 1.24213	1.19.8	20.3	11	20.05	53 11 + 17.46	28.30 11.57		10	53 11 29.03 + .15 + 11.16 + 30 - 8.10 11 32.43 + 0.45 + 0.24	+11.50
((8) - D) $\frac{d'}{100}$											
+10.78 δ_1	-18.40	49 1.31		10 14.0	x1					11 32.43 + 0.45 + 0.24	
d	+27.4 1.43775 9.77761 1.30330	1.24.0	21.7	11	22.85	53 11 + 20.10	25.50 8.21		10	11 28.31 + .20 + .21 + 11.03 + 30 - 8.30 11 31.80	+11.34
((8) - D) $\frac{d'}{100}$											
+10.78 δ_2	-18.40	49 1.41		10 13.4							
d	+31.8 1.50243 9.77711 1.36748	8 46.9	48.0	8	49.45	53 14 + 23.31	0.90 44.17		8	53 14 7.48 - .27 + 57 + 11.20 + 30 - 11.20 14 8.08	+11.80
((8) - D) $\frac{d'}{100}$											
+13.35 δ_1	-19.36	26 2.95		12 48.7							
d	24 -3.54 1.54900w 9.77744 1.41438	0.33.1	33.1	10	33.10	53 12 - 25.77	15.25 58.52		10	53 11 32.55 - .33 + .9 + 11.18 + 30 - 10.30 11 33.47	+11.24
((8) - D) $\frac{d'}{100}$											
+12.42 δ_2	-20.20	55 43.25		10 13.3							
d	+26.3 1.41996 9.77660 1.28450	0 17.7	17.8	5	19.75	53 17 + 19.25	30.60 13.87		5	53 17 33.12 - .18 + 4 + 11.29 + 30 - 10.00 17 34.57 + 0.45 + 0.24	+11.45
((8) - D) $\frac{d'}{100}$											
+12.20 δ_1	-20.20	3 3.37		16 14.4							
d	+23.1 1.36361 9.77660 1.22815	0 16.3	15.5	5	15.70	53 17 + 16.91	32.45.85 16.16		5	17 33.67 - .14 + 4 + 11.14 + 30 - 10.20 17 34.66	+11.34
((8) - D) $\frac{d'}{100}$											
+12.20 δ_2	-20.20	3 3.15		16 14.5							
d	+19.3 -40.7 1.60959w 9.77112 1.46765w	3.15.5	17.1	33	16.20	53 49 - 29.35	32.05 15.32		30	53 48 45.97 - 43 + .50 + 11.84 + 30 - 10.10 48 48.08 + 0.45 + 0.24	+12.21
((8) - D) $\frac{d'}{100}$											
+12.16 δ_1	-20.20	4 6.84		47 27.9							
d	+19.5 1.29003 9.77164 1.14961	2. 1.3	1.7	37	1.50	53 45 + 14.11	46.85 30.56		30	53 45 44.67 - 9 + 30 + 11.63 + 30 - 12.10 45 45.16 + 0.45 + 0.24	+12.14
((8) - D) $\frac{d'}{100}$											
+14.05 δ_2	-17.84	4 7.67		44 27.3							
d	+8.2 -21.8 1.33846w 9.79128 1.21768	4. 7.8	5.3	34	6.55	51 48 - 16.51	41.80 25.51		30	51 48 9.00 - .13 + .61 + 9.58 + 29 - 12.00 48 18.50 + 0.45 + 0.24	+10.35
((8) - D) $\frac{d'}{100}$											
+13.90 δ_1	-17.96	4 59.47		46 50.3							
d	+10.9 1.03743 9.77387 0.89924	4. 32.4	31.9	49	32.15	53 33 + 7.93	16.20 59.91		45	53 33 78.4 - 8 + .67 + 11.40 + 29 - 12.00 33 8.62	+12.33
((8) - D) $\frac{d'}{100}$											
+13.97 δ_2	-18.04	6 23.35		31 50.6							

447
Date₁ = May

Observer
Recorder

Date₂ = May 14⁶⁴

Observer
Recorder

W.R.
J.M.

88

Ru

Star.	α	δ	Mag.	T_s	T_m	T_a	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T
11. 6.16		53.38	7.8	6.51.7	7.5.7	13.9	18.3	22.5	26.7	8.71	17.42	11.69	7 5.73
May 14		53.437	7.2							+2.26	36		+2.51
													-2.12
													-3
(8) - D	κ'_{100}												7 7.99
a_1													7 7.75
													7 7.34
													+13
													-1.18
11. 8.41		53.28	8.0	8.3.4	36.0	44.3	48.4	52.6	56.8	23.81	47.62	11.65	35.97
May 14		53.336	6.5	double 22.0	36.3	44.6	48.8	52.9	57.0	23.96	47.92	11.65	36.27
										+2.27	+2.27		+2.51
										36	36		-2.12
													-3
(8) - D	κ'_{100}												8 36.24
a_2													8 36.56
													8 37.57
													8 37.87
													+13.5
													-1.1
11. 16.20		52.42	9.2	not seen									11.44
May 14		52.410	9.2										
(8) - D	κ'_{100}												
a_1													
11. 32.22		53.28	10.0	32.18.7	18.7	27.2	31.0	36.9	42.0	23.9	42.0	11.65	32 18.61
May 14		53.333	9.4	32.39.6				(35.1)	(35.3)				+2.50
										+2.26	35		-2.12
													-3
(8) - D	κ'_{100}												32 20.87
a_2													32 -76
													32 20.00
													+13.5
													-1.1
11. 48.67		53.54	9.8	48.26.5	47.0	55.2	59.4	3.8	8.0	29.5	45.68	11.77	48 46.91
May 14		53.595	9.5							+2.25	35		+2.50
													-2.12
													-3
(8) - D	κ'_{100}												48 49.16
a_1													48 -1.11
													48 48.15
													+12.6
													-1.2
12. 18.44		53.34	10.0	18.19.8	40.4	49.2	52.8	57.0	1.4	26.08	52.16	11.63	18 40.53
May 14		53.395	9.5							+2.24	34		+2.49
													-2.12
													-3
(8) - D	κ'_{100}												18 42.77
a_2													18 -1.35
													18 41.52
													+11.5
													-1
12. 21.34		54.32	10.2	22.6.2	21.81.6	39.7	44.0	48.5	52.9	21.67	43.34	11.95	21 31.39
May 14		54.379	9.5							+2.24	34		+2.49
													-2.12
													-3
(8) - D	κ'_{100}												21 33.63
a_1													21 -1.40
													21 33.33
													32.33
													+11
													-1.1
κ													
(8) - D	κ'_{100}												
a_2													
κ													
(8) - D	κ'_{100}												
a_1													
κ													
(8) - D	κ'_{100}												
a_2													

Runs

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	$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	Σ	δ'
2	$+14.0$ 1.14613 9.77285 1.00692	3.438	43.2	43	43.50	53 39 38 +	4.85 48.56 10.16		40	53 38 54.72 - .5 + 11.51 + 30 - 11.90 39 0.58	+12.31
	$(\delta) - D$ $\frac{d'}{100}$										
	$+13.94$ -18.12	7 21.28	37 42.5								
12	$+32.6$ $+14.3$ 1.51322 9.77473 1.37589 1.15534 9.77473 1.01801	4 18.1 53 28 36.17 + 11.99	17.2 53 28 24.83 + 12.21	54	17.65	53 28 28 +	30.70 14.41 23.76		50	53 28 38.17 28 + .64 + 11.33 + .30 - 11.90 28 38.71	+0.45 28 24.83 + 5 + 64 + 17.32 + .30 - 11.90 28 25.59
	$(\delta) - D$ $\frac{d'}{100}$										
	$+13.89$ -18.24	8 57. 8 41.46 8 51.76	27 20.5 2.4								
7	$+13.89$ -18.24	4 57.8	56.2	39	57.00	52 42 42	51.35 35.06		30		
	$(\delta) - D$ $\frac{d'}{100}$										
	δ_1										
61	-21.0 1.32222 9.77473 1.18489	4 11.3	11.2	54	11.25	53 28 28 -	37.10 20.81 15.31		50	53 28 5.50 - .12 + .63 + 11.32 + .30 - 11.30 28 6.78	+12.13
	$(\delta) - D$ $\frac{d'}{100}$										
	$+13.16$ -19.64	32 33.16	26 47.14								
1	$+20.4$ 1.30963 9.77026 1.16783	3.413	39.9	28	40.60	53 54 53 +	7.75 51.46 14.72		25	53 54 6.18 - .10 + .55 + 11.78 + .30 - 10.80 54 8.36	+12.53
	$(\delta) - D$ $\frac{d'}{100}$										
	$+12.64$ -120.12	49 0.79	52 48.2								
12	$+20.7$ 1.31597 9.77026 1.17417	3 40.8	39.9	48	40.35	53 34 33 +	8.00 51.71 14.93		45	53 34 6.64 - .12 + .55 + 11.42 + .30 - 5.70 34 9.54	+12.15
	$(\delta) - D$ $\frac{d'}{100}$										
	$+11.70$ -19.96	18 53.22	32 49.6								
12	-34.8 1.54158 9.76342 1.39294	4.335	33.6	49	33.55	54 33 32 -	14.60 58.51 24.71		45	54 32 33.80 - .32 + .69 + 12.44 + .35 - 9.90 32 37.51	+13.16
	$(\delta) - D$ $\frac{d'}{100}$										
	$+11.58$ -19.84	21 43.91	31 17.7								
	$(\delta) - D$ $\frac{d'}{100}$										
	δ_1										
	$(\delta) - D$ $\frac{d'}{100}$										
	δ_2										
	$(\delta) - D$ $\frac{d'}{100}$										
	δ_1										
	$(\delta) - D$ $\frac{d'}{100}$										
	δ_2										

May 18. -2 0.61 R. +15
Runs 23 1 58.32 m. +.15
24 1 59.41 R. +.15

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5.25
+12.35
-1.2020

5.1
+08

+12.31
-1.2020

4.0
+07

5.9

6.24
+208 +08
-12
4.51
-3

3.66
1.17
2.49 +08
-1.2020

3.10
+0.92
-1.15
-3

3.84
1.46
2.78

+12.10
-1.2020

2.1
+06

$T_m - T$ A C Sum $Mean$ $Red. to m. wire$ $Red. to h. wire$ $Red. runs$ $Stroke$ z s'

d	+3.82 1.50 329 9.76 059 1.48 339m	1' 25.1	23.9	31	24.50	51 54 49	23.85 23.24 30.44	30	54 48 52.80	39 - 39 + 2.1 + 12.71 + 40 - 11.40 48 54.33	+12.93
-D) $\frac{d'}{100}$											
δ_1	✓ 58 17.50		47 34.1								
d	+11.6 +12.2 1.08 636 9.76 057 0.87 646m	1' 47.1	50.5	31	48.80	50 54 49	59.55 1.23 20.34 7.52	30	48 53.71	4 - 4 + 2.1 + 12.65 + 45 - 12.10 48 54.74	+13.33
-D) $\frac{d'}{100}$											
δ_2	58 17.93		47 34.7								
d	+25.8 1.41 162 9.76 712 1.30 827m	3' 19.6	20.2	8	19.90	14 54 12	28.45 27.84 20.34	5	54 12 7.50	18 - 18 + 49 + 12.06 + 30 - 11.20 12 8.97	+12.67
-D) $\frac{d'}{100}$											
δ_1	63 59 24.55		10 48.8								
d	+14.8 1.17 026 9.76 712 1.06 691m	3' 31.5	35.9	8	33.70	14 54 12	14.65 16.33 11.67	5	12 4.66	6 - 6 + 54 + 12.07 + 35 - 12.00 12 5.49	+12.63
-D) $\frac{d'}{100}$											
δ_2	59 24.86		10 45.3								
d	+32.0 1.50 515 9.76 519 1.39 987m	1' 58.6	58.9	56	58.70	25 54 23	49.60 48.99 25.11	55	54 23 23.88	27 - 27 + 30 + 12.25 + 35 - 11.10 23 25.41	+12.63
-D) $\frac{d'}{100}$											
δ_1	22 2 45.44		22 5.2								
d	+31.7 1.50 106 9.76 519 1.39 578m	1' 59.8	62.1	57	0.95	25 54 23	47.40 49.08 24.88	55	23 24.20	26 - 26 + 30 + 12.19 + 35 - 11.90 23 24.88	+12.68
-D) $\frac{d'}{100}$											
δ_2	2 45.39		Sum 22 4.1								
d	+20.0 +7.7 1.30 103 9.76 782 1.1.98 38m	2' 5.8	5.4	12	5.60	10 54 8	42.78 42.14 15.79	10	54 8 26.35	8 - 10 + 31 + 11.99 + 30 - 11.00 8 27.85	8 36.06 2 + 31 + 11.99 + 30 - 11.00 8 37.64
-D) $\frac{d'}{100}$											
δ_1	56 5 13.45 5 14.62	56 5 13.45 5 14.62	5.6 7.6 17.4								
d	+40.8 +31.1 1.61 046 9.76 782 1.50 801m	1' 49.0	52.8	11	50.90	10 54 8	57.45 59.13 32.21	10	8 26.92	44 - 44 + 27 + 11.93 + 35 - 11.80 8 27.23	8 37.58 25 - 25 + 11.93 + 35 - 11.80 8 38.08
-D) $\frac{d'}{100}$											
δ_2	5 13.88 5 14.90	5 13.88 5 14.90	4.0 14.9								
d	4.58.2	57.2	49								
-D) $\frac{d'}{100}$											
δ_1											
d	+16.7 1.22 272 9.77 422 1.1 2647m	4' 50.3	53.3	49	57.80	32 53 30	56.55 58.23 13.38	45	53 30 44.85	8 - 8 + 42 + 12.36 + 35 - 11.60 30 46.60	+13.35
-D) $\frac{d'}{100}$											
δ_2	6 9.66		29 26.4								

46	Apr. 18	Observer	W.A.R.	Date ₂	Apr. 23	Observer	A.M.	92	
12.17.40	54.52	8.2	17.28.0	33.1	36.7	40.4	43.9	47.5	201.6
16.50.0	54.57.7	7.5	17.28.0	33.1	36.7	40.4	43.9	47.5	-2.69
(δ) - D	$\frac{\kappa'}{100}$								
c_1									
κ									
(δ) - D	$\frac{\kappa'}{100}$								
a_2									
19.25	53.35	9.2	18.49.4	19.17.6	21.2	24.6	28.0	31.6	12.30
18.34.9	53.41.1	9.0	18.49.4	19.17.6	21.2	24.6	28.0	31.6	-2.53
(δ) - D	$\frac{\kappa'}{100}$								
a_1									
κ									
(δ) - D	$\frac{\kappa'}{100}$								
a_2									
21.06	54.47	9.2	20.42.8	21.2.2	6.0	9.4	12.9	16.6	4.71
20.17.4	54.53.1	9.1	20.42.8	21.2.2	6.0	9.4	12.9	16.6	-2.66
(δ) - D	$\frac{\kappa'}{100}$								
a_1									
κ									
(δ) - D	$\frac{\kappa'}{100}$								
a_2									
22.17	54.49	8.5	21.56.2	22.12.1	15.9	19.4	23.0	26.7	9.71
21.28.1	54.54.5	9.0	21.56.2	22.12.1	15.9	19.4	23.0	26.7	-2.68
(δ) - D	$\frac{\kappa'}{100}$								
a_1									
κ									
(δ) - D	$\frac{\kappa'}{100}$								
a_2									
24.37	57.41	6.8	24.3.7	31.6	35.0	38.2	41.7	44.8	19.13
23.48.1	57.47.0	7.9	24.3.7	31.6	35.0	38.2	41.7	44.8	-2.33
(δ) - D	$\frac{\kappa'}{100}$								
a_1									
κ									
(δ) - D	$\frac{\kappa'}{100}$								
a_2									
27.60	60.41	7.9	24.0.2	28.5	32.0	35.3	38.5	41.8	17.61
26.54			24.0.2	28.5	32.0	35.3	38.5	41.8	+0.66
(δ) - D	$\frac{\kappa'}{100}$								
a_1									
κ									
(δ) - D	$\frac{\kappa'}{100}$								
a_2									

Runs

The correction +24 which
is applied to the final
May 24, is for a change
in R₉₃.

		$T_m - T$	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	Red. runs	Stroke	z	8'
56.90		+12.5	3 16.8	18.0	28	17.46	54	30.95		25	54 52 20.80	52 21.25
+0.86		1.08991					54 52	30.34				
-31	d	9.76093						30.7954				
-3		0.97946	2.570	88.2	27	57.60	54	50.75		25	+ 4.9	+ 4.5
(8) - D	$\frac{d'}{100}$	+38.8	54 52 20.80	52 52 21.25			54 52	51.34			+ 12.78	+ 12.78
37.63	δ_1	1.08883	+ 13.63					51.09			+ 4.0	+ 4.5
37.42		9.76093	17.45	51	3.4						- 10.50	- 11.70
-1.17	+11.70	1.47838	47.95	51	3.4						52 23.63	52 23.63
-19.96	d	+3.61	3.879	61.4	28	59.65	53	48.70		25	52 22.39	+13.27
		1.55751	2				54 52	50.38				
+11.70		9.76093						27.99			+ 3.3	
-19.96	(8) - D	1.44707									+ 12.70	
	$\frac{d'}{100}$										+ 4.5	
+11.70	δ_2		17 48.16		51 4.2						- 11.50	
-19.96											52 24.16	
21.34		+35.2	4.623	53.3	44	52.80	37	55.58		40	53 35 26.78	35 25.88
+0.86		1.54654					53 35	54.94				
-30	d	9.77353						28.16			- 3.2	- 2.7
-3		1.44599	4.573	57.3	44	54.20	37	51.08		40	+ 7.3	+ 7.3
(8) - D	$\frac{d'}{100}$	+3.22	53 35 26.78	53 35 25.88			53 35	51.64			+ 11.42	+ 11.42
		1.50786	+ 12.13					25.76			+ 3.0	+ 3.5
21.84	δ_1	9.77353	19 32.45	34 8.6							- 10.40	- 11.30
-1.15	+11.68	1.41092	32.40	34 8.6							35 28.57	35 26.84 +24
-19.92	d	+39.9	4.49.0	53.3	44	51.15	37	57.20		40	35 26.96	
		1.60094					53 35	58.88			- 4.2	+12.01
+11.68		9.77353						31.92			+ 11.35	
-19.92	(8) - D	1.50403									+ 3.5	
	$\frac{d'}{100}$										- 11.20	
+11.68	δ_2		19 32.45		34 7.8						35 27.77	
-19.92												
6.14		+26.6	3 30.2	31.0	33	30.60	49	17.75		30	54 46 56.47	46 56.34
+0.86		1.42488					54 47	18.14				
-31	d	9.76093						20.67			- 1.8	- 1.6
-3		1.31534	3.19.2	20.1	33	19.65	49	28.70		30	+ 5.2	+ 4.9
(8) - D	$\frac{d'}{100}$	+4.24	54 46 56.47	54 46 56.34			54 47	29.29			+ 12.68	+ 12.68
		1.62734	+ 13.42					32.95			+ 4.0	+ 4.5
6.66	δ_1	9.76093	21 17.65	45 39.4							- 10.60	- 11.50
-1.20	+11.59	1.51782	17.65	45 39.4							46 59.29	46 58.04 +24
-19.88	d	+38.9	3.20.3	23.0	33	21.65	49	26.70		30	46 58.15	
		1.58995					54 47	28.38			- 3.9	+13.17
+11.59		9.76093						30.23			+ 5.1	
-19.88	(8) - D	1.48040									+ 12.60	
	$\frac{d'}{100}$										+ 4.5	
+11.59	δ_2		21 17.09		45 40.0						- 11.40	
-19.88											46 59.92	
15.96		+23.2	2 23.8	22.5	32	23.15	50	25.20		30	54 48 6.57	48 5.52
+0.86		1.36549					54 48	24.59				
-31	d	9.76093						18.02			- 1.4	- 1.0
-3		1.25576	2 21.9	21.9	32	21.90	50	26.45		30	+ 3.6	+ 3.6
(8) - D	$\frac{d'}{100}$	+27.7	54 48 6.57	54 48 5.52			54 48	27.04			+ 12.71	+ 12.675
		1.44248	+ 13.33					21.52			+ 4.0	+ 4.5
16.48	δ_1	9.76093	22 26.96	46 49.6							- 10.50	- 11.50
-1.21	+11.55	1.33275	26.82	47.8							48 9.54	48 7.38 +24
-19.84	d	+34.6	2 15.9	18.2	32	17.05	50	31.30		30	48 6.10	
		1.58908					54 48	32.98			- 3.1	+13.11
+11.55		9.76093						26.88			+ 3.4	
-19.84	(8) - D	1.42936									+ 12.63	
	$\frac{d'}{100}$										+ 4.5	
+11.55	δ_2		22 26.98		46 48.0						- 11.40	
-19.84											48 7.81	
35.22		+32.4	3 39.9	39.0	38	39.45	41	8.90		35	51 41 41.23	41 39.38
+0.86		1.51055					51 42	8.29				
-31	d	9.79224						27.06			- 2.7	- 2.7
-3		1.44332	3.421	42.4	38	42.25	41	6.10		35	+ 5.5	+ 5.5
(8) - D	$\frac{d'}{100}$	+32.7	51 41 41.23	51 41 39.38			51 42	6.89			+ 9.47	+ 9.4550
		1.51455	+ 10.05					27.31			+ 3.0	+ 3.0
35.22	δ_1	9.79224	24 46.23	40 21.8							- 9.70	- 10.70
-1.15	+11.56	1.43632	46.19	19.82							41 41.58	41 38.76 +24
-19.76	d	+46.6	3.269	30.8	38	28.85	51	19.50		35	41 42.26	
		1.66839					51 42	21.18			- 5.6	+9.67
+11.56		9.79224						38.92			+ 5.3	
-19.76	(8) - D	1.59015									+ 9.40	
	$\frac{d'}{100}$										+ 3.0	
+11.56	δ_2		24 46.26		40 21.7						- 10.50	
-19.76											41 41.43	

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47.66 Dec date: 70
Date₁ = May 11
Observer: N.A.R.
Recorder: A.M.
Date₂ = May 23
Observer: A.M.
Recorder: N.A.R.

94

Star. α δ Mag. T_s T_m T_e T_r T_g T_h Sum Mean Red. to T_m T

12.43.49
43 1.0
K

54.41
54 46.5
8.7

43.17.3
43 20.2
8.7

39.5
39.5
43.5

46.6
46.6
50.4

54.0
54.0
54.0

23.40
23.40
23.40

46.80
46.80
46.80

12.50
12.50
12.50

43
43
43

34.50
34.50
34.50

(8) - D

a_1

K

(8) - D

a_2

46.3
45 16.2
K

52.33
52 38.6
8.8

45.58.6
45 58.6
59.0

55.6
55.6
59.0

2.4
2.4
5.7

9.1
9.1
9.1

31.18
31.18
62.36

11.40
11.40
11.40

46
46
46

50.96
50.96
50.96

43
43
43

44.11
44.11
44.11

(8) - D

a_1

K

(8) - D

a_2

48.53
48 6.7
K

53.11
53 16.7
9.5

48.17.0
48 21.5
9.5

47.4
47.4
51.2

54.6
54.6
57.9

1.4
1.4
1.4

27.25
27.25
34.50

11.57
11.57
11.57

48
48
48

50.96
50.96
50.96

43
43
43

44.11
44.11
44.11

(8) - D

a_1

K

(8) - D

a_2

50.43
49 56.8
K

54.48
54 53.2
8.9

50.14.4
50 19.4
38.5

34.9
34.9
38.5

42.3
42.3
46.1

49.2
49.2
49.2

21.07
21.07
42.14

12.03
12.03
12.03

50
50
50

38.72
38.72
38.72

43
43
43

44.11
44.11
44.11

(8) - D

a_1

K

(8) - D

a_2

52.57
52 1.8
K

54.9
54 14.1
9.2

52.14.2
52 14.2
41.2

45.0
45.0
48.5

52.0
52.0
55.5

24.22
24.22
48.44

11.54
11.54
11.54

52
52
52

36.60
36.60
36.60

43
43
43

44.11
44.11
44.11

(8) - D

a_1

K

(8) - D

a_2

52.57
52 1.8
K

54.9
54 14.1
9.2

52.14.2
52 14.2
41.2

45.0
45.0
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52.0
52.0
55.5

24.22
24.22
48.44

11.54
11.54
11.54

52
52
52

36.60
36.60
36.60

43
43
43

44.11
44.11
44.11

(8) - D

a_1

K

(8) - D

a_2

52.57
52 1.8
K

54.9
54 14.1
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52.14.2
52 14.2
41.2

45.0
45.0
48.5

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52.0
55.5

24.22
24.22
48.44

11.54
11.54
11.54

52
52
52

36.60
36.60
36.60

43
43
43

44.11
44.11
44.11

(8) - D

a_1

K

(8) - D

a_2

52.57
52 1.8
K

54.9
54 14.1
9.2

52.14.2
52 14.2
41.2

45.0
45.0
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52.0
52.0
55.5

24.22
24.22
48.44

11.54
11.54
11.54

52
52
52

36.60
36.60
36.60

43
43
43

44.11
44.11
44.11

(8) - D

a_1

K

(8) - D

a_2

52.57
52 1.8
K

54.9
54 14.1
9.2

52.14.2
52 14.2
41.2

45.0
45.0
48.5

52.0
52.0
55.5

24.22
24.22
48.44

11.54
11.54
11.54

52
52
52

36.60
36.60
36.60

43
43
43

44.11
44.11
44.11

(8) - D

a_1

K

(8) - D

a_2

52.57
52 1.8
K

54.9
54 14.1
9.2

52.14.2
52 14.2
41.2

45.0
45.0
48.5

52.0
52.0
55.5

24.22
24.22
48.44

11.54
11.54
11.54

52
52
52

36.60
36.60
36.60

43
43
43

44.11
44.11
44.11

(8) - D

a_1

K

(8) - D

a_2

52.57
52 1.8
K

54.9
54 14.1
9.2

52.14.2
52 14.2
41.2

45.0
45.0
48.5

52.0
52.0
55.5

24.22
24.22
48.44

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Star.	α	δ	Mag.	T_a	T_m	T_s	T_f	T_g	T_h	Sum	Mean	Red. to T_m	T	Ru
48	Star. =	66	Observer	no R.	Date ₂ =	69	Observer	A. M. R.	96					
	May 24	May 24	Recorder	is. m.			Recorder	is. m.						
12	57.22	54.38	8.2	57.65	14.9	18.5	21.9	25.7	29.2	1102	22.04	11.98	57	18.06
	56.36.3	54.43.5	8.5	16.2	9.7					-2.66	+0.8		57	+0.4207
(8) - D	κ'		8.5	56.40.9	57.11.8	15.2	18.6	22.2	26.0	938	18.76	11.98	57	-6.78
a_1				43.3						+0.53			57	-4.53
a_2				45.9									57	19.36
κ				13.0.1									57	57.18.99
(8) - D	κ'		8.0	56.36.0	7.11.4	15.3	18.6	22.0	25.9	932	18.64	11.98	57	6.66
a_1				43.4						+0.72			57	+0.90
a_2				28.0									57	-1.5
κ				42.3									57	-1.49
(8) - D	κ'			116.9									57	19.36
a_1				16	38.9								57	17.87
a_2													57	-1.17
58	58.53	54.38	7.0	58.41.7	44.6	48.5	51.9	55.3	58.0	2593	51.86	11.98	58	3.98
	58.7.3	54.43.6	7.5	13.47	43.6					-2.66	+0.7		58	+0.4207
(8) - D	κ'		6.8	58.14.3	41.3	40.2	48.4	52.0	56.0	2429	48.58	11.98	58	56.60
a_1				15.7						+0.53			58	-4.53
a_2				17.2									58	49.20
κ				47.2									58	-1.60
(8) - D	κ'		7.9	58.6.9	41.3	40.0	48.5	52.0	55.8	2426	48.52	11.98	58	3.65
a_1				9.5						+0.53			58	+0.90
a_2				13.0									58	-1.5
κ				29.4									58	-3
(8) - D	κ'			58	9.8								58	49.24
a_1													58	-1.51
a_2													58	47.73
13	0.17	54.42	4.0	0.44.6	(9.3)	12.6	16.3	19.7	23.4			12.00	0	16.26
	12 59 31.1	54.47.2	9.2	10.1	46.0					-2.78	+0.8		0	+2.07
(8) - D	κ'		9.3	0.46.7	49.5	0.5.8	9.6	13.0	16.7	653	13.06	12.00	0	-1.3
a_1				57.72	53.2					+0.53			0	+2.07
a_2				53.0	38.4								0	-3
κ				100.2									0	13.57
(8) - D	κ'		9.0	8.39	43.3	0.5.9	9.7	12.8	16.3	646	12.92	12.00	0	-1.62
a_1				45.7						+0.72			0	11.95
a_2				47.6									0	+0.90
κ				13.6.6									0	-1.5
(8) - D	κ'			59	45.5								0	-3
a_1													0	13.64
a_2													0	-1.53
κ													0	12.11
(8) - D	κ'												0	-1.17
a_1													0	-1.17
a_2													0	-1.17
1	13	54.31		lost								11.98		
(8) - D	κ'		9.4											
a_1														
a_2														
κ														
(8) - D	κ'		9.2	0	40.5	1.3.7	7.6	10.9	14.7	551	11.02	11.98	1	59.07
a_1				42.4					14.9	+0.72			1	+0.90
a_2				44.4					18.0				1	-1.5
κ				12.7.3									1	-3
(8) - D	κ'			0	42.4								1	11.74
a_1													1	-1.53
a_2													1	10.21
κ													1	+10.3
(8) - D	κ'												1	-1.17
a_1													1	-1.17
a_2													1	-1.17
2	41	54.15	8.5	2.6.3	34.4	38.0	41.5	45.0	48.5	2074	41.48	11.98	2	29.61
	1 55.8	54.20.1	8.2	11.4						-2.62	+0.7		2	+0.4207
(8) - D	κ'		8.2	2	8.8	2.31.2	34.7	38.0	41.7	1908	38.16	11.98	2	26.29
a_1				1.5	5.0					+0.54			2	-4.54
a_2				0.8.7									2	-3
κ				60.3									2	38.86
(8) - D	κ'			12.4.0									2	37.24
a_1				11.2									2	+0.90
a_2				12.8									2	-1.5
κ				32.7									2	39.00
(8) - D	κ'			2	10.9					+0.72			2	-1.53
a_1													2	37.47
a_2													2	-1.17

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[illegible]

Date ₁ = 18 May 1970	Observer S. M.	Date ₂ = 23 May 1970	Observer S. M.	Recorder W. R.	Recorder W. R.							
Star. α	δ	Mag.	T_s	T_m	T_e	T_r	T_g	T_h	Sum	Mean	Red. to T_m	T
3. 15. 37	54. 32	8.5	75. 0.6	30.2	33.6	37.1	40.7	44.3	18.59	37.18	11.95	15 25.233.18
14 52.5	54 37.2	8.5	11.8 3.6						-2.66	+0.7		+0.2
(8) - D	κ'_{100}		8.7	14. 45.7	15.26.8	30.5	34.0	37.4	41.2	16.99	33.98	11.95
a_1				47.7					+0.53			
a_2				14. 51.1								
κ				14. 48.3								
(8) - D	κ'_{100}		8.7	14. 50.8	15.26.7	30.2	33.7	37.7	40.9	16.92	33.84	11.95
a_1				53.6					+0.72			
a_2				56.2								
κ				16.0.6								
(8) - D	κ'_{100}		9.0	16. 43.3	17.11.2	14.9	18.3	21.9	25.3	16.18.32	11.84	17 65.2 1632
a_1				14.02	47.0				-2.59	+0.8		+0.8
a_2				46.7	36.4	17.8.0	11.8	15.1	18.7	22.0	75.6	15.12
κ				40.2	76.6				+0.53			
(8) - D	κ'_{100}		9.0	16. 36.8	17.7.8	11.5	14.7	18.5	22.1	74.6	14.92	11.84
a_1				39.2	41.7				+0.72			
a_2				11.7	39.2							
κ				16. 39.2								
(8) - D	κ'_{100}		9.5	18. 33.0	18.7.6.1	19.3.0	6.3	9.9	13.5	-2.66	+0.7	12.02
a_1				37.3	70.3							
a_2				18. 35.1								
κ				18. 35.1								
(8) - D	κ'_{100}		9.3	18. 30.0	56.0	59.5	2.8	6.6	10.1	31.50	63.00	12.02
a_1				32.0					+0.71			
a_2				34.8								
κ				96.8								
(8) - D	κ'_{100}		9.2	19. 33.7	40.8	44.4	48.1	51.5	55.1	23.99	47.98	12.01
a_1				35.1	20.13				-2.66	+0.8		+0.8
a_2				19. 20.2	37.9	41.0	44.7	48.4	51.9	22.39	44.78	12.01
κ				36.4	39.8				+0.54			
(8) - D	κ'_{100}		9.2	20. 3.8	19.37.5	41.1	45.0	48.6	51.9	22.41	44.82	12.01
a_1				6.2	10.0				+0.71			
a_2				20.0	6.7							
κ				20.0	6.7							
(8) - D	κ'_{100}		9.4	21. 3.5	25.8	29.5	32.4	35.7	39.1	16.25	32.50	11.11
a_1				5.8	8.2				-2.31	+0.7		+0.8
a_2				21. 2.4	23.0	26.6	29.8	33.1	36.3	14.88	29.76	11.11
κ				5.7	8.1				+0.58			
(8) - D	κ'_{100}		9.2	20. 54.3	21.23.0	26.5	29.4	33.0	36.2	14.81	29.62	11.11
a_1				56.1	110.4				+0.73			
a_2				20. 55.2								
κ				20. 55.2								
(8) - D	κ'_{100}		9.3	21. 2.4	23.0	26.6	29.8	33.1	36.3	14.88	29.76	11.11
a_1				5.7	8.1				+0.58			
a_2				21. 4.0								
κ				21. 4.0								
(8) - D	κ'_{100}		9.2	20. 54.3	21.23.0	26.5	29.4	33.0	36.2	14.81	29.62	11.11
a_1				56.1	110.4				+0.73			
a_2				20. 55.2								
κ				20. 55.2								
(8) - D	κ'_{100}		9.3	21. 2.4	23.0	26.6	29.8	33.1	36.3	14.88	29.76	11.11
a_1				5.7	8.1				+0.58			
a_2				21. 4.0								
κ				21. 4.0								
(8) - D	κ'_{100}		9.2	20. 54.3	21.23.0	26.5	29.4	33.0	36.2	14.81	29.62	11.11
a_1				56.1	110.4				+0.73			
a_2				20. 55.2								
κ				20. 55.2								
(8) - D	κ'_{100}		9.3	21. 2.4	23.0	26.6	29.8	33.1	36.3	14.88	29.76	11.11
a_1				5.7	8.1				+0.58			
a_2				21. 4.0								
κ				21. 4.0								
(8) - D	κ'_{100}		9.2	20. 54.3	21.23.0	26.5	29.4	33.0	36.2	14.81	29.62	11.11
a_1				56.1	110.4				+0.73			
a_2				20. 55.2								
κ				20. 55.2								
(8) - D	κ'_{100}		9.3	21. 2.4	23.0	26.6	29.8	33.1	36.3	14.88	29.76	11.11
a_1				5.7	8.1				+0.58			
a_2				21. 4.0								
κ				21. 4.0								
(8) - D	κ'_{100}		9.2	20. 54.3	21.23.0	26.5	29.4	33.0	36.2	14.81	29.62	11.11
a_1				56.1	110.4				+0.73			
a_2				20. 55.2								
κ				20. 55.2								
(8) - D	κ'_{100}		9.3	21. 2.4	23.0	26.6	29.8	33.1	36.3	14.88	29.76	11.11
a_1				5.7	8.1				+0.58			
a_2				21. 4.0								
κ				21. 4.0								
(8) - D	κ'_{100}		9.2	20. 54.3	21.23.0	26.5	29.4	33.0	36.2	14.81	29.62	11.11
a_1				56.1	110.4				+0.73			
a_2				20. 55.2								
κ				20. 55.2								
(8) - D	κ'_{100}		9.3	21. 2.4	23.0	26.6	29.8	33.1	36.3	14.88	29.76	11.11
a_1				5.7	8.1				+0.58			
a_2				21. 4.0								
κ				21. 4.0								
(8) - D	κ'_{100}		9.2	20. 54.3	21.23.0	26.5	29.4	33.0	36.2	14.81	29.62	11.11
a_1				56.1	110.4				+0.73			
a_2				20. 55.2								
κ				20. 55.2								
(8) - D	κ'_{100}		9.3	21. 2.4	23.0	26.6	29.8	33.1	36.3	14.88	29.76	11.11
a_1				5.7	8.1				+0.58			
a_2				21. 4.0								
κ				21. 4.0								
(8) - D	κ'_{100}		9.2	20. 54.3	21.23.0	26.5	29.4	33.0	36.2	14.81	29.62	11.11
a_1				56.1	110.4				+0.73			
a_2				20. 55.2								
κ				20. 55.2								
(8) - D	κ'_{100}		9.3	21. 2.4	23.0	26.6	29.8	33.1	36.3	14.88	29.76	11.11
a_1				5.7	8.1				+0.58			
a_2				21. 4.0								
κ				21. 4.0								
(8) - D	κ'_{100}		9.2	20. 54.3	21.23.0	26.5	29.4	33.0	36.2	14.81	29.62	11.11
a_1				56.1	110.4				+0.73			
a_2				20. 55.2								
κ				20. 55.2								
(8) - D	κ'_{100}		9.3	21. 2.4	23.0	26.6	29.8	33.1	36.3	14.88	29.76	11.11
a_1				5.7	8.1				+0.58			
a_2				21. 4.0								
κ				21. 4.0								
(8) - D	κ'_{100}		9.2	20. 54.3	21.23.0	26.5	29.4	33.0	36.2	14.81	29.62	11.11
a_1				56.1	110.4				+0.73			
a_2				20. 55.2								
κ				20. 55.2								
(8) - D	κ'_{100}		9.3	21. 2.4	23.0	26.6	29.8	33.1	36.3	14.88	29.76	11.11
a_1				5.7	8.1				+0.58			
a_2				21. 4.0								
κ				21. 4.0								
(8) - D	κ'_{100}		9.2	20. 54.3	21.23.0	26.5	29.4	33.0	36.2	14.81	29.62	11.11
a_1				56.1	110.4				+0.73			
a_2				20. 55.2								
κ				20. 55.2								
(8) - D	κ'_{100}		9.3	21. 2.4	23.0	26.6	29.8	33.1	36.3	14.88	29.76	11.11
a_1				5.7	8.1				+0.58			
a_2				21. 4.0								
κ				21. 4.0								
(8) - D	κ'_{100}		9.2	20. 54.3	21.23.0	26.5	29.4	33.0	36.2	14.81	29.62	11.11
a_1				56.1	110.4				+0.73			
a_2				20. 55.2								
κ				20. 55.2								
(8) - D	κ'_{100}		9.3	21. 2.4	23.0	26.6	29.8	33.1	36.3	14.88	29.76	11.11
a_1				5.7	8.1				+0.58			
a_2				21. 4.0								
κ				21. 4.0								
(8) - D	κ'_{100}		9.2	20. 54.3	21.23.0	26.5	29.4	33.0	36.2	14.81	29.62	11.11
a_1				56.1	110.4				+0.73			

T _m - T	A	C	Sum	Mean	Red. to m. wire	Red. to h. wire	neu. runs	Stroke	z	8'
+333 ⁵ 522.44 7.76 360	3' 16.3	14.2	48	16.45	34	31.60		45	54 32 4.95	32
+46.7 65.9 92 7.76 360	3. 7.3	9.1	48	820	34	30.99 2604 40.15		45	- .29 + .49 + 12.46 + .35 - 8.10	- + + + -
1.55305m	15 7 42.74	30 54.0	53.8			35.73			32 9.86	32
+40.3 60.5 31 7.76 360 1.49844m	3. 9.9	16.0	48	12.45	34	35.90 37.58 31.51		45	32 6.07 - .42 + .48 + 12.34 + .40 - 9.20 32 9.67	+12.80
1542.79		30 53.89								
+31.3 49.554 7.76 887 +36.8	3 9.8	10.3	18	10.05	4	38.30 37.69 24.77		15	54 2 12.92 - .26 + .48 + 11.93 + .30 - 7.90 2 17.47	2
56.585 7.76 887 1.45425m	3. 7.0	7.6	18	720	4	41.05 41.64 28.46		15	+ 11.93 + .30 - 7.90 2 17.47	2
+35.7 55.267 7.76 887 1.45107m	3 6.8	11.4	18	9.10	4	39.25 40.93 28.25		15	2 12.68 - .33 + .48 + 11.82 + .35 - 9.00 2 16.00	+12.32
17 23.86		1 0.3								
+31.3 49.554 7.76 111 1.38618m	4. 43.0	44.2	34	43.60	48	4.75 4.14 24.32		30	54 45 39.81 - .25 + .70 + 12.73 + .40 - 7.90 45 45.49	+13.58
19 11.81		44 30.0								
+30.8 48.714 7.76 111 1.37778m	4. 44.6	48.1	34	46.35	48	2.00 3.68 23.87		30	45 39.81 - .24 + .72 + 12.60 + .45 - 9.10 45 44.24	+13.53
19 11.77		44 28.8								
+12.9 1.11059 7.76 146 +6.7	1 46.8	47.0	36	46.90	46	14.5 0.84 10.04		35	54 43 50.80 - .5 + .27 + 12.68 + .40 - 7.90 43 56.20	43
2.82604 7.76 146 0.71706m	1 50.8	54.8	36	52.80	45	55.55 56.14 5.21		35	+ 12.68 + .40 - 7.90 43 56.20	43
19 53.36		42 40.8								
+38.1 49.554 7.76 146 0.96654	2 12.4	17.2	38	14.80	48	33.55 35.23 9.26 17.04		35	43 52.27 - .12 + .33 + 12.56 + .45 - 9.00 43 56.49	+13.22
19 53.57		42 41.1								
+20.8 4.42651 7.76 526 +25.8	2 26.7	27.0	54	26.85	25	21.50 20.89 22.45		55	51 22 58.44 - .19 + .36 + 9.18 + .25 - 7.10 23 50.94	23
1.41162 7.76 526 1.33641m	2. 27.3	28.3	54	27.80	25	20.55 21.14 21.70		55	+ 9.18 + .25 - 7.10 23 50.94	23
21 38.58		21 45.8								
+34.4 1.53656 7.76 526 1.46135m	2. 17.2	23.0	54	21.10	25	27.25 28.93 28.93		55	23 0.00 - .32 + .36 + 9.09 + .30 - 8.20 23 1.23	+9.43
21 38.75		21 46.1								

Date ₁ = 66 70 May 11		Observer Recorder	N.A.R. A.M.		Date ₂ = 69 May 23	Observer Recorder	A.M. N.A.R.		102						
Star.	α	δ	Mag.	T_0	T_m	T_1	T_2	T_3	T_4	Sum	Mean	Red. to T_m	T		
13	22.55	54.4	9.5	22.20.0	52.8	56.3	59.7	32	6.6	-259.08	11.82	22	56.28		
22	13.1	54.9.6	9.3	22.22.5	(1st wire lost.)								22	54.72	
(8) - D	κ'_{100}	22 0.64	9.5	22.8.0	21.53.7	57.0	0.5	4.0	8.0	30.3	26	0.64	11.82	22	56.28
α_1		+0.88		9.5		N.A.R. star.								22	54.72
		-31		11.0										22	54.72
		-3		28.5										22	54.72
		22 1.18	9.2	22.2.2	46.0	49.8	53.1	56.7	0.2	26.5	53.16	11.82	22	56.28	
κ		-1.65		22 2.2						+0.71				22	54.72
		21 59.53		22 2.2										22	54.72
(8) - D	κ'_{100}			23 3.1										22	54.72
α_2				23 2.7										22	54.72
				23 8.2										22	54.72
				23 25.0										22	54.72
24	2.0	54.28	9.7	24.1.5	14.6	18.2	22.1	25.4	28.8	10.91	21.82	11.93	24	98.9	2182
23	38.5	54.22.9	9.4	10.1	3.3					-2.65	+0.71		24	98.9	2182
(8) - D	κ'_{100}	24 18.78	9.8	23.39.4	24.11.8	10.1	18.8	22.2	26.0	9.29	18.78	11.93	24	98.9	2182
α_1		+0.88		3.4	5.3					+0.54			24	98.9	2182
		-31		4.3	0								24	98.9	2182
		-3		8.2.4									24	98.9	2182
		24 19.32	9.5	23.27.4	28.7	31	18.7	22.0	26.0	9.82	18.64	11.93	24	98.9	2182
κ		-1.68		24.4.2	11.5	15.0				+0.71			24	98.9	2182
		24 17.64		6.6	31.2								24	98.9	2182
(8) - D	κ'_{100}			51									24	98.9	2182
α_2													24	98.9	2182
													24	98.9	2182
26	1.0	53.59	8.5	26.31.7	26.1.0	4.6	8.1	11.6	15.0	4.03	08.06	11.79	26	56.28	806
25	28.0	54.4.6	8.7	105.6	35.4					-2.59	+0.8		26	56.28	806
(8) - D	κ'_{100}	26 4.92	8.4	35.2	38.5	58.0	1.5	4.9	8.3	32.4	66.4.92	11.79	26	56.28	806
α_1		+0.88		25.29.3						+0.58			26	56.28	806
		-30		31.6									26	56.28	806
		-3		6.0.8									26	56.28	806
		26 5.47	8.7	25.30.4									26	56.28	806
κ		-1.67		25.28.6	57.4	1.4	4.7	8.2	11.8	32.35	64.70	11.79	26	56.28	806
		26 3.80		31.6						+0.71			26	56.28	806
(8) - D	κ'_{100}			33.3									26	56.28	806
α_2				9.3.5									26	56.28	806
				25.31.2									26	56.28	806
													26	56.28	806
27	2.9	54.37	7.8	26.58.2	22.8	26.5	29.8	33.4	37.0	14.95	29.90	11.98	27	179.2	2990
26	47.2	54.42.5	7.5	182.5	0.6					-2.66	+0.71		27	179.2	2990
(8) - D	κ'_{100}	27 26.60	7.8	60.8	3.7	26.51.0	27.19.5	23.0	26.6	13.30	26.60	11.98	27	179.2	2990
α_1		+0.88		54.6						+0.54			27	179.2	2990
		-31		57.0									27	179.2	2990
		-3		162.6									27	179.2	2990
		27 27.14	7.8	26.54.2									27	179.2	2990
κ		-1.70		31.7									27	179.2	2990
		27 25.44		53.1									27	179.2	2990
(8) - D	κ'_{100}			13.1									27	179.2	2990
α_2				26.51.7									27	179.2	2990
													27	179.2	2990
28	34	54.1	8.8	28.9.7	29.4	33.3	36.7	40.1	43.7	18.32	36.64	11.80	28	248.4	3664
27	52.0	54.6.7	8.5	35.8	11.5					-2.63	+0.8		28	248.4	3664
(8) - D	κ'_{100}	28 33.52	8.7	11.9	14.6	28.13.6	26.6	20.0	33.5	16.76	33.52	11.80	28	248.4	3664
α_1		+0.88		16.0						+0.56			28	248.4	3664
		-30		16.9									28	248.4	3664
		-2		48.15									28	248.4	3664
		28 34.08	7.6	28.4.3	26.0	29.7	32.8	36.5	39.8	16.48	32.96	11.80	28	248.4	3664
κ		-1.69		6.3						+0.71			28	248.4	3664
		28 32.37		8.0									28	248.4	3664
(8) - D	κ'_{100}			18.6									28	248.4	3664
α_2				28.6.2									28	248.4	3664
													28	248.4	3664

8	18.43	
-	2	
+	9	
+	11.93	12.06
+	35	
-	8.90	
	22.01	+24
4		
7	50.94	
-	37	
+	37	
+	17.35	12.48
+	40	
-	8.90	
7	54.92	+2
5		
8	30.60	
-	27	
+	27	
+	14.83	11.97
+	35	
-	8.70	
8	34.18	+2
1		
37	39.97	
-	27	
+	40	
+	12.52	66
+	40	
-	8.80	
7	44.26	+25
2	39.36	
-	8	
+	43	
+	11.94	12.04
+	35	
-	8.80	
2	43.50	+2
2		

Date₁ =Observer
RecorderDate₂ =Observer
Recorder

Star.	α	δ	Mag.	T_{δ}	T_m	T_{θ}	T_r	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													

