KG
11365
237

K.27

V. 1. Zones

1864 June 23d —

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applplate, proj., 2378

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Fifth Series of Jones

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1864phae.proj..2379

KG 11365.237

Zero determined

June 23	263° 54′	3 det	
" 27	263 54	2 det.	
" 29	263 55	2 "	
July 5	263 55.		
— 26	263 55.5	2	

Sept 27 83 41. 1 Lawrence book K.1

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1864 June 23 — Wolb
With and Sawyer.
$14^h 53^m - 16^h 29^m$ $1°20' - 1°30'$
Zero at beg. 263 54' Therm. 66°.4 for middle of Zones Circle Reading
$N' = 358° 54'$ 1864 June 29th $N' = 358° 54'$ Th. 59.5
$\Sigma 6$ $16^h 4^m$ W.S. obs. W & R rec.

							1864 June 23						
9	5	5	7	Catalogue	9.0	6	18		14	53	38.0	42.4	
11.2	3	10			11.2	3	30				39.4	43.4	
11.2	2	8	N.S		11.0	2	8	1R			54	58.7	62.9
11.0	4	0			10.8	2	30				54	58.7	62.9
10.2	9	2			10.5	4	21				55	48.7	53.7
8.2	4	57	Catalogue		9.8	9	26				56	19.6	23.2
	B				8.0	5	20					29.0	33.2
						B.D.						B	
10.7	6	49			10.2	7	11		57		31.2	35.1	
9.2	4	47			9.5	5	8				40.9	45.1	
10.5	2	50	Second scale		10.5	3	12				52.3	56.8	
10.5	6	24			10.7	6	45		58		42.7	47.1	
10.2	3	22			10.8	3	45		59		46.2	50.5	
11.0	3	1			11.2	3	26		15	0	10.7	14.8	
	D. D.					D.D			Doc a little doubtful			D.D	
10.0	4	26			10.2	4	49		1		26.5	30.8	
9.0	3	13			9.2	3	38				45.7	49.8	
9.3	7	25			9.3	7	45		2		24.8	29.0	
9.7	6	59			10.8	7	54		3		16.3	20.3	
10.7	8	4			10.5	8	26		4		43.2	47.2	
	D. B.					B					D.13		
10.3	1	51			10.2	1	15		5		41.9	46.4	
10.2	5	46			10.0	6	08		6		7.1	11.3	
11.0	1	0			10	1	24		6		36.5	40.7	
9.5	6	16			9.7	3	34		7		58.2	62.5	
9.3	5	56			9.8	6	20		9		24.0	28.2	
	B					D					D		
9.8	4	45			10.0	5	6		10		39.8	44.0	
8.2	5	47			8.2	6	10		11		29.1	33.3	
11.0	10	22			10.7	10	56		Dwell		45.0	49.3	
10.3	4	16			10.2	4	38		12		34.0	38.2	
9.8	5	55			9.8	6	18		12		56.0	60.0	
	D	D.D				B					D.D.D		
11.2	4	6			11.0	4	29		14		11.7	15.9	
10.0	8	37			9.8	8	58		14		57.3	55.6	
9.5	8	7			9.5	8	30		15		7.7	11.8	
11.0	10	45			11.0	11	11		17		16.6	20.8	
10.5	11	7									48.6	53.0	
9.0	9	1			9.0	9	26		18		13.9	18.0	

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B. B. Wet Roads

A M Leyden

11.5	4 29
9.7	10 55
9.30	9 51
10.7	4 22
9.3	6 26
D	D
10.3	9 2
11.3	5 32
10.0	10 49
10.3	1.54 m8
8.8	0.35
B	D
9.5	6 26
9.2	7 26
9.2	6.55
11.2	4.46
8.8	2.49
10.2	4 15
L	D
11.2	8 47
11.0	1 38
11.5	4 38 m8
10.0	2 5
11.2	2 15
B	
11.0	6 25
11.2	8 36
11.0	8 31
9.0	8 28
10.5	11.14
	1122 Fine d Time
	4 35
9.5	3.23

P. B.

11.2	4 50	
9.3	11 18	
9.0	10 14	
10.2	4 43	
9.3	6 48	
B	B.	
9.5	9 25	
9.5	0 55	1.e
10.2	5 54	
9.3	11 16	
9.5	2 21	
8.5	0 55	
B	D	
10.3	4 25	accidentally broke
9.5	6 47	
9.3	7 56	sure
9.7	7 18	
10.2	5 8	
8.6	8 10	
9.7	4 35	
R		
11.0	9 [illegible]	
10.0	9 [illegible]	
9.5	1 59	
11.0	4 28	
10.7	4 59	
10.0	3 0	
9.8	2 26	
10.0	2 37	
D	D	
10.3	6 48	
10.0	9 24	
10.2	8 55	
10.2	8 30	
8.7	8 52	
11.0	7 50	
10.0	11 39	
10.0	4 58	
9.0	3 45	

June 23

15 19	15.1	19.3	15 19	15.9	19.9		
	32.0	36.1		32.7	36.9		
20	0.6	4.6	20	1.2	5.2		
	56.6	60.9		57.3	61.5		
21	15.1	19.3	21	15.7	19.9		
D	D			B	B		
22	13.6	17.8	22	14.3	18.5		
			22	—	24.2		
23	19.6	23.8	23	20.5	24.7		
23	59.3	63.6	23	59.7	63.9		
24	7.8	12.0	24	8.2	12.5		
24	49.8	54.1	24	50.4	54.7		
B	D			B	D		
			26	39.0	43.2		
26	50.6	54.9		51.5	55.6		
29	9.1	13.4	29	9.9	13.9		
29	49.9	54.1	29	50.7	54.8		
30	42.7	46.7	30	43.5	47.7		
31	26.0	30.3	31	26.7	31.0		
32	9.4	13.6	32	9.9	14.2		
D				B			
			33	33.5	37.5		
33	57.4	61.5	33	57.9	62.1		
34	45.9	50.5	34	46.7	50.8		
			34	56.6	62.4		
35	51.7	55.8	35	52.3	56.5		
			37	11.1	15.3		
38	23.7	27.9	38	24.3	28.6		
39	43.1	47.1	39	43.8	48.0		
B				D	D		
40	43.7	47.9	40	44.2	48.4		
44	0.3	4.7	44	1.0	5.2		
	42.6	46.6	—	43.0	47.3		
				55.2	59.3		
46	3.3	7.5	46	4.1	8.2		
				29.0	30.2		
47	19.1	23.3	47	19.7	23.8		
	47.9	52.2					
	54.3	58.4	47	48.7	53.0		
~~46~~	~~54.5~~	~~58.7~~	15 47	55.0	59.0		

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The confusion on this key must be remedied before copying

10.0	8.50			9.8	9 15			15	48 54.5	58.7		15	48 55.2	59.3
10.0	3 34 L				3 56				50 49.1	53.8			50 12.0	16.1
11.2	7 8			10	10 12				51 27.6	32.0			50 54.2	58.4
	D. B			11.0	7 29				D.B.3				51 28.5	32.7
					B								B	
10.0	2.42 L			10	2 59				52 57.2	55.5			52 51.8	56.2
10.2	3 6			10	3 5								53 1.4	5.7
9.8	7 50			10.0	3 28		One of these stars missing in 44		54 25.1	29.5			54 26.0	30.1
11.2	6.41			9.8	8 14				54 54.2	58.3			54 55.0	59.0
10.7	8 50			10.7 11.0	1 54 42		10.5 9 14		55 44.3	48.5			55 44.9	49.2
	B				B D								55 53.8	57.9
				10.6	9 10				56 56.1	60.3			56 56.7	61.0
					B D				B					
													58 54.6	58.8
													D	
11.2	6 50			10.2	7 15			15	59 54.7	58.8		15	59 55.0	59.5
11.0	10 12			10.0	10 38			16	0 5.0	9.0		16	0 5.7	9.8
11.2	7 1				7 26				40.2	44.3			0 40.8	45.2
11.0	5-19 L			10	5 44				2 45.6	49.7			2 46.3	50.7
9.5	10 1 L			10.2	3 1				3 9.1	13.2			2 59.6	63.7
	D D D								D.D.D					
10.0	6.10			9.8	6 34				5 5.1	9.3			5 6.0	10.1
10.5	6 38	Remarks		10.2	6 59				6 34.0	38.5			6 34.8	39.0
10.7	6 41			10.7	7 3				6 37.1	41.2			6 37.7	41.9
9.2	1 8 L	short signal		9.8	1 32				7 21.1	25.5			7 21.8	26.9
10.0	6 0 L			10.5	9 25							? 7 mss	7 29.6	33.2
11.0	5 0 L			10.0	6 24				9 1.0	5.3			9 1.8	6.1
9.5	10 3	A. M. Ends		10.2	7 54				9 41.1	45.4			9 10.7	14.9
	B			10.3	5 23								9 41.8	45.9
				10.8	19 34		sun		11 6.2	10.6			10 55.6	59.9
					R.D.				B.				11 7.2	11.1
10.0	5 34 L	W.A.R. begins		10.2	5 54				12 24.8	28.9			B D	
10.1	10 B			10.5	0 45								12 25.3	29.6
				10.7	10 30				14 1.5	5.7			13 20.5	24.7
10.2	4 ±	1 l		10.0	4 28				15 ~~5.0~~	5.5			14 2.1	6.5
7.0	0 35 L			5.0	0 55				15 13.4	17.6			15 2.1	6.4
11.0	8 15 L			10.5	1 47								15 14.0	18.2
9.2	0 9			10.8	8 40				16 48.7	53.0			16 2.2	6.8
9.0	8 5			9.2	3 35				17 5.0	9.3			16 49.6	53.7
9.3	11 31	Catalogue		9.0	8 30				17 44.1	48.2			17 ~~5.7~~ 5.2	10.0
	D D B.								18 27.2	31.4			17 44.7	49.0
					B				D.D.B.				~~18 27.3 31.4~~	
11	4 4			10.8	4 30				19 26.4	30.7			B	
10.5	8 11			10.3	8 38				20 35.5	39.6			19 27.3	31.4
9.3	1 8			9.2	1 33				20 53.2	57.5			20 36.0	40.3
10.2	8 39			10.5	9 5				16 21 10.7	14.7			20 53.8	58.0
													18 21 11.0	15.4

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10.2	6	40		10.0	7	5	
9.5	8	25		9.3	8	48	
10.2	5	4		9.5	5	26	
10.0	5	19		9.5	5	44	
10.0	1	55		10.2	9	10	
11.3	5	10		9.8	2	17	
9.2	2	33		9.8	10	16	
9.3	6	22		11.0	5	34	
9.3	8	25		9.2	2	56	
9.2	9	13		9.2	6	46	
10.7	5	51		10.0	8	56	
				8.0	9	36	
				10.8	6	16	

Quite Hazy to night.

Magnitudes not worth

much I fear

JHS

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16	21	27.4	31.6
	23	18.6	22.8
	23	53.6	57.7
	24	25.2	29.5
	25	23.7	28.0
	26	14.9	19.0
	26	51.6	55.9
	27	20.0	24.2
16	27	~~40.7~~	~~45.9~~
	29	0.0	4.2
	29	59.3	63.5

16	21	28.0	32.1
	23	19.4	23.7
	23	54.5	58.6
	24	26.0	30.2
	24	42.7	46.8
	25	24.3	28.6
	25	—	33.6
	26	15.7	20.0
	26	52.4	56.7
	27	20.8	25.0
	27	42.3	46.5
	29	0.9	5.1
16	30	0.2	4.5

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Catalogue Stars for Zone.

1865.0

	14	16	30.03	1 29	51.9
7.0		19	3.52	36	18.9
9.2		24	30.41	30	42.2
9.1		29	41.05	38	44.2
7.2		40	13.32	32	25.1
9.0		52	5.10	31	39.1
8.6		55	41.03	32	52.2
9.2	15	0	1.88	32	26.2
9.3		4	34.53	40	6.4
9.3		9	30.19	38	56.4
8.8?		18	5.61	31	26.6
9.0		29	26.84	35	52.9
9.3		31	36.92	35	45.7
9.4		49	30.±	40	0.±
9.2	16	1	14.	31	±

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June 27 7 P.M. Sid. W.R. Rec.

Zero of Position ~~183°~~ 54″ EC 16ʰ 14ᵐ.

7.0	5	50	1
10.0	8	16	
10.2	2	31	
9.5	4	3	
9.3	2	54	
	B		
8.0	9	15	
10.2	7	46	
9.12	1	30	
Catalogue Star reads 1′ omitted			
10.7	1	15	
11.0	4	0	1 l
10.0	5	58	
10.2	8	20	
10.0	7	24	
9.2	8	10	
8.5	8	12	1
10.5	3	36	
8.0	8	20	
10.0	4	8	
9.7	2	35	
	B		
9.5	4	33	
9.3	8	51	
9.8	5	15	
9.7	2	28	
10.0	1	1	
9.2	6	30	
	D		
10.7	2	32	
9.0	4	1	
9.3	5	23	
11.0	7	40	2 l
9.5	1	10	
	B	D	
10.3	10	16	

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~~6 15~~

10,2	9	15	
7.0	1	56	
11.0	7	24	
10.3	9	57	
10,5	7	35	following of 2
9.0	2	42	
9.3	10	41	
10.5	2	58	
11.0	4	27	
10,8	5	54	
9.2.	9	21	
	D	D	
9.2	5	2	
8.3	7	14	
9.2	5	12	double, Companion South preceding 20"
8.0	9	35	
10.8	10	8	
11.0	7	46	
10.0	2	18	
10.0	6	18	
10.0	10	1	
10.0	7	42	
8.2	1	15	
6.5	9	25	
10.5	5	31	
10.0	1	32	
	D	B	
8.5	3	26	
10.0	8	34	
10.7	6	48	
10.0	9	38	in AR Ends
9.0	6	24	AM
10.5	4	0	
10,3	4	15	
9.2	7	32	
9.0	2	6	
10.2	6	5	

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	Date	
10.0	10 0	AM
9.5	5 24	
9.2	9 32	
9,0	8 26	
9.0	4 55	
10.7	2 28	
10.0	8 45	
7.3	5 46	
Long	Date	
8.8	10 12	
9.2	8 34	
10.2	7 15	
10 5	5 33	No Signal
9,8	2 53	
11.5	5 40	
	B	Thet 54° 17h 25m 15s
11,2	3.55	
~~8~~	~~11 0~~	
11.0	8 10	
11.2	6.56	
11.0	0 20	
10.5	1 30	
10,7	1 0	for 12
9.8	9 28	
	B-	
9.5	7.46	
110	6 32	
9.2	1 50	
9.5	8 18	
9.0	1019	
11.0	3 45	A 12
9.8	1 28	X S
8.5	8.37	
9.2	10 35	
	B	
10.5	0 42	
10.0	7 29	

This Zone abandoned
Bad seeing In mist
hair

Images quite bad. Low clouds
here as well as elsewhere.

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18	36.4	40.5
19	3.4	7.5 Doubtful
19	22.8	27.0
19	35.0	39.1
20	37.5	41.7
21	0.5	4.6
22	5.0	9.3
22	34.2	38.5
~~23~~	D	
24	30.3	34.5
25	15.0	19.4
26	15.4	19.6
26	57.0	61.1
28	1.7	6.0
28	18.0	22.6
28	24.9	29.0
	D	
28	54.5	58.7
29	31.1	—
29	41.2	45.4
29	—	58.4
	D.	
30	35.8	40.1
30	55.8	59.9
32	—	23.6
32	25.0	29.3
33	8.5	12.9
33	20.4	24.5
~~34~~	~~7.2~~	11.4
	D.W.D	
35	~~23.5~~	27.7
36	22.3	26.5
37	15.1	19.6
38	47.8	51.8
39	57.2	61.5
40	13.2	17.3
40	54.7	59.0
	B.D	

14 18	36.1	40.7
19	3.3	7.4
	22.6	26.8
	34.7	39.0
20	37.0	41.3
21	0.0	4.3
21	33.1	
22	4.7	9.0
22	33.9	38.3
	B	
23	58.7	62.9
24	30.2	34.3
25	15.0	19.2
26	15.2	19.3
26	56.7	60.9
28	1.5	5.6
28	17.9	22.0
28	24.5	28.7
	D.	
28	54.0	58.3
29	30.8	35.0
29	40.8	45.9
29	53.8	58.0
	BD	
30	35.4	39.9
30	55.2	59.5
32	18.9	23.0
32	26.6	28.8
33	8.3	12.5
33	19.6	24.0
34	6.8	10.9
	DBD	
35	23.0	27.2
36	22.1	26.3
37	14.8	19.0
38	47.3	51.5
39	57.0	61.1
40	12.7	17.0
~~40~~		
	D	

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1864phae.proj.:.237S

Zero of Pos. dis 83°54'

W 35354

Yk 565 June 28

July 5th Zero of Position Assumed 263° 55'

W. M. S. Obs. Lu. 56m 5 at 16h 21m

W. M. S. Obs. N.A.R. Rec.

10.5	10 31	Zero 7.4 wt.		7.0	10.8	10 30	
10.0	8 41			9.5	9.5	8 41	
9.7	1 2			9.5	9.3	1 2	
10.0	7 30		13 C	9.5	10.0	7 29	
9.8	3 23			9.5	10.0	3 23	
9.2	9 38		Catalogue	8.9	10.5	4 39	2 C
9.5	1 54			9.5	9.2	9 41	
					9.7	1 54	
~~9.8~~	~~D 36~~					B	
9.3	0 38		Catalogue	9.2	11.0	7 29	
11.0	1 39				9.3	0 38	
10.5	6 24				10.5	1 40	
10.8	8 46				10.8	6 24	
10.8	7 45				10.7	8 46	
11.0	9 10				10.5	7 46	
10.2	8 30				10.0	9 10	
	B				9.5	8 31	
						D	
9.2	8 35			9.5	9.3	8 35	
10.8	3 59		~~10.8~~ 2 C		10.5	4 00	
9.0	8 42		Catalogue	9.1	9.2	8 43	
10.5	4 29		1 C		10.3	4 30	
	D					B.D.	
11.0	2 58				10.5	2 59	
10.8	7 54				10.0	7 55	
10.5	8 28		1 C		10.2	8 28	
9.8	9 14		N.S.		10.0	9 15	
9.5	2 39				10.2	2 41	
10.8	1 25				11.0	1 26	
9.8	6 54			9.5	9.8	6 54	
	D.D.B.					D B D	
10.0	4 22				10.3	4 24	
10.0	8 37		~~Sure~~ Sure last night - 16" wrong		11.3	8 36	
10.5	1 34				10.2	1 35	
11.0	10 40				11.0	10 38	
11.0	9 19				11.2	8 20	Sure
7.0	2 20		Catalogue	7.2	9.0	2 23	
11.2	7 48				11.2	7 39	= perhaps cloudy
	B B					B	A.R. lost

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1864phae.proj..237S

14	41	42.2	46.3	14	41	41.6	45.7
	42	19.6	23.9		42	19.3	23.5
	43	13.7	17.8		43	13.1	17.3
	44	1.7	5.8				
	45	35.7	40.0		45	35.4	39.6
	45	50.0	54.2		45	49.6	53.5
	46	17.6	21.9		46	17.0	21.3
	46	46.0	50.1		46	45.5	49.6
	47	32.5	36.6		47	32.1	36.2
	47	59.5	63.6		47	59.0	63.2
	48	32.0	36.3		48	31.5	35.8
	49	15.7	19.9		49	15.3	19.5
		D.				DD	
	50	20.5	24.8		50	20.1	24.4
	50	59.5	63.6		50	59.1	63.3
	51	27.9	32.0		51	27.5	31.7
	51	36.8	41.1		51	36.6	40.8
	52	5.3	9.5		52	5.0	9.0
	52	38.4	42.6		52	37.9	42.0
	53	23.4	27.7				
	53	58.0	62.2		53	58.2	62.2
	55	40.7	44.8		55	40.3	44.5
	56	19.8	24.0		56	19.6	23.6
	56	50.7	55.1		56	50.4	54.5
	57	13.0	16.9		57	12.4	16.7
	57	27.8	32.0		57	27.3	31.6
	57	[illegible]	37.5		57	—	37.2
	58	16.0	20.4				
	58	43.7	48.0		58	43.5	47.5
		D.					
	58	54.9	59.2	14	58	54.5	58.6
		D.				BD	
15	0	1.8	6.0	15	0	1.4	5.6
	0	4.0	8.2		0	3.6	7.6
	2	2.1	6.3		2	1.6	6.0
	4	32.6	36.7		4	32.1	36.2
	4	35.3	39.4	15	4	34.8	39.0

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10.5	10 16				11.0	10 16	
10.2	3 10				9.8	3 10	
10.7	11 10				10.0	11.7	
11.2	0 40						
11.0	6 17				10.4	6 18	
10.2	9 44				10.0	9 45	
10.0	5-27				10.0	5-27	
9.5	7 36				9.6	7 37	WAR Ends
9.7	5-35	Comp. 13m 20" S preceding		7.5	10.0	5-36	AM
8.5	9 56	Lamont			8.8	9.57	
10.0	10 30				10.5	10 31	
11.5	11 22				10.0	11 23	
D					D	DD	
11.0	2 39				10.3	2 40	
10.8	6 41				10.8	6 41	
11.0	10 24				11.2	10 25	
11.0	8 12				10.8	8 13	
9.0	1 34	Catalogue		9.0	9.0	1 37	
9.2	9 46	Catalogue		9.2	9.3	9.46	
11.3	5 55						
10.8	2 55	Signal no star			11.2	2.5-4	AR
8.5	3 58	3 50 Sirius		8.6	9.2	3.50	
10.8	8 58				11.2	8.57	
11.0	7 10				11.3	7 10	
10.8	9 59				11.2	9 59	
9.2	6 46			9.3	9.5	6 46	
10.7	7 0.0	1 l			11.0	7 1	Tons 1 l
11.2	10 15						sun
11.0	4 36				11.0	4 37	
B							
9.2	7 57			9.5	9.7	7 58	
D					B	B	
9.0	2 28	Catalogue		9.2	9.3	2 28	
10.0	6 27	n.s			10.2	6 28	
9.7	10 20				10.7	10 21	
9.8	5-50				10.0	5 30	
9.2	10 6	n s		9.3	9.5	10 6	

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B.D

15	6	8.5	12.7
	6	11.4	15.9
	6	20.2	24.2
	7	38.7	42.7
	9	3.7	8.0
	9	30.1	34.4
	9	57.4	61.4
	10	18.4	22.6
	10	46.1	
	11	50.9	55.1
	12	15.6	19.8
		B.	
	14	25.9	30.0
	15	54.6	55.8
	16	6.7	10.8
	17	17.9	22.1
	17	44.3	48.3
	17	50.0	54.2
	18	44.0	48.2
	18	55.8	59.9
	19	33.1	37.5
	19	44.4	48.5
	20	55.6	59.8
	21	39.5	43.7
		B	
	22	5.6	9.9
	22	53.1	57.2
	23	28.2	32.5
	24	0.4	4.5
	24	15.3	19.7
	26	36.9	41.2
	27	2.6	7.0
		D	
	28	52.9	—
	28	58.5	62.5

15	6	8.2	12.4
	6		
	6	19.8	24.1
	9	3.3	7.4
	9	29.9	34.0
	11	45.5	~~54.6~~
	11	—	54.6
	12	15.1	19.3
		DB	
	14	25.4	29.7
	15	51.4	55.4
	16	6.2	10.3
	16	20.5	24.7
	17	17.4	21.7
	17	43.9	48.0
	17	49.4	53.8
	18	43.6	47.9
	17	55.4	59.4
	19	32.8	37.0
	19	44.0	48.1
	20	55.2	59.4
	21	38.9	43.1
		B	
	22	5.3	9.6
	22	52.6	56.8
	23	27.8	32.0
	23	~~30.0~~	~~36.0~~
	24	0.0	4.4
	24	15.0	19.2
	26	36.4	40.6
	27	2.4	6.7
		DB	
	28	52.3	56.4
15	28	58.0	62.0

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BD.								DB		
9.3	8	57			9.5			850		
9.7	5	23		ns				522	RA	
9.5	5	18			9.5			5.18		
10.7	9	8								
8.7	10	36			8.7		9.0	10.36		
9.0	8	55		Catalogue	9.3			856		
10.5	7	38								
11.0	10	37								
11.0	0	51		2 l				050	2l	1l
10.5	5	56						556	1l	
9.7	3	16					9 3	3 16		
	B							DB		
11.0	4	17						10.5 719		
10.5	8	30						10.5 831		
10.3	7	16	}	1st and 3rd of a group				10 2 718		
10.5	1	1						10 0 1 35		
10.5	1	52						10.2 1 2		
10.5	1	25						98 153		
10.0	10	502						10 2 1 24		
10.0	8	10						10 0 1050		
9.2	1	14			9.5			10.2 810		
9.3	8	40						10.0 1 15		
11.2	2	19						10 0 841	sure	
9.5	10	43		B6	9.4			11.2 221		
	B							92 10.43		
10.0	1	50			9.5?			B		
9.2	8	58			8.9			9.3 1 52		
9.3	10	56			9.5			9.2 8 58		
10.5	1	5						9.0 10 56		
10.0	7	52						10.2 2 2		
11.0	6	33						97 1 6		
11.0	1	15						98 7 53		
	D							10.5 834		
9.6	6	16		2 l				10.0 1.15		
8.0	10	43			Catalogue		7.1	D B		
								9.3 617		
								80 1043	ns	

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1864phae.proj..237S

15	29	27.5	31.7
	29	35.7	39.7
	29	44.0	48.2
	31	14.2	18.4
	31	37.2	41.4
	31	53.4	57.8
	33	19.3	53.4
		B.D.	
	34	36.0	40.0
	34	42.0	46.3
	35	41.3	45.5
	36	35.1	39.2
	37	2.0	6.2
	38	40.9	45.1
		D.D	
	40	18.2	22.5
	40	46.5	—
	40	49.9	54.0
	41	58.7	63.0
	42	44.3	48.4
	42	54.0	58.0
	43	33.4	37.7
	44	4.2	8.7
	44	32.9	37.1
	45	58.8	63.0
	46	37.7	41.8
	47	20.3	24.5
		D.	
	49	5.6	9.8
	49	—	139 *
	49	21.1	25.3 (This is the extra star)
	49	30.9	35.0
	49	53.7	57.8
	50	41.9	46.1
	50	58.9	62.3
	51	58.5	63.5 Extra Star.

15	29	27.1	31.4
	29	35.2	[39.8] Probably this is the star in late
	29	43.6	47.7
	31	13.9	18.1
	31	36.9	40.9
	31	—	57.2
	34	35.6	39.7
	34		
	35	41.1	45.1
	36	34.8	38.8
	37	1.7	5.9
	38	40.4	44.6
		13	
	40	17.7	21.9
	40	46.4	50.4
	41	58.3	62.3
	42	43.8	47.9
	42	53.3	57.4
	43	33.2	37.5
	44	3.7	8.1
	44	32.5	36.9
	45	56.4	62.6
	46	37.2	41.1
	46	45.5	49.7
	47	19.7	24.0
	47	29.1	33.5
	47	38 54.6	— Nine doubtful.
	49	5.3	9.5
	49	—	13.6
	49	30.5	34.7
	49	53.3	57.2
	50	41.5	45.8
	50	57.4	61.7
	51	58.6	63.0

* See the bottom of next page on rotation

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1964phae.proj.237S

9.3	5 55	Catalogue	9.0	9.0	555	
10.2	6 24			9.8	624	2l / 3 state
11.0	7 12			10.5	713	1 .5 tentative ?
9.5	9 36			9.5	937	
9.2	5 45		9.3	9.2	546	
11.0	7 32					1l 5l ns
9.8	9 42					
	BD				B	
9.0	11 14		9.5	11.	1115	cloudy
10.5	9 41					
10.0	9 1		9.5	10.0	9.0	
10.5	522			10.5	521	
10.2	1 43			10.2	1.43	poss not R Star
11.0	5 17			11.0	518	
	DD				B	
9.2	6 50		9.5	9.5	650	
10.5	1 23	2l		9.8	121	
10.0	7 5					
9.8	2 19			10.0	218	
11.0	5 32				531	
10.5	9 45			10.2	945	
11.0	3 28			10.2	328	
X	11 1			10.3	113	
10.2	3 52		9.5	9.8	354	
10.0	1 51				1.53	
9.3	8 42		9.5	10.0	843	
				10.5	214	
10.0	1 32			9.8	134	
	DDDDD			10.5	049	
9.5	7 5	should read 7 12 by	9.5	10.3 9.3	939	ns
9.5	11 5	* 1 12 l		9.5	11 6	
9.2	9 42		9.5	9.2	943	Stars brightest/last in June
9.8	7 14	B.l	9.5	10.0	713	
10.5	8 48			9.8	849	
9.8	9 56			9.5	957	
10.0	1 9			10.0	1.8	
	B					

obs. made Sept. 7 to 14 by [illegible]

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15	52	42.4	46.6	15	52	41.9	46.0
	52	58.8	—		52	58.4	62.0
	53	3.1	7.0		53	—	6.6
	54	30.4	34.8		54	29.9	34.0
	54	53.5	57.6		54	53.1	57.2
	55	17.3	21.4		55	17.0	21.0
		D.				D	
	57	9.5	13.7		57	9.0	13.2
	58	39.7	43.9		58	39.5	43.5

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1964phae.proj..237S

11.0	9 51	Double comp 12m preceding		10 7	8 51	dim
9.5	6 5	2 ℓ	9.5	9 5-	6 3-	
9 5-	9 45-	. ns ?		9 7	9 45-	1ℓ
11.0	3 38			10.7	339	
10.0	8 10			10.0	810	
10.7	3 51			10 5	3 57	
					2D	
9.2	4 14		9.5	9.3	4 12	
11.3	7 29			10.7	729	
10.8	0 55					
10.2	0 31					
9.5	9 6					
9.8	9 52					
9.2	2 13					
9.8	6 9					

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1864phae.proj..237S

1 17.

17	30.82	+1 33' 49".7	
18	28.02	1 31 54.1	
20	28.71	1 40 59.9	
31	26.38	1 36 4.9	Stern
34	25.81	1 36 35.4	
34	39.97	1 35 0.1	
44	23.47	1 37 27.5	
46	33.41	1 34 28.6	
47	39.63	1 40 27.2	Stern verlaufen
49	15.66	1 38 21.1	
~~54~~	~~10.89~~	~~1 30 4.7~~	Stern verlaufen
54	21.60	40 18.4	
17 14	18.75	1 34 2.7	Stern verlaufen
15	30.10	1 33 27.4	
16	41.20	1 36 34.1	
39	58.55	1 34 28.1	

15 49	4.9	9.3	-0.60
	20.4	24.6	
	30.3	34.5	
	53.1	57.3	
50	41.4	45.8	
50	53.7	~~57.6~~	
50	57.6	61.6	
52	41.8	46.0	
52	58.3	—	
53	2.5	6.7	
54	29.8	34.1	
54	52.9	57.2	
55	16.6	20.9	
55	55.7	60.0	
56	33.8	37.9	
57	9.0	13.2	
58	3.4	8.0	
58	39.3	43.3	

15 50	41.1	45.3	
50	53.2	57.7	Chronograph raus regelmäßig
50	—	61.2	
52	41.6	45.7	
52	58.1	~~—~~	
53	2.2	6.3	
53	29.6	34.0	
54	29.5	33.7	
54	52.6	56.7	
	B.		
55	16.5	20.7	
55	55.5	59.7	
56	33.5	37.6	
57	8.7	12.8	
58	3.1	7.3	
58	38.8	43.0	
	D.		

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1864phae.proj...237S

21 hrs

E 6 17 2 60.7
— 19 0 59°0

1864 June 30th

WHS obs
WAR }
AM } rec.

W Set at 353°54'
not determined L. night

Cloudy during a small portion
of the Time

1864 Sept 7th

WHS obs
AM rec.

W set 353°54'
not determined — pretty nearly right
however by transits over Scale.

					9.5	9.5	+7.1	
June 30	WHS obs		WAR	Rec.	9.5	9 5	+7.8	
Thermometer = 60.7 at beginning				Bl	9.4	9.3	9 40	
						10·3	7 11	
10,0	8 14					10.8	8 47	
10,9	1 49					10 8	2 22	2 l
9,5	9 24	1 l				9.3	9 55 —	ns
10,5	8 16	Double comps. 15 N ps.				10 5 —	8 48	
9,7	5 30	2 l			9.5	9.5 —	6 2	2 l
9,7	9 11					9.5	9 44	ns
9,8	11 15							
11.0	3 1					1 1.5 —	3 35 —	
10,2	7 35					10 0	8 9	
B						B		
10,7	3 17					10.3	3 50	ns
11.0	6 0					11.5 —	6 33	
11.2	9 24					11 6	9 57	
9,3	3 37				9.5	9.2	4 10	
11.2	8 57					11.5 —	4.30	
11.0	6 5-2					11 3	7 25	
D								

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1864phae.proj..237S

15	57	32.8	37.0				
	59	47.4	51.6	15	59	47.8	52.1
16	0	12.8	17.9	16	0	13.0	17.1
	0	59.9	64.0		0	0.1	4.3
	1	1.9	6.2		1	2.4	6.6
	1	13.9	18.2		1	14.1	18.3
	1	~~26.0~~	20.8		1	17.1	21.2
	1	46.8	52.9				
		B				B.D.	
	2	24.6	28.9		2		
	2	35.9	40.4		2	36.5	40.4
	3	8.5	13.7		3	—	2.9
	3	17.7	21.8		3	5.8	13.9
	3	47.2	51.5		3	18.2	22.3
	4	25.0	29.2		4	25.5	29.5
	4	47.1	51.3		4	47.4	51.6
		D.13				D.	
	7	22.9	—		7	23.2	27.4
	7	27.2	31.4		7	—	31.8
	7	~~32.~~	35.8		7	—	36.2
	9	3.2	7.6				
	9	10.6	14.9				
	9	43.2	47.6				
	9	59.3	63.5		9	59.8	64.0
	10	1.4	5.8		10	1.7	6.1
	10	24.0	28.2		10	24.5	28.6
		B					
	10	37.3	41.6		10	37.8	41.9
	10	39.7	43.8		10	42.2	46.3
	11	41.8	46.1		11	42.1	46.3
	11	53.1	57.4		11	53.6	57.7
	12	44.9	49.2		12	45.4	49.5
	13	21.2	25.6		13	21.7	25.9
	13	32.4	36.5		13	32.7	36.0
	13	56.5	60.8				
	14	51.8			14	52.2	56.4
	14	~~56.5~~	~~60.7~~		14	—	61.0
						D.D	

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1864phae.proj. -237S

10.5	11 14						
11.0	4 21			11.2	4.52		
10.8	9 20			11.0	9.31		
9.5	8 33		9.5	9.4	~~9 51~~		
10.0	9 18				~~8 8~~	9.57	
9.2	1 37		9.2	8.5	2 11		Some S lost by recorder
9.5	5 36	~~2 3~~ AR. Examine in repetition.		9 3	6 8	6 8	
10.3	7 17			10.0	7 49		
	B				B		
10.3	11 11						
10.7	4 27			10.8	4 59		
9.5	1 47		9.5			1l 5l	
10.2	7 54			9.2 10.0	1 22 8 25		
9.3	7 44		9.5	9.5	8.15		
11.0	8 33			10 2	9 5		
9.7	4 4			10 0	4 36		
	D B				D		
10.2	6 9			9 5	6 39		
9.7	9 6			9 3	9 37	1l	
9.5	4 4		9.2	9.3	4 34	1l	
10.3	2 36						
10.2	9 35						
11.3	8 45						
9.3	7 15		9.0	9.0	7 46		
9.3	2 53	n s	9.2	9 2	3 24	n s	
11.0	3 35			10 5	~~11 4~~ 5		
	B				B		
9.5	2 18		9.4	9.7	2 50		
9.7	7 57	n.s		9 7	8.29	ns	
10.7	0 5			~~9.6~~ 10.8 10.8	0 53 1 27		
10.0	11 26			10 0	10.58		
10.2	3 1			10.8	3 33		
9.2	4 19		9.1	9 0	4 50		
9.5	9 2		9.5	9 3	9 34		
11.2	6 50						
9.8	7 32	2 l	9.4	9.2	8 2		
8.8	1 43		8.2	8.7	2 15	1l	
	B B				D		

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1864phae.proj..237S

16	15	57.5	61.7	
	16	30.4	34.6	
	16	~~30.2~~	40.5	
	16	55.4	59.9	
	17	27.2	26.3	
	17	30.3	34.5	+0.42
	18	27.5	31.9	+0.32 * inserted.
	19	6.9	10.9	
	20	28.2	32.4	+0.61
	21	48.9	52.9	
	~~22~~ 23	19.6	23.9	
		D. 19.D		
	23	16.8	21.1	
	24	10.1	14.2	
	24	30.2	34.4	
	25		18.0	
	26	37.7	41.9	
	27	21.5	25.7	
	27	41.2	45.4	
	28	1.6	5.8	
	28	14.1	18.2	
	28	24.8	28.9	
	29	13.5	17.6	
	29	21.4	25.4	
	30	16.4	20.8	
	30	18.7	22.8	
	31	3.5	~~7~~.8	
	31	5.8	9.8	
	31	25.7	29.8	+0.63
		D.		
	31	38.0	42.3	
	32	51.4	55.5	[+11.31]
	32	57.2	61.5	[+0.41] * inserted
	34	10.8	15.1	* inserted
	34	39.4	43.5	+0.52
16	35	52.2	56.6	* inserted

16	15	58.0	62.1	
	16	30.7	35.0	
	~~16~~	—	—	
	16	55.9	60.1	
	17	22.5	26.9	
	17	30.8	35.0	-0.08
	18	27.9	32.1	+0.02
	18	35.2	39.5	
	19	7.3	11.4	
	20	28.7	32.9	-0.09
	21	49.5	53.4	
	22	19.9	24.1	
		D. 20		
	23	17.3	21.6	
	24	10.5	14.8	
	24	30.7	34.9	
	25	14.1	18.2	
	26	38.3	42.5	
	27	22.0	26.3	
	27	41.8	46.0	
	28	2.0		
	28	14.5	18.6	
	28	25.3	29.7	
	29	14.0	18.2	
	29	21.8	26.1	
	30	16.9	21.1	
	30	19.2	23.3	
	31	26.1	30.3	+0.18
		D.		
	31	—	42.7	
	32	51.8	56.0	
	32	57.8	61.9	
	33	42.0	46.4	
	34	11.5	15.7	
	34	26.2	30.3	-0.44
	34	39.9	44.1	-0.03
	~~36~~ 35	52.9	57.1	
	16 36	56.0	52.0	

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9.8	10 2		9.5	9.7	10 34	
11.0	10 45			10.0	11.17	
10.0	6 24					seen but not obs
10.0	4 2			10.5-	4 34	
9.8	2 56			10.5-	3 28	
9.0	3 16	Catalogue	8.5	9.2	3.47	
9.2	1 17	Catalogue	8.8	9.0	1 50	
				10.5	7.18	
10.0	10 26			9.8	10.57	
9.3	10 25	Catalogue	9.1	8.8	10 57	
9.5	10 37			9.3	11 8	
9.8	7 10			10.0	7 40	
	DDD				B D	
9.8	9 58			10.0	10 30	
10.7	8 4			10.5-	8.36	
8.8	5 34	NR Obsd at Cambridge	8.0	8.3	6.2	
11.0	1 25	1 l		10.8	1.55-	
9.5	9 23		9.5	9.7	10 0	
11.0	7.13			10.5-	7 44	
10.2	8 5			10.2	8 30	
10.3	7 21			10.3	7 50	2 l
10.3	2 12	Dsc. doubtful		10.5-	2 43	
10.0	9 33			10.0	10 2	
8.8	9 17		8.0	8.2	9 47	
9.5	6 45			10.0	7 16	
10.8	6 54			11.0	7 26	
10.8	10 2	n.s		11.0	10.24	
10.7	2 56					
10.7	10 29	n.s				
9.2	6.32		9.0	9.0	6.1	
	B				Short D	
11.0	3 21			10.5-	3.52	1 l
9.3	9 44	B, but	9.4	9.3	10.16	
9.3	0 43	n.s B but	9.3	9.3	1.15-	
				8.2	0.30	
10.5-	4 9			9.5-	4 50	
9.2	4 18		9.3	10.2	0 4 45-	
9.5	4 43					
				11.0	1 15-	

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June 30 - Sept 7 45 42 +4°2
17 43 +5.2

1	37	34.7	38.9	lower limit	16	37	35.2	39.3
	39	10.1	14.3			39	10.6	14.9
	40	28.5	32.6			40	29.0	33.2
	40	36.3	40.4			40	36.8	41.0
	41	16.7	20.8			41	17.2	21.4
	41	58.6	62.8			41	59.3	63.4
		B					B	
	43	9.1	13.5			44	10.0	14.3
	44	9.3	13.3			44	23.9	28.0 -0.48
	44	23.1	27.2 +0.32					
	44	47.0						
	44	54.8	58.9					
	45	23.5	27.6					
	45	38.0	42.4			45	—	43.3
	46	32.9	37.1 +0.41			46	33.8	38.1 -0.54
	47	14.5	18.7					
	47	23.8	28.0					
	47	40.9	45.3			47	41.6	46.0
	47	58.9	63.2 +0.64			47	59.7	63.9 -0.11
		D.					B	
	48	49.7	53.9			48	50.5	54.6
	49	14.8	19.1 +0.71			49	15.7	19.8 +0.09
	50	6.5	10.8			50	7.1	11.4
	50	24.3	28.7					
	50	46.4	50.5			50	47.0	51.2
	51	1.5	5.7			51	2.0	6.5
		B						
	51	14.3	18.5					
	51	34.8	39.2			51		39.7
	51	53.6	57.9 + inverted			51	54.2	58.4
	52	59.0	63.3			52		21.2
	53	5.8	10.0			52	59.8	63.8
	53	56.2	60.5			53	57.0	61.3
	54	20.5	24.5 +1.10			54	21.3	25.5 +0.20
	54	29.6	33.7			54	30.1	34.3
	54	57.5	61.8			54	58.3	62.4
16	56	28.4	32.5		16	56	29.2	33.5
		B.					D.D	

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9.3	7	1		9.5	9.8	7 32	
10.0	2	18			9.5	2 48	
10.0	5	34			9.7	10 6	
9.8	7	38			9.7	8 9	
9.2	5	25		9.3	9.3	5 56	
10.0	6	15			10.0	6 47	
	B					B	
10.0	1	57		9.5			
9.3	10	28			9.3	11 0	
9.0	6	55	Catalogue	8.9	9.0	7 59	
10.0	3	35	2 l				
10.0	8	26					Lamp went out here
9.3	9	15		9.5			
9.2	4	31		9.3		5 1	
8.8	3	55	Catalogue	8.2	9.2	4 27	
10.0	3	56					
10.2	9	18					
9.5	1	14			10.	1	
8.8	9	55	Catalogue		9.5	10 26	
	D	D				B	
9.8	0	30		9.5	10.3	0 59	
9.0	7	47	Catalogue	8.1	9.3	8 20	
10.5	1	48			11.5	2 19	
10.0	10	17					New lamp inserted about here
10.5	6	15			11.0	6 46	
9.5	1	6			10 7	1 40	
	B						
10.0	10	45					
9.8	3	18			10.3	3 50	1 l
10.3	6	4			10.7	6 37	
10.0	2	47			11.2	4 16	1 l
10.3	10	26			10.2	3 18	
						H 6	
10.0	4	1			11.0	4 33	
9.2	9	44	Catalogue	9.1	9.0	10 15	
10.0	7	54			10.2	8 26	ns
9.8	3	34			10.0	4 7	
10.5	3	13			11.5	3 47	
	D					D	

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0h00m20.6
— 6.5

				16	58	59.8	63.9
16	59	11.7	16.0		59	12.5	16.9
	59	43.4	47.6		59	—	48.3
17	0	25.7	29.8	17	0	—	30.6
	0	31.9	36.1		0	32.7	36.9
	1	13.9	17.9		1	14.4	16.6
	1	34.6	38.8				
		D.B				B.D	
	2	4.3	8.5		2	5.1	9.3
	2	20.8	25.1		2	21.5	25.8
	2	42.4	46.6		2	43.2	47.4
	2	56.7	60.9		2	57.4	61.5
	3	~~5.6~~	5.6		3	~~6.2~~	6.2
	3	25.7	29.9		3	26.5	30.6
	3	58.9	63.0		3	59.7	63.8
	4	9.2	13.4		4	10.0	14.1
		B					
	4	35.5	39.7		4	36.4	40.5
	5	11.6	15.9		5	12.5	16.6
	5	33.5	37.8		5	34.6	38.7
	5	51.2	54.3		5	50.9	55.1
	6	19.5	23.8		6	20.3	24.4
	6	32.8	37.0		6	33.7	37.8
	7	4.0	8.2		7	4.6	8.7
	7	13.4	17.6		7	14.0	18.2
	7	32.0	36.1		7	32.6	37.0
		D.				B	
	7	56.3	62.6		7	59.2	63.4
	8	54.9	—		8	55.5	~~60.0~~
	8	0.0	4.2		9	—	4.7
	9	—	6.5		9	3.1	7.2
	9	25.3	29.7		9	26.0	30.2
	10	6.4	10.6		10	7.2	11.4
	10	30.9	—	17	10	31.6	35.6

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				9.5-	1.10	
10.0	7 17			9.5-	7.49	
10.5-	10 0			11 0	10 32	
9.7	1 35-			10.0	2 9	dl
9.5-	236		9.5	9.5-	3 10	
10 3	5 50			11.0	6 23	
9.8	11 4					
	D B				B D	
10.0	3 18			10.5-	3 50	
9.8	3 0			10.2	3 35-	
10.0	1 56			11.0	2 30	
9.8	236		9.5	9.7	3 10	
9.7	9 14	Examine Wire 3		9.7	9 49	1l
10.0	7 4			9 8	7 38	
10.0	6 53-			10 5-	7 19	
9 7	6 16			10.5-	6 51	
	B					
9.7	2 5-4			10.3	3 27	
10.2	4 57			11.0	5 30	
9.3	5 42		9.3	9 2	6 14	
10.0	9 77	Examine Dock 3		10 5-	10 10	
9.8	1 31			10.0	2 3	
9.7	7 6				7 40	
9.8	4 31			10 2	5 2	
10.2	6 5-2			10.2	7 24	
10.0	9 8			10.5-	9 40	
	D			Short B		
9.2	5 37		9.5	9.5	6 10	
9.2	229	2l		10.0	3 0	
9.5-	051		? 9.5	10		1l 2l
9.3	843	1l	9.5-	9.3	9 14	
10.0	950			10.0	10 24	
9.8	645-			9.8	7 18	
Doubt	641	cloudy Examine Wire		10 2	7 13	

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17	11	29.8	34.0	17	10	50.7	55.0
					41	30.5	34.7
					12	42.6	46.9
					13	45.9	50.3
					13	—	54.3
					14	15.5	—
	14	18.1	22.2 + 0.60		14	18.7	23.0 − 0.10
	14	—	28.4				
	15	30.0	34.4 − 0.10		15	30.7	34.8 − 0.65
	16	30.0	34.2		16	30.7	34.9
	16	41.0	45.1 + 0.15		16	41.8	45.9 − 0.65
		B 13					
	17	10.5					
	17	14.3	18.3		17	14.8	19.0
	17	29.9	34.2		17	31.0	35.1
	18	9.5	13.9		18	10.3	14.7
	18	19.8	24.0		18	20.6	24.7
	18	39.7	43.8		18	40.4	44.5
	18	47.4	51.6		18	—	52.4
		B				B 13	
	19	51.7	56.0		19	52.6	57.0
	20	42.5	46.5		20	43.2	47.3
	21	10.3	14.5		21	—	15.2
	21		60.4		21	—	61.0
	22	3.2	7.3		22	3.8	7.9
	22	28.6	32.7		22	29.1	33.4
	22	46.9	—		22	47.8	52.0
	22	—	51.2				
		D 13					
	23	34.9	39.0		23	35.7	40.0
	24	0.5	4.6		24	1.3	5.4
17	24	44.1	48.4	17	24	44.9	49.1

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1964phae.proj. - 237S

				10.2	4 15-	
9.5	9 00			9.3	9 28	
			12/ 9.5	9.0	9.21	
	9			10.3	2 30	
				10.3	8 51	1l
				10.2	10 8	double comp? Wire?
					~~4.14~~	
8.5-	3 39		Catalogue 7.2	8.0	4.14	
8.8	11 5-	1 l	Catalogue 7.8			
	2 51	clouds	Catalogue 8.5-		3.25-	+2"4
11.0	2.58			11.0	3 31	
9.0	5 57		8.3	9.2	6 32	+3.1
	13 D				13	
10.3	1 18	2 l				sun but not obs
10.0	9 35-			10.0	10 8	star pre mud 9 30 (Sun mag)
9.8	7 29			10.0	8 1	
9.5-	0 35-			10.7	1 3	? doubt
9.3	1.12			10 5-	1 44	
9.0	3 34	3	Exam Magnitude	10.0	4 6	
9.8	1 33-			11.0	2 27	1l
	13				13 D	
	3 17	1 l				
	3.17	clouds		10.8	3 49	
11.0	9 29			11.0	10 0	
	1.28	no Mag		10.8	1 58	1l
9.3	5 34	1 l	9.5	10.3	6 6	1l
9.2	8 11		9.3	9.5-	8 44	
10.8	5 53-			11.0	6 30	
8.8	9 23	2 l	8.0	8 5-	9 53-	
9.3	2 35-	1 l	9.3		3 10	12t lost
	2 B					
9.5-	6 21			9.8	6 53	
8.7	10.15-	1R Obs at Lamb.		8.8	10 47	
9.3	1 46			10.0	1 20	sun

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17	25	9.5	13.8	17	25	10.4	14.7
	26	0.4	4.4		25	51.5	55.7
	26	54.0	58.1		26	1.2	5.2
	26	—	64.0		26	54.7	59.0
	27	20.5	24.9		27	0.5	4.8
		D			27	—	25.7
						13	
	27	40.6	45.0		27	41.4	45.8
	27	46.9	53.1				
	27	56.6	62.7		27	59.5	63.7
	29	7.3	11.8		29	8.0	12.1
	29	54.6	58.8		29	55.5	59.8
		D.D				B.	
	32	7.5	11.9		32	8.4	12.7
	32	20.7	24.9		32	21.7	25.7
	32	22.5	26.7		32	23.5	27.7
	32	—	41.2 L** in error		32	—	42.4
	34	9.3	13.5 L* inserted		32	49.2	53.7
	34	27.6	32.0		33	25.7	29.9
		B			34	20.8	25.1
					34	28.3	32.7
	34	57.6	62.2				
	35	[illegible]	10.7		35	7.3	11.6
	35	41.0	45.2		35	41.9	46.9
	36	20.7	25.0		36	21.6	26.7
	36	34.1	36.1		36	34.8	39.0
	36	40.7	44.9		36	41.6	45.9
		B.D					
	38	4.8	9.0		38	5.8	10.0
	38	22.4	26.6		38	23.3	27.5
	38	30.6	35.1		38		36.0
	38	53.4	57.6		38	54.3	58.4
	39	5.2	9.4		39	5.9	10.1
	39	14.3	16.6				
	39	41.7	45.8		39	42.4	46.7
	39	56.3	61.5 +0.15		39	57.2	61.5 -0.70
		D.D				B	
	40	32.5	36.7		40	33.5	37.7
	40	41.0	45.1		40	41.9	46.0
17	41	7.0	11.3	17	41	7.9	12.1

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9.8	6 53-			10.0	7 29	
9.2	10 27		9.5	10 5-	10 25-	
9.5-	4 40			9.8	11 1	
11.0	1 53	1l		10.0	5 14	
10.8	2 48			11.0	2 28	
	B				3 20	ns 1l
9.3	1.24				B	
10.5-	7.42				1 57	
9.5-	4.31		9.5-			seem not obs
	7 43	clouds		9.5-	5 5-	
9.7	8 54			9.8	8 16	This region must
	D			10.2	9 28	be revised
10.0	2 40				B	
10	6 44			10.0	3 16	
9.8	2 40	ns		10.2	6 48	
10.0	10 26	1l ns		10.2	3 15-	ns
10.3	8 58			10.0	11.0	1l
9.8	1 54				10 15-	8.58 strange
	B				1 56	9.8 10.25-
10.0	0 30					9.8 1.58
9.8	2 49	Examine more				
9.7	5 21			10.2	5 54	
9.7	7 38			9.7	8 10	
10.0	5-14			10.5-	5 47	
9.7	7 26			9.8	9 53-	
	BD			10.2	8.46	
9.8	8 13				9 46-	
9 8	8 42			10 0	9 15-	
10.0	7 5-			10.5-	7 37	
9.8	9 21		9.4			8l
9.7	7 47				8 21	
9.5-	10 56		9.5			
9 7	5-45-			9.5-	6 18	
9.4	3 53-	Cataloguer Ex may	8.7	9.0	4 30	
	D				B	
9 3	6 42		9.5	9.7	7 16	
9.5-	8 40			7.5-	9 16	
8.8	4 56	Catalogue did all	8.2	9.0	5-30	

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1864phae.proj..237S

7	41	13.3	17.5	17	41	14.2	18.4	9
	41	52.9	57.0		41	53.7	58.0	9
	42	12.6	16.8		42	13.6	17.7	9

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1864phae.proj..2378

9.0	7.25 –	8.7	90	7 56
9.3	830	9.3	9.2	9 1
9.3	3 5 –		9.5 –	3 40
	End			

The magnitudes and to some extent the positions have suffered from (haze?) as the obs were made ~~near~~ at hour angle more than 3.h

It will be advisable (perhaps) to revise the latter portion of this zone to find all class etc.

The stars were rather steady but images bad

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	9.1			
	~~9.6~~	16 29 0.36	+1° 29' 31.″8	
	9.2	32 04.76	27 54.1	
	9.2	32 7.76	23 12.8	
	7.3	34 29.81	30 35.4	
	6.5	34 52.72	26 27.5	
	8.6	35 16.51	30 12.5	
	8.7	41 7.85	27 20.7	
	9.0	43 43.55	25 52.4	
	9.2	44 31.82	23 6.9	
	6.0	44 34.24	26 55.8	
	8.7	47 15.00	21 20.6	
	9.1	50 5.21	28 ~~31.6~~	
	9.2	54 10.89	30 4.7	
	9.1	54 27.22	27 54.5	
	5.5	17 9 40.87	21 49.0	
	9.3	38 42.37	23 7.6	
	8.8	39 18.27	24 19.3	
	6.0	45 45.04	20 29.8	
13	9.0	49 16.3	27 20±	
13	9.0	58 39.2	24 47±	
13	9.4	59 31.4	24 41±	
13	9.4	18 0 39.6	+1 25 30±	

16	26	51.8	56.1
	27	19.2	23.3
	27	20.3	24.3
	27	41.9	45.9
	29	0.3	4.4. +0.51
		B.	
	29	25.3	29.5
	29	50.3	54.6
	29	59.6	63.8
	30	19.2	23.3
	30	46.5	50.6

16	27	19.4	23.7
	27	20.6	24.9
	27	42.2	46.5
	29	0.7	4.9
		B	
	29	25.7	29.9
	29	50.2	54.5
	29	59.9	64.0
	30	19.1	23.5
16	30	46.2	50.9

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1864 July 7th [probably 8th] Chronograph record and Clock-Correction

July 26 1864

Y.W.S. obs — 90° + N' 83.52 first determination

A.M. rec. — 90° + N' 83 53 Second " "

Zero of R. set at 263°54' not determined to-night — N' 173.54 set

July 29th

Y.W.S. obs

Y.W.S. rec.

Zero observed 83°54'

not finished

9.0	2.46		Thur 6th	9.3	2.56		9.10		
10.3	7.5		9.2	11.0	7.18		11	7 29	
9.2	6.36		9.4	10.0	6 47		9.10	6 57	
9.3	8 47		9.5	9.0	35.6		9.10	9 21	
8.2	9.26		9.1	9.0	9 36		9	9 49	
	B			B				B	
11.0	10.26						11	11 1	
11.0	4 36						11.12	5 0	
10.3	6 5			10.5	6 16		11	6 28	
10.0	2 20						11.12	2 38	
11.0	8 4						1	8 30	
	D								

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31	10.1	14.4						
31	23.0	27.4		16	31	23.3	27.5	
31	31.7	35.9			31	32.0	35.9	
31	47.7	52.0			31	47.9	52.0	
32	4.1	8.2 +0.61			32	4.5	8.8	
32	6.9	11.0 +0.81			32	~~7.~~	11.5	
	B					D.B		
32	40.4	44.5			32	40.7	45.0	
32	47.7				32	48.3	52.4	
32	51.7	56.0			32	—	56.5	
33	41.7	45.8			33	41.9	46.2	
33	55.0	59.2			33	55.2	59.5	34 72 ?
	D.B					B B		
34	25.4	29.5 +0.36			34	25.7	30.0	
34	51.6	55.6 +1.02			34	52.2	56.4	
35	15.7	19.9			35	16.3	20.4	
35	28.2	32.4			35	28.4	32.9	
36	10.7	—			36	11.1	R	
36	15.8	20.0			36	16.2	20.5	
	B.B					D.B		
37	16.8	21.0			37	17.3	21.5	
37	37.0	41.1			37	37.1	4	
37	45.7	49.9			37	46.2	50.4	
38	16.3	20.6			38	16.6	21.0	
39	6.2	10.5			39	6.7	10.9	
39	22.4	26.8			39	22.8	26.9	
	D					DB		
39	54.6	58.9			39	55.1	59.3	
39	56.9	61.1			39	57.3	61.7	
40	—	5.3			40	~~+7~~	~~6~~ 5.7	
40	47.3	51.5						
41	07.0	11.3 +0.30			41	7.5	11.9	
41	23.5	27.7						
	B.B					BD		
42	2.9	7.0			42	3.3	7.5	
42	25.5	29.8			42	26.0	30.4	
42	42.8	47.1			42	43.2	47.6	
43	3.9	8.0			43			Record bad here
43	42.5	46.7 +0.95			43	43.0	47.2	
16 44	6.9	11.0		16	44	7.6	11.5	

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11.2	424										
10 3	227				10.5-	239				11	250
10 2	614				10.3	425-	1l				627
10.5	545-				10 8	5.53-					68
9.0	747			9.2	9 0	757				9	88
9.2	3 4	ns		9.2	9 0	316	ns		King	9	327
	B										D.B
9.5-	419				9.7	430				10.11	441
95-	620	2l		9.5-	9.7	631				9.10	642
9.3	336				10 2	3.48	1l		nol	9.10	357
10.0	945-				11.0	955-					1011
10 0	60				10.0	613					622
	DD					DD					13.13
7.0	1026			7.3	7.0	1038				7	1052
7.0	623			6.5-	7.0	634				7	646
8.2	105-			8,6	8.2	10.16				8.9	1028
9.8	116									11	139
10.7	329	2l			10.5-	350	sure		Jare 2L	11	40
9.7	825-				10.0	835-				10	848
	BD					B					DD.
10.0	816				10.7	8.26				11	838
11.0	616								sure 2L	11.12	631
10.2	628				10.2	6.49	sure			10.11	71
10.2	723				10 5-	733				11	744
10.0	345-				10.8	355-				11	405
10.2	1018				10 3	1028				11	1039
	D					DBD					D.B
95-	637			9.53	10.0	646				10.11	70
9 5-	927	ns			10.0	10.38	sure			10.11	1050
10.0	724	1l							ns	10.11	746
10.2	101										
88	715-			8.7	9.0	726				9	738
11.0	914										
	BD										B.D
10 8	142									11.12	26
9 0	434			9.0	9.2	434	sure			9	446
10.0	926				10.0	937	1l ns				950
10.5-	535-										5
9.0	546			9.0	9.2	556				9	69
10.8	640									12	73

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		D.					
44	30.9	35.1	+0.82	16 44	31.5	35.9	
44	33.5	37.7	+0.64	44	34.0	38.2	
45	[12.6]	16.7		45	13.0		
45	30.7	34.8		45	31.1	35.3	
46	14.1	18.3		46	14.6	18.7	
	D.13				13.13		
46	52.8	57.1		46	53.5	57.6	
47	14.9	19.0	+0.05	47	15.4	19.6	
47	56.6	60.8		47	56.8	61.0	
48	10.0	14.4		48	10.4	14.6	
48	41.6	45.8		48	41.9	46.2	
48	49.5	53.6		48	49.9	54.0	
49	16.6	21.0		49	16.8	21.3	
50	2.8	7.0		50	3.2	7.4	
50	4.7	8.8	+0.46	50	5.0	9.2	
50	21.4	25.5		50	21.5	25.9	
	B						
51	16.3			51	16.4	20.9	
51	19.8	23.8		51	20.0	24.2	
51	57.0	~~4~~		51	57.2	61.3	
52	0.2	4.3		52	0.5	4.6	
52	32.2	36.6		52	32.4	36.6	
53	2.4			53	—	7.0	
53	5.5	9.5					
53	34.6	38.7					
53	44.5	48.7		53		49.1	
54	3.0	6.9	54 9.2 ? equal	54		lost by record	
54	10.0	14.2	+0.79				
54	26.7	30.7	+0.52				
	B.						
54	41.5	45.7					
54	54.3	60.6					
55	5.3	9.4					
55	42.7	46.8					
55	51.7	56.0					
56	20.5	24.6					
	D.						

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D

9.5⁻	2 55⁻		9.2	9 5⁻	3 5⁻			9.10	3 18
6.8	6.48	ns	6.0	7.0	6 54		ns	7	7 11
10.0	10 27	1 wrong		10.0	10 39			10	10 51
10 5⁻	4 20			11.0	4 32			11	4 40
10.0	6.41			10.3	6 5-2			Yo.11	7 2
2 B				2 D D					B 13
9.3	4 46		9.4	9 2	4 56			9.10	5 9
8.5	1 3⁻		8.7	9 0	1 17			9	1 30
10.5⁻	9 10							11.12	9 31
9.5⁻	0 41			10.0	0 51			10	0 59
11 2	3 16							12	3 37
9.3	10.57		9.5⁻	10.0	11 10			9.10	11 21
9.8	6 45⁻			10.7	6 56			11	7 9
1c									
9 8	9 22		9.5⁻	10.0	9 32			10.11	9 53
9.0	8 32		9.1	9 5 —	8.42		ns	9.10	8 52
10.0	8 32		9.5⁻	10 5⁻	8 45⁻		faint dir?	10.11	8 57
B				B				B.12.13	
10 3	2 24	2 l		—	—	2 2 l		11.12	2 44
10.5⁻	5-25⁻	ns		—	—	2 d	sure ns	12.12	5 56
9 8	10 18			10 5⁻	10 31			9.10	10 42
10.0	9 55⁻	ns			10 5⁻		ns	9.10	10 19
10.3	10.26							10.11	10 52
10 0	9 7	2 l		10.0	9 20		1 l		9 30
10.5⁻	0 5-5⁻	ns					AR lost		1 17
10 2	10 30								
10.0	3 56			10 5⁻	4 6	1 l			4 16
10 0	6 23			10.5⁻	6 35⁻		2 l	10	6 45
9 2	9 53			10 5⁻	10 5⁻			9.10	10 18
9 3	7.47			9 5⁻	7 5-8			9.10	8 11
B									
10 5⁻	2.49							11	3 10
9.5⁻	3 57			10.0	4 9			10	4 21
10.2	8.28							10	8 57
10 0	7 32			Too Hazy to				11.12	7 59
9 8	1 26			proceed with			AR lost		1 50
10.3	8 50			success.			ns		9 14
D									

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16	56	44.7	49.0					
	56	57.0	61.2					
	57	29.6	33.9			16	57	34.2
	57	—	44.0				57	— 44.6
	58	10.7	14.9				58	10.6 15.2
	59	2.6	6.9				59	3.0 7.6
		D.D						D
	59	55.3	59.3			16	59	55.6 59.8
17	0	6.6	10.8			17	0	7.2 11.5
	0	15.6	19.8				0	19.8
	0	38.4	42.5				0	39.0 43.2
	0	59.9	64.0				1	0.3 4.6
	1	16.4	20.5				1	16.5 20.8
	1	23.9	28.2				1	24.4 28.4
		DD.						
	1	36.4	40.8				1	36.8 41.1
	2	0.4	4.6				2	0.8 4.7
	2	41.8	45.8				2	
	2	50.0	54.2				2	50.3 54.5
	3	3.5	7.6					
	3	11.7	15.8				3	11.9 16.3
		DD						DD
	4	46.6	50.7				4	47.0 51.2
	5	14.1	18.4				5	14.6 19.0
	5	50.0	54.5				5	50.4 54.6
	6	18.6	22.5				6	19.0 23.0
	6	26.2	30.5				6	26.8 30.9
		DD						D
	8	9.7	13.9				7	45.3 49.6
	8	45.2	49.4				8	10.0 14.3
	9	11.4	15.5				8	45.7 50.0
	9	28.3	32.5				9	11.9 16.0
17	9	40.1	44.5	+0.57		17	9	40.6 45.0
		DD.						DD

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10.5	7.45			8 7	12
10.0	0 40			1 0	
11.0	5 16			5 37	
10 5	8 44	Examine wire		9 5	12 prob.
10.2	6 20			6 44	
10.7	7 19			2 —	two faint
	DD			B.	
10.6	4 10		10.11	4 34	
9.2	9 15		9	9 40	
10 5	10 32			10	12
9 5	10 31		11	10 56	
9.0	10 15		9.10	10 36	
10.0	4 11			4 32	
10 0	6 29			6 57	
	B				
10.2	4 25			4 48	
10.5	7 53			8 19	
9.7	10 56				
9 5	1 56		10.11	2 18	
10.0	5 52				
9 8	3 38		10	4 0	
	BB			B	
10.0	10 44	Recorded by observer		11 8	
10.5	10 23	Get more stars on reference		10 45	
9.8	3 16	Fiction	10	3 39	Double
10.0	8 4		10.11	8 28	
9.2	4 38		9	5 1	no
	DD			D	
10.0	5 53			6 18	right scar
10.0	9 43		10.11	10 5	
9.3	9 14		9.10	9 38	
10 5	5 54				
5.	1 42	Catalogue		24	
	B			BB	

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17	11	17.1	21.2	17	11	17.6	21.8
	12	49.0	53.2		12	49.4	53.7
	13	17.4	21.5		13	17.8	22.0
	13	30.8	35.0		13	31.3	35.3
	14	11.2	14.4		14	10.7	—
	14	19.2	23.3		14	19.7	23.9
	14	28.7	33.0		14	29.2	33.3
		B.B					
	14	48.9	53.1		14	49.2	53.2
	15	10.7	14.8		15	10.1	15.4
	15	34.5	38.6		15	34.9	39.1
	15	56.5	60.6		15	56.9	61.1
	16	4.7	8.9		16	5.1	9.3
	16	42.6	46.8		16	42.8	—
	16	48.4	52.5		16	46.9	53.1
	16	56.6	60.7		16	57.1	61.4
		D				B.D	
	17	37.5	41.7		17	37.6	41.8
	18	9.2	13.4		18	9.6	13.8
	18	19.0	23.2		18	19.2	23.7
	18	56.6	60.9		18	57.2	61.4
	19	34.3	38.5		19	34.7	38.9
	19	47.0	51.2		19	47.1	51.6
	20	8.8	13.0		20	9.3	13.5
		B					
	20	36.2	40.4		20	36.6	40.8
	21	15.0	19.3		21	15.5	19.8
	21	50.3	54.6		21	50.8	55.2
	22	4.7	9.0		22		
	22	19.3	23.3				
	22	33.4	38.4		22	34.4	38.6
	22	41.9	[illegible]		22	—	46.7
	23	31.6	35.8		23	31.9	36.3
		B.D				B	
	24	7.2	11.5		24	7.6	12.0
	24	21.0	25.3		24	21.7	25.8
	24	—	30.6		24	26.6	31.0
	24	43.7	47.9		2		
17	25	8.4	12.8	17	25	9.1	13.3
		B				D	

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9.8	2 53	3 15 53 1	9.10	3.14	
9.8	8 33	8 55 54 93	9 10	8 57	
11.0	6 11		11.12	6 34	
11 0	4 32		11.12	4 57	
10 2	3.16		11	3 39	2 l
9 2	10 14			10 36	sme
10.0	10 38			11 2	doubtful if right star 1° dif
	BD				
10.5-	6 37			7 22	
10.8	8 2			8 24	
9 3	10 6		9.10	10 31	
9.3	10.2		9.10	10 25-	
9 2	9 33			9 55-	
10 2	5 34		11 12	5 57	2 l
10 0	10 1	ns	11	9 29	
10 0	4 16		10 1.	4 30±	
	D			BD	
10.3	35 2		11	4 15-	
9 5-	11 5-		10	11 29	
10.5-	4 20		11	4 41	
9.0	4 32		9 10	4 57	
10.0	8 53		10.	9 15-	
9 3	3 25-		9.10	3 46	
9 2	6.14		9 10	6 35-	
	B				
9.8	2 44		10.	3 5-	
10.0	3 12			3 36	
9.2	1.51		10	2 14	
10 5-	10 0	ns			
10.0	7 18				
9 2	14 22	2 l	9.10	10 25	2 AR not
9 3-	2 28	1 l	10	2 50	
9.8	8 31	Examine nme		8 54	2
10 0	15 9		11.12	2 21	
	BD			D	
9.3	25 5-		10	3 18	
9.8	1 34		11	1 58	
10 0	9 42	nl		10 3	ns to
9 2	11 26				
9 0	3 44		9	4 8	
	B			D	

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17	25	37.6	41.8	17	25	38.0	42.3
	25	53.7	57.9		25	53.9	58.0
	26	5.8	10.1		~~26~~		
	26	16.2	20.6				
	27	0.7	4.7		27	—	5.5
	27	47.4	51.8		27	46.0	52.3
		D					
	28	20.1	24.5		28	20.3	24.7
	29	1.5	—		29	2.0	—
	29	—	5.3		29	—	6.2
	29	29.4	33.4		29	29.7	34.0
	29	36.0	40.3		29	36.3	40.6
	29	48.0	52.1		29	48.5	—
		D				DD	
	30	50.1	54.6		30	50.6	54.8
	~~31~~	9.5	13.8		~~31~~	~~D~~	
	31	25.5	29.7		31	25.8	30.0
	32	2.7	6.9		32	3.2	~~7.2~~
	32	5.4	9.4		32	6.1	10.2
	32	29.2	33.3		32	29.6	33.7
		D					
	32	56.0	60.4		32	56.4	—
	33	7.7	11.8		33	8.3	12.4
	33	23.7	27.9		33	2 —	28.4
	33	40.5	44.7		~~33~~	~~A~~	~~44~~
					33	41.9	46.0
	34	9.1	13.3		34	9.7	13.8
	34	12.3	16.3		34	12.6	16.9
	34	57.7	61.7		34	58.0	62.3
		D 10.13				DD	
	35	39.7	43.7		35	40.0	44.3
	35	52.0	56.2		35	52.5	56.7
	36	11.2	15.4		36	11.7	15.9
	36	44.0	48.1		36	44.3	48.7
	37	10.1	14.3		37	10.4	14.5
	37	27.4	31.7		37	27.5	31.9
	37	56.7	60.9		37	57.1	61.4
	38	42.1	46.3 + 0.17		38	42.9	47.1
	39	2.6	—		39	3.1	7.6
	39	10.2	14.3				
17	39	17.7	21.8 + 052	17	39	18.2	22.6

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9.2	8.56			9 19	
9.5-	6 6			6 29	
9.3	9 16				Lamp changed here
9.5-	9 35-				
10.3	9 51			10 13	1L ns
10.2	6 7		11.12	6 31	
	D				
10.0	6 15-		11	6 38	
9.5-	9 8	2L	10	9 32	2L
10.0-	2 38	1L		3 0	1L
10.0	5 35-			5 56	
10.2	8 0			8 22	ns
10.3	4 49			5 11	2L
	B			D.D	
9.7	10 31			10 52	
10.3	7 48				
10.2	8 19		11	8 41	
10.0	8 54			9 18	
10.0	4 30	ns		4 54	ns
10.0	3 40		10.11	4 2	
	B				
10.0	1 25-		11	1 47	2L
10.2	9 39		11	10 12	
10.0	5 35-			5 58	1L
10.5-	7 12			7 9	
9.8	7 8			7 32	
10.0	6 5-			6 30	ns
9.8	1 15-				Dulat
	BDB			D.B	
9.5-	9 56			10 0	
9.8	6 5-			6 27	
9.2	5 0		9	5 23	
10.0	7 13		11.12	7 38	
10.2	9 12		10.11	9 36	
10.5	1 51			1 56	save
9.2	2 16		9.10	2 36	
9.0	3 2		9.10	3 27	
9.8	2 24	2L	10.11	2 44	
10.0	8 19				
9.2	4 13		9.10	4 36	

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17	39	30.8	35.0		17	39	31.3	35.7
	39	~~42.7~~	46.1			39	42.6	46.9
	40	~~1.0~~	5.3			40	1.7	~~5.0~~
		B.					D.13.13	
	40	39.7	43.8			40	40.0	44.3
	41	5.0	9.1			41	5.6	—
	41	14.6	18.7			41	15.2	19.5
	41	21.6	25.9			41	22.1	26.3
	41	31.2	35.4			41	—	35.8 Obs. on record
		D.						
	42	19.5	23.8			~~42~~		
	42	51.6	56.2			42	52.2	56.5
	43	28.3	32.4					
	43	50.4	54.7					
	44	~~47.~~	43.4			44	39.4	43.8
	44	54.2	59.0			44	55.3	—
	45	32.5	36.8			45	33.5	—
	45	44.6	48.6	+0.44		45	45.0	49.4
	46	19.4	~~23.1~~			46	19.8	24.1
	46	23.1	27.1			46	—	27.8
		B						
	46	52.2	56.4			46	52.8	57.0
17	46	—	60.7		17	46	—	61.2

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9.2	524			547	
10.0	346			47	
9.3	945		9.10	1086	
	B			13.13.13	
9.5	853		41	917	
9.5	355		10	420	2l
9.0	856			919	
9.2	412			434	ns
10.0	631			651	
	D			D.	
9.7	925		11	950	
11.0	122		11.12	144	
10.8	1037				
10.3	730			750	
10.3	942	1l		108	
10.0	64			628	2l
9.8	722			747	2l
6.0	021			045	
9.8	322	2l		344	
10.0	121			144	no 1l
	B				
9.8	559		11	625	
10.5	450	1l		514	1l ns

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6.0	17	45	45.04	+1°20'29".8	3'
9.0		49	15.80	1 27 19.7	
8.0	18	17	13.47	1 25 58.8	
9.1		19	12.52	1 30 48.6	
8.5		20	38.37	1 26 24.2	
8.3		24	18.67	1 21 32.1	
9.2		30	5.52	1 26 28.0	
9.2	19	6	24.77	1 21 6.0	
8.6		19	9.95	1 29 24.6	
8.2		19	31.71	1 31 8.9	
9.0		22	53.96	1 31 4.5	

17	44	39.3	43.3	4.0	17	44	39.2	43.3	10
	44	55.1	59.3	0.35		44	54.7	59.0	10
	45	32.7	36.9	0.35		45	32.5	36.9	9
	45	44.7	49.0	+0.19		45	44.6	48.8	7
	46	19.5	23.7	0.20		46	19.1	23.4	9
	46		27.3	0.30		46	22.8	27.1	10
	46	52.4	56.6	0.20		46	52.1	56.3	4
	46		60.9	0.20		46		60.6	10
		D.					BD		
	47	39.9	44.3			46	39.8	44.0	10
17	48	28.5	32.9		17	48	28.2	32.5	10

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26 Sept 1864

1864 Sept 26

N = 353° 54' most probably

Tel East of Pier (Dec circle precedes)

N = 353° 52' not observed

10.7	9 48				11	10 10	
10.5-	6 11				10.7	6 31	
9.8	7 28	]	Catalogue	6.0	10,0	7 49	
7.0	0 27	]				0 50	
9.7	3 29	]	B. Cat	9.4	10,0	3 50	nS
10.0	1 28	nl]		9.5-	10 2	1 51	
9.5-	6 7	]		9.5	10,0	6 29	
10 0 ~~10 0~~		nl]			10 3	5-20	
	D					BD	
10.5-	2.46				10.3	3 7	
10 5-	10 5-				9.8	10 26	

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17	48	57.9	62.0				
~~17~~	49	15.8	20.0				
	4						
	50	20.5	24.7				
	50	36.1	40.5				
	50	56.9	61.0				
	51						
	52	57.1	61.4				
	53	—	21.4				
	53	28.0	32.2				
	53	46.2	50.5				
	54	32.0	36.1				
	54	—	51.3				
	55	5.1	9.5				
	55	51.9	56.0				
	56	14.9	19.0				
	56	59.8	63.9				
	58	23.6	26.0				
	58	38.7	42.9				
	59	17.4	21.7				
	59	31.0	35.2				
17	59	55.8	59.9				
18	0	37.4	41.6				
	0	39.8	44.1				
	1	13.8	18.1				
	1	56.5	62.8				
	2	18.8	23.0				
	2	38.7	42.9				
	2	59.5	63.5				
	3	22.6	26.6				
18	3	59.8	63.5				

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9.2	7 21	Catalyzed B 9.0		10.0	7 47	
10.5-	6.57			9.3	7 42	
10.5-	9 36					prob some error in δ
9.5	10 40			10.3	9 56	
	B			10.2	11 1	
9 3	10 0			10.5-	10 21	
10.0	9 11					
10 0	6 12				9.27	
10.7	4 42		9.5	11.0	6 33	AR last
	D D					last
9.3	0 58		9.3	9.5-	1 27	
10.5-	1 40			11.0	2 2	δ scattered
9.8	3-0			10.0	5-25-	
9 0	1 57	Examine magnitude		11.0	9 58	
9.5-	10 40					
	B					
9 8	7.48			10.5-	8 10	
10.0	5.49			11.0	6 12	ill
10 0	7 23			10.5-	7 46	
10 5-	5-.2			10 5-	3 56	
11.0	3 32			~~11.0~~	~~5 26~~	
10.5-	9 19			10.0	9 40	
11 0	10 1	ill				not seen
	D B				D	
10 0	4 18			10.5-	4 42	
9 3	4 45-	B.6	9.0	9.2	5-6	
9.5-	6 52		9.4	9.5-	7 15-	
9 3	4 46	B.6	9.4	10.0	5.8	
10.0	10 40			10.5-	11 2	
9 8	2 53-	~~B.6~~	~~9.4~~	10.7	3 19	
9 8	5-30	ns B.6	9.4	10.3	5-55-	
10.0	6 38			11.0	7 2	
	B B				D D D	
10.0	5 18		9.5	10.2	5.43	
9 8	5-40			10.3	6 5	
11 0	7 22			11.0	7 45-	
10 5-	8 15-			10.3	8 39	
10.8	3 55-			11.0	4 19	
10.3	9 9			10 3	9 30	
	D				B	

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	5	7.1	11.3	18	5	6.9	—
	5	—	16.5		5	12.0	16.2
	5	42.2	46.4		5	41.9	46.1
	5	56.5	60.6		5	56.3	60.5
	6	25.3	29.5		6	25.0	29.3
	8	30.3	34.5		8	30.2	34.5
	9	20.1	24.5		9	20.2	24.2
	9	39.2	43.3		9	39.0	43.2
		B				B	
	10	41.0	45.2		10		45.2
	10	47.6	51.8		10	47.6	51.8
	12	16.0	20.1		12	15.5	19.8
	14	10.4	14.6		14	10.2	14.6
	15	0.0	4.1		14	59.7	64.0
	17	13.4	17.7		17	13.4	17.5
	17	31.4	35.6		17	31.4	35.6
	18	44.9	49.1		18	44.9	49.0
	19	12.3	16.5		19	12.2	16.4
	19	52.1	56.1		19	51.9	56.2
	20	38.0	42.1		20	38.0	42.2
	20	45.4	49.9		20	45.4	49.8
	21	6.9	11.2		21	6.8	11.2
	21	18.1	27.4		21	18.1	22.3
		B				B B B	
	24	18.0	22.4		24	18.2	22.4
	26	3.4	7.4		25	55.9	50.1
	26	20.9	25.1		26	3.2	7.5
	27	19.4	23.9		26	20.8	25.0
	27	29.5	33.7		27	19.5	23.7
		D			27	29.4	33.5
						D	
	28	6.1	10.3		28	6.1	10.4
	30	5.2	9.6		30	16.1 5.2	20.5 9.4
	31	46.1	50.2		31	45.8	50.1
	31	59.8	—		31	59.7	64.0
	32	5.8	10.0		32	5.9	10.2
	32	12.0	16.2		32	11.9	16.1
18	32	33.4	37.6	18	32	33.2	37.4
		D				D B	

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10.2	6 47	]		10,7	7 12
10.7	9 38	1l]		11.0	9 58
10 0	9.56			10,2	10 18
9.5-	8.59			10.3	9 12
10.5-	8 14			10,7	8 36
10.2	2 10			10.5-	10 26 Extra Dats
10.0	5 5			10.0	2 33
9 5-	4 40		9.5	10 3-	5 47
	B			10 2	5 29
				9.5-	5- 4
					B
10.0	4 20	]			4 45- 1l
10.0	4 6	]			4.30 Dats
9 3	3 39		8.8	9,2	4 1
10 0	1 0		9.4	10.2	1 26
10 5-	6 36			10,0	6 58
9.0	5 57	Double Cataloguer 15p 8 pre 12m	8.0	9.0	6 22
10 5-	4 25-		9.4	10.5-	4 47
9.3	10 56		9.0	9,5-	11 16
9 3	10 54	Cataloguer	9.1	9,3	11 14
10.5-	4 9	cloudy			4 32
9 0.	6 25-	] Cataloguer	8.5-	9.	6 47
9 5-	2 9	]	9.3	10,0	2 32
10.0	4 23	]	9.5	10,5-	4 45-
9 8	3 5-	]	9.4	10,0	3 28
	B				B B
9.0	1 35-	Cataloguer	8.3	9.2	1 58
10.0	10 5-		9.3	10.0 9 3	10 27
10.0	9 24			9.7	9 45-
10.0	1 55-	]	9.5	10,7	2 19
9 5-	9 19	]	9.3	9,3	9 42
	D			D	
9 7	2 14		9.4	9,5-	2 38
9.0	6 29	Cataloguer	9 2	10.5-	10 11
10 0	9 39			8.7	6 55-
9.8	3 55-	Clat	9.5	10.5-	10 1
90	1 59	]	8.6	9.0	4 20
90	4 18	] Clat	8.8	9 2	2 23
10 5-	9 1			11.0	4 42
	D				9 26
					D B

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				18	33	57.9	62.2
	34	26.5	30.6		34	26.4	30.5
	35	23.6	28.0		35	23.2	28.0
	36	29.2	33.7		36	29.2	33.5
	36	48.4	52.5		36	48.3	52.6
	37	5.2	9.3		37	5.2	9.4
	37	17.7	21.9		37	17.6	21.9
		13				D. 2. D	
	38	9.6	13.7		38	9.4	13.8
	38	11.5	15.5		38	11.4	15.6
	38	37.5	41.8		38	37.4	41.8
	39	45.9	—	Second doubtful 45.9?	39	45.7	—
	39	—	53.8		39	45.5	53.8
	40	27.1	31.2		40	27.2	31.1
		D. D. D					
	41	17.9	22.3		41	18.1	22.3
				All lost by failure of ink	41	29.8	34.1
	42	1.7	6.0		42	1.9	6.1
	42	18.5	22.6				
	43	1.4	5.7		43	1.7	5.7
	43	—	49.8				
	44	8.3	12.5		44	8.4	12.7
	45	7.5	11.8		45	7.4	11.7
	46	10.8	15.2		46	10.9	15.2
	46	34.5	38.7		46	34.5	38.8
		D. B. B				D	
	47	16.1	20.2		47	16.0	20.3
	47	39.1	43.2		47	39.2	43.4
	47	41.0	45.3		47	41.2	45.4
	48	22.4	26.6		48	22.5	26.7
	49	3.0	7.3		49	3.0	7.2
		D.				D. B. D	
	50	13.9	18.2		50	14.0	18.3
	50	43.4	47.6		50	27.3	31.4
	50	—	52.1		50	43.5	47.7
	51	14.6	18.9		50	—	52.2
	51	37.1	41.6		51	14.7	19.0
18	51	38.5	42.8		51	37.0	41.2
		B. D			18 51		
						B	

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10.0	825-	RA Lost
10 0	4 0	
9 3	2 48	
9.5-	5 39	
9.8	8 4	
9 7	9 1	
9 5	7 47	
	3 D	
10.0	8 20	
10.0	10 32	
9.8	0 26	
10 0	2 9	2 l
9.7	5 7	2 ns
9 2	7 34	
	2 D D	
9 2	0 35-	
9 5-	3 13	
9 3	2 39	
11 0	8 3	
9.8	4 25-	
9 2	11 25-	1 l
9.5-	1 33	
9.7	6 10	
9.8	1 20	
9 8	2 56	
	3 B B	
9.3	6 50	
9 5-	10 20	
9.7	4 14	
9.5-	9 35-	Blat
10.5-	5 31	
	D	
9.5-	2 16	Blat
9 5-	8 0	
9 8	7 22	1 l
9.2	5 42	
9 3	8 25-	
10.0	2 10	2 ns
	3 D	

	10 2	8 79
	11.0	4 24
9.5	10.2	3 14
	10,3	6 4
	10,2	8.28
	10 0	9 25-
9.5	10.0	8 10
	D D D	
	10.0	8 45-
	9.8	10 56
	10.0	8 59
	10,2	1 34 2 l
		5 34
9.3	9 2	7 56
	D B	
9.4	9.0	0 59
9.3	10,0	3 38
9.2	9.8	3 4
	10.0	4 58
9.5	10,0	1 58
9.5	9.7	6 35-
	10,7	1 47
9.5	10.0	3 25-
	D	
9.4	9,3	7 15
9.5	9,7	10 45-
	12 5-	4 58
9.5-	10.0	9 59
	11.0	5 58
	D B D	
9.5-	10.0	2 44
9.1		8 26 Comp N
9.5-	9.7	8 25-
9.3	10.3	7 47 1 l
9.5	9.8	6 8
	9,3	8 50
	B	

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18	52	31.8	36.3	18	52	31.9	36.1
	52	42.8	47.2		52	43.0	47.2
	52	56.0	60.1		52	56.0	[60.2]
	53	—	4.7		53	—	5.1
	53	48.0	52.2		53	48.0	52.2
	54	10.2	14.5		54	10.2	14.6
		D. D					
	55	2.9	7.0		55	2.9	7.2
	56	32.7	36.9		56	32.8	37.0
	56	33.4	37.8		56	33.6	37.8
	57	17.7	21.9		57	17.9	22.0
	57	29.3	33.5		57	29.6	33.7
	57	51.0	55.4		57	51.3	55.4
	58	14.8	19.0		58	14.9	19.2
	58	30.5	34.7		58	30.7	35.0
	58	37.5	41.8				
		23					
18	59	23.3	27.7				
19	0	19.3	23.5				
	0	31.8	35.9				
	1	41.8	46.2				
	1	46.0	48.2				
	2	13.9	18.1				
	2	23.1	27.2				
	2	37.0	41.4				
	2	58.0	62.4				
	3	41.2	45.2				
	4	27.0	31.4				
	4	38.9	43.2				
		03					
	5	15.9	20.0				
	6	3.6	7.9				
	6	24.4	28.7				
	6	32.9	37.0				
	6	35.9	40.1				
		07					
	7	54.9	59.2				
	8	30.6	35.0				
	8	56.0	—				
	8	59.6	63.8				
19	9	31.1	35.5				

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10.0	336	]		10.5-	40	
9.7	734	]		10.2	7058	
9.2	1056		9.5-			δ l 2 wd
9.5	5:35-	11!		11.0	6 0	
10.5-	330			11.0	3 56	
10.5-	036			10.	1 0	
	DD				DD	
10.5-	640				7 8	
9.8	457	]		10.3	5 2	
9.8	751	]		9.8	8 18	
10 0	519	]		10.3-	5 44	
9.7	427	]	9.5-	9.7	453-	
9.5-	212				240	ns
8.0	433		8.8	8	5-0	
9.8	69	]		10	635-	
10.0	1015-	]				
9.8	431		9.4	9.7	456	
9.8	759			9.8	825	
10.0	552			11.0	617	1 l lost prob
9.8	1005-	]		10.0	1028	
9.5-	521	]	9.5	10.0	5-45-	
8.8	856	]	9.5	9.2	920	
10.5-	0.29	] δ l.				
10.2	1.5-1					
9.5-	45			11	2 5-8	
10 0	130			10.5-	430	
10.3	418	]		10.5-	157	
10.7	051	]		10.3-	443	
	B			11.0	118	
					B	
10.7	529			11.0	554	
10.7	5-58			10.5-	623	
9.2	1 3-	] Catalogue		9.3	1 33	
9.5-	1 6	] Catalogue		9.7	1 35-	
10 0	1 16	] ns		11.0	141	ns
	D				B	
10.0	058			10.5-	129	
10.0	9 5-	fell of two		10.3	931	
9.3	3 3	] als	9.5	11.2	329	
10	1037	]	9.5		lost	
9.5-	214	]		10.7	340	sure

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	B.	D.
10	9.6	13.4
10	19.8	24.0
10	32.4	36.6
10	37.9	42.0
10	—	57.8
11	10.8	14.9
	D.	D.
11	51.0	55.2
12	8.5	12.6
12	25.0	29.2
13	54.7	59.0
14	51.1	55.2
14	57.6	61.8
15	44.2	48.4
15	45.4	49.4
16	7.0	11.4

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1964phae.proj..237S

B	D					
10.0	9 14	] full of Double			11.0	9 27
9.2	8 22	]		9.3	9.3	8 46
9.5	7 13	]		9.5	10.0	7 37
9.5	8 46	] ns		9.5	10	9.11
10.0	1 5	1l				
9.5	8 41					lost-
					10.0	9 5-
10.0	7 18				10.7	7 41
9.7	3 30				10.0	3 53-
9.5	4 15				10.5	4 40
9.2	8 46			9.4	9.7	9 12
10.5	10 11	]			10.5	10 35-
10.0	7 42	]			10.3	8 6
9.2	3 5	]		8.8	9.5	3 31
9.8	10 42	] ns	R Cat	9.5	9.7	11 7
10.3	35-					7 47

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1864phae.proj..237S

17	39	56.56	+1	34	28.0
	44	31.78	1	33	55.1
	52	39.57	1	34	28.2
	53	30.99	1	37	12.7
	59	22.97	1	34	26.2
18	5	4.91	1	37	57.1
	5	17.71	1	37	42.1
	19	10.83	1	37	26.5
	19	12.52	1	30	48.6
	30	47.13	1	37	11.9
	35	44.20	1	33	34.6
	40	27.04	1	35	51.8
	40	29.50	1	37	29.3
	46	18.20	1	35	37.4
	53	33.83	1	33	15.1
	56	0.54	1	34	42.3
	56	42.46	1	37	34.6
19	0	56.21	1	34	33.9
	1	52.62	1	36	47.4
	18	3.84	1	34	25.1
	19	31.62	+1	31	8.9

Catalogue ×

Catalogue ×

does not exist

+1m.5 108 +1' 1"

17	39	41.4	45.6				
	39	56.1	60.3	+0.36			
	40	32.3	36.6				
	40	40.8	45.9				
	41	6.9	11.0				
	41	17.3	17.4				
	41	20.7	25.0				
	41	52.9	57.0				
	42	12.5	16.8				
	43	31.1	35.4				
	43	32.0	37.2				

17	39	41.0	45.2				
	39	55.9	60.0				
	40	32.1	36.2				
	40	40.4	44.5				
	41	6.6	10.8				
	41	12.8	17.0				
	41	20.6	24.7				
	41	52.3	56.5				
	42	12.2	16.4				
	43	30.8	35.1				
17	43	32.7	36.8				

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1964phae.proj.:237S

C. W.

W = 263°54'

1864 July 25 Ph. 7h 55 ob
W. H. Rice

10	6 5					
9	4 16	Catalogue		8.7		
10.2	7 1			9.5		
9.8	9 2					
8.8	5 18	Catalogue		8.2		
9.2	7 44					
10.5	9 4					
9.5	8 50			9.3		
9.5	3 26					
9.5	9 11		Blat	9.0		
8.8	7 25	n.s.	Blat	8.4		

(W' set 353°39'
not obs'd to. weight

1864 Oct 21st 7h 55 ob
A. M. Rice

10	6 20					
9	4 32					
10	7 16					
10	9 16					
9.5	5 34					
9	7 56					
10.5	3 18					
9.2	9 4					
9.8	3 40					
10	3 26					
9.2	7 40					

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1864phae.proj..237S

44	D. 31.5	35.8 +0.13		17	44	31.3	35.7
45	30.0	34.1			45	29.7	34.0
46	4.6	—			46	4.9	9.0
46	—	9.0					
47	1.0	5.4			47	0.8	5.0
47	32.8	37.0			47	32.6	36.7
47	34.1	38.3 L			47	33.8	38.0
					49	53.3	57.5
49	3.4	7.7			49	3.0	7.3
49	40.2	44.6			49	39.9	44.4
51	33.2	37.4			51	32.9	37.1
51	59.5	63.8			51	59.2	63.3
52	14.2	18.3			52	13.6	17.8
52	39.9	44.0			52	39.6	43.8
52	51.7	55.9			52	57.3	55.5
	B				5	DD	
53	30.0	34.2 +0.69			53	29.6	34.0
53	57.0	61.1			53	56.7	60.8
54	11.1	15.4			54	10.9	15.0
54	44.3	48.5					
54	51.7	55.9			54	51.5	55.9
	DDD					B	
55	29.4	33.6			55	29.0	33.2
55	55.9				55	55.4	
55	59.7	63.8 L			55	59.4	63.5
					56	—	24.2
57	3.0	—			57	~~2.7~~	~~7.0~~
57	—	7.3			57	~~29~~	—
57	58.8	63.0			57	58.3	62.4
58	4.1	8.3			58	3.7	7.9
	B.					D.	
59	0.5	4.6			59	0.1	4.3
59	22.9	27.2			59	22.7	27.0
17 59	46.9	51.0		17	59	46.5	50.8
18 0	43.0	47.4		18	0	42.7	47.0
0	57.7	61.8			0	57.4	61.7
	D.18						
1	26.7	30.9			1	26.4	30.6
2	15.0	19.1			2	14.6	18.8
2	47.4	51.7		18	2	47.1	51.3
3	35.0	39.1			3	34.6	38.8
						D	

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1864phae..proj..237S

9.0	3 37		
10.0	1 44		
11.0	5 2	2 l	
11.0	5 29	1 l	N.R. doubtful
11	9 40		
10.7	7 30		
10.5	5 55		
10.5	9 56	Comp 15" N prec. 11 mag.	
10.3	0 40		
10.3	5 55		
10.3	7 39		
10.0	8 42		
9.5	4 13		
9.7	10.5		
	B		
8.5	6 59		
7.3	5 4	Magnitude ?	
10.0	4 0		
10.7	3 35		
9.7	2 50		
	D D D		
11.2	4 21		
9.7	6 38	2 l	
9.5	5 59		
10.0	1 36	2 l	
10.0	5 8	1 l	
9.5	9 46		
9.8	6 20	n.s. B/at	
	B		
10.7	7 20		
9.0	4 12		
9.3	4 22		
10.2	5 23		
10.5	8 13		
	D. B.		
10.7	7 41		
10.7	9 30		
11.0	4 59		
11.7	9 46		
	D		

9.	3.54		
10.3	1 59		
11.	5 44		
	faint nebs		
11	9 53-		
10.2	7 45-		
10.2	6 11		
11.0	9 50		
10.5	10 8		
11.0	1 53	δ not good	
10.2	6 13		
10.3	7 35-		
10.0	8 57		
10.0	4 29		
9.8	10 19		
	D D		
8	7 15-		
10.3	5 20		
9.7	4 16		
11.5-	3 47	AR l	
9.8	3 54		
	B		
11.0	4 36		
9.30	6.52	2 l	
9.0	6 15-	ns	
10.5-	3 28	l	
9.5-	1 51	l	
9.5-	5 53	2 l	
	10 1		
9.3	6 36	ns	
	D		
10.7	7 35-		
8.5-	4 26		
9.2	4 36		
10.2	5 48		
10.3	8 25-		
	B		
10.0	7 55-	ns	
10.5-	9 43		
10.3	5 13		
10.0			
	D		

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	3	56.0	60.2	18	3	55.7	59.8
	5	17.3	21.5		5	17.1	21.2
	5	29.8	33.9		5	29.5	33.7
	6	29.0	33.1		6	28.7	32.8
	7	9.9	14.1		7	9.6	13.9
	7	35.1	39.3 L		7	34.7	38.7
	9	34.9	39.1		9	7.7	12.1
	9	39.9	44.2		9	34.7	39.0
	10	27.2	31.4		9	39.7	44.0
	10	46.9	51.0		10	26.9	31.3
		0.40			10	46.5	50.6
	11	11.3	15.3			B	
	11	19.4	23.8		11	10.8	15.0
	12	30.2	34.6		11	19.0	23.4
	12	33.5	37.5		12	29.9	34.2
	13	2.2	6.5 LL		12	—	37.2
		B			13	1.6	5.7
			L		13	10.8	15.0
	15	24.7	28.8		13	46.5	50.9
		26.9	31.0 L		15	5.13	11.8
	16	31.7	35.7 L		15	24.3	28.4
	17	52.5	56.7 L		15	26.5	30.6
	18	45.2	49.4		16	9.3	13.5
	19	10.2	14.2 +0.03 L		16	31.2	35.5
		0.0			17	03.9	18.1
	20	42.8	46.9		17	52.4	56.6
	21	39.8	43.9		18	34.4	38.6
	22	34.2	38.6		18	44.9	49.1
	23	5.0	9.1		19	9.9	14.2
	23	10.3	14.6		19	12.3	16.5
		B				B 13 D	
	24	30.2	34.4		20	42.5	46.8
	24	35.8	40.1		21	39.5	43.6
	26	13.1	17.2		22	34.0	38.3
	28	15.4	19.5		23	4.5	8.9
	28	~~4.1~~	26.4		23	10.0	14.2
	28	50.9	55.0			B	
		B.B.D			24	30.0	34.2
	30	18.6	22.8		24	35.6	39.8
18	30	47.4	51.6		26	12.8	16.9
					28	15.1	19.3
					28	22.0	26.2
					28	50.6	54.9
						D.	
					30	18.3.	22.5
				18	30	47.2	51.4

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10.2	6 14			10.0	6 57	
9.2	7 29		8.2	8.5	7 43	
10.5	5 20			10.2	5 35	
10.3	4 56			10.0	5 10	
11.0	9 42			11.0	9 59	
10.8	8 23			10.0	8 38	
10.2	1 14					
10.0	4 35		9.4			
10.7	1 14			10	1 28	
11.5	6 23		9.5	10.2	6 37	
	D.				B	
11.5	4 22			10	4 37	ns
11.0	2 29			10.2	2 35	
10.3	8 39			9.7	3 54	
11.2	9 35	ns.		9.9	9 48	
10.7	10 49			10.5	11 0	
	B			10.3	11.2	10.3 15
				10.0	B 4	
10.7	5 50			10.3	6 4	
10.2	8 32			9.7	8 45	10.5 3.4 ~~9 55~~
10.0	9 40			9.8	9 53	10.5 7 45
10.2	3 31			10.2	3 45	11.0 5 30
9.5	0 38				0 51	
9.0	7 10			8.8	7 25	9.2 0 51
	D D	Catalogue stars omitted			B B D	
11.0	5 29			10.0	5 44	
9.3	10 10			9.3	10 23	
9.5	2 44			9.8	2 57	
9.0	8 27			9.2	8 42	
9.5	5 28	ns.		9.5	5 44	ns
	B				B	
9.3	5 13			9.7	5 27	
9.3	1 56			9.5	1 12	
9.3	4 46			10.0	5 0	
10.5	7 19			11	7 34	
11.0	5 36	1 c		11.2	5 49	10.5 3 32
10.3	8 52					
	B B D				D	~~10.0 8 21~~
9.7	8 6			10.0	8 21	
8.5	6 57			7.5	7 13	

10.3	10 45	4 46
11 0	1 27	
10 0	4 46	

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	31	21.5	25.7	18	31	21.3	25.5
	32	53.2	57.1		32	52.9	57.0
	33	3.7	8.0		33	3.5	7.7
	33	31.0	35.2		33	30.8	35.2
	33	57.0	61.1		33	56.7	60.8
	33	58.0	62.4		33	56.1	61.9
	34	16.9	20.9		34	16.5	20.7
	34	28.4	32.7		34	28.2	32.5
	34	55 3	59.5		34	55.0	59.2
	35	44.0	48.2		35	43.8	48.1
	36	14.2	18.5		36	14.1	18.1
	37	49.9	54.1		37	49.8	54.1
	38	15.1	19.3		38	14.8	19.0
	38	37.6	41.8		38	37.3	41.5
	38	45.3	49.3		38	45.1	49.2
	38	47.9	52.0		38	47.8	51.9
		13.3				B	
	39	38.9	—		39	38.6	
	39	42.8	46.9		39	42.4	46.6
	40	21.5	25.7		40	21.3	25.5
	40	27.9	32.0 -0.91		40	27.5	31.8
	40	49.7	53.8 -0.25		40	49.4	53.6
	41	42.4	46.4		41	42.0	46.3
	42	2.1	6.4		42	1.9	6.1
	42	22.1	—		42	21.8	
	42	26.2	30.3		42	25.8	30.0
	43	29.1	33.1		43	28.8	33.2
	43	45.8	50.1		43	45.9	50.0
	43	52.5	56.8		43	52.5	56.6
		D13					
	44	37.9	42.0		44	37.5	41.6
	44	47.2	51.2		44	46.9	51.1
	45	37.7	42.0		45	37.5	41.9
	46	18.1	22.4 -0.05		46	17.9	22.1
	46	31.1	35.3		46	30.9	35.1
	46	52.9	57.2		46	52.7	57.0
	47	37.3	41.4		47	37.0	41.1
18	47	39.4	43.7		47	39.4	43.5

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1864phae.proj...237S

10.0	3 1		10.5-	3 17	
11.0	9 8		10.7	9 21	
10.5	5 38		10.0	5-52	
10.0	4 50		10.0	5- 5-	
~~10.0~~	8 55		10 5-	9 12	
10.5	4 54		10.7	5- 9	
~~9.3~~	5 13		10.0	9 26	
9.7	3 55		10, 3	4 8	
9.5	2 50		9.8	4 5-	
9.3	3 17		9.0	3 33	10 9.28 1d NR not found
11.0	7 45		10.3	8-0	
10.7	5 1		11.2	5-18	
10.0	5 32		11.0	5-47	
9.5	1 52		9.3	2 5-	
9.2	3 37		8.8	3 5-2	
9.3	8 12	n.s.	9.0	3 26	
	BB			B	
9.7	9 51	2l	9,2	10 6	0 2l
9.8	7 16		9.5-	7 30	
10	2 24		9,3	2 38	
9.0	5 26		9.0	~~5~~ 43	
8.0	7 8		~~8~~.7	7 25-	
10.2	1 59		10.0	2 14	
9.7	4 15		9.7	4 30	very short signal
10.3	10 10	2 l	10.5-	10 23	2l
10.0	6 15-		9.8	6 28	
11.0	7 27		11.0	7 41	
9.2	1 8		9.0	1 23	
9.8	5 26	n.s.	10.8	5 40	ns
	J.B.				
10.0	6 30		10.0	8 45-	
9.5	8 39		10,2	8 5-3	
10.0	2 30		10.0	2 42	
8.5-	5-21		~~8.0~~	5 36	
9.7	3 20		9.3	3 36	
9.3	3 46		9.3	4 2	
9.5	7 41		9.3	7 56	
9.2	1 45		10.0	~~8 20~~	ns
			~~10~~	20	

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1864phae.proj..237S

18	48	32.9	37.0		18	48	32.3	36.7
	49	17.8	22.2			49	~~17.~~	21.6
	50	10.1	14.3			50	9.6	13.9
	50	47.3	51.3			50	46.8	50.9
	51	23.9	28.2			51	23.6	27.8
		D 13.13						
	52	34.2	38.3			52	33.9	38.1
	52	35.3	39.5			52	34.9	39.1
	52	56.4	60.7			52	56.1	60.5
	53	33.9	38.0	-0.12		53	33.7	37.9
	54	30.5	34.7			54	30.5	34.6
						54	54.0	56.1
	56	0.7	[4.7]	-0.16		56	0.6	4.7
	56	42.5	46.7	-0.14		56	21.7	25.9
						56	42.2	46.5
	57	53.9	58.1			57	14.0	18.1
						57	53.8	58.0
	58	2.9	7.1			58	2.8	7.0
	58	23.5	27.6			58	23.6	27.7
	59	4.8	9.1			59	4.6	8.9
	59	16.7	20.7			59	16.2	20.5
	59	53.2	57.4			59	53.0	57.4
18	59	54.9	59.1		18	59	54.6	59.0
		D					D.	
19	0	40.0	44.2		19	0	39.9	44.2
	0	56.5	60.7			0	53.16	57.8
						0	51.4	60.6
	1	29.5	33.8			1	29.3	33.6
	1	43.2	~~52.8~~			1	42.8	46.9
	1	52.8	57.0			1	52.6	56.8
							D.D.	
	3	9.1	13.3			3	8.9	13.1
	3	18.9	23.1			3	18.8	23.0
	3	47.2	51.5			3	46.9	~~51.~~
						3		51.5
	4	21.4	25.7			4	21.0	25.1
	4	39.9	44.1			4	39.8	44.0
	5	21.2	25.5			5	2.1	6.4
						5	21.1	25.3
	6	12.2	16.4			6	12.1	
	6	-	21.0		19	6	16.5	20.6
		B D B				6	D 27.7	32.1

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1864phae.proj..237S

10.2 6 20
10.3 3 54
9.3 6 25
9.0 10 46
9.5 10 32

9/13/13

9.5 7 54
9.8 9 42 N.S.
10.0 0 41
9.0 3 5
9.0 3 11
10.0 5 22 clR lost-
9.3 4 33 2 doubtful
8.0 7 22
9.3 6 5
10.0 2 36
10.0 3 34
9.8 7 31
11.0 6 12
10.7 8 21
9.5 2 32
D

10.2 4 36
9.2 4 22
10.5 6 10
10.5 8 12 2 c
9.2 6 35
10 3 50
10 2 39
9.3 10 41
9.2 9 43
10.0 2 56
11.0 5 6
10 4 12
9.5 10 35
D.P.B

B

10.8 6 36 Observing SB
10 4 10
10 6 39
11 1
10 35

9.8 8 8
9.8 9 56
9.5 0 56
8.5 3 22
8.7 3 26
11.0 5 38
9.0 4 47
11.2 7 27
7.5 7 36 10.0 10 5-1
9.3 6 19
10.0 2 52
10.2 3 53
B
9.2 7 35 sure
10.2 6 26
9 7 8 36
9 5 2 45
D

10.0 4 52 10.0 5 49
9 5 4 37
10.2 6 25
10.0 8 27
9.2 6 47
D B
10.0 7 6
10 2 5 4
4 3 10 56 2 c
9.5 4 55 1 c
9 3 9 57
10.2 3 10 10.0 26-2
10.0 5 20
10.0 4 27
9.3 10 5-1

9.8 9 37

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1864phae.proj..237S

7	46.4	50.6	L
8	1.9	6.5	
8	35.4	39.6	L
9	16.8	21.2	L
10	2.6	6.7	L
11	49.6	53.9	
11	52.5	58.6	
12	12.1	16.2	
12	37.8	42.0	
13	35.2		
	B		
17	39.5	43.7	
18	3.7	—	
18	~~46.3~~	46.3	
19	31.7	35.9	

19	6	46.6	50.9
	7	46.1	50.3
	8	2.0	6.2
	8	35.1	39.3
	8	59.9	64.1
	9	16.7	21.0
	9	26.10	32.1
	10	2.3	6.7
	10	10.5	14.7
	10	48.0	52.4
	11	49.7	54.1
	11	52.4	56.6
	12	11.7	16.0
	12	37.7	42.0
	13	34.9	39.3
	14	22.4	26.6
	14	36.6	40.8
	15	16.5	20.6
	16	11.1	15.3
	18	3.8	8.0
	18	10.1	14.4
	19	31.5	35.8

Some confusion here

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9.0	9 55		10.8	8 46	
10.2	5 30		8.8	10. 8	
10.2	7 52	following 2 stars	10.2	5 43	
9.3	8 54		10.2	8 5	9.2 0.35
10.2	3 2		8.8	9.6	10.3 45 1
10.2	1 4		9.8	3 16	9.8 0,48 2
10.2	3 43			1 24	10.0
10.0	10 40		9.8	3 59	
10.5	7 29		10.0	10 54	
10.0	4 1	2 l	10.3	7 43	
	b		9.5	4 19	
10	10 16	Dse dark ftd.			9.8 6 14
	4	2 l Dse last.			10.2 4.44
10.5	5 59	1 l			9.0 4 26
	2 51				9.7 4.17
			8.5	3 4	

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8.4	19	18	3.84	+1	34 25.1
8.2		19	31.72		31 8.9
6.3		22	11.62		40 40.7
9.2		22	38.40		38 14.2
8.9		22	49.80		34 29.7
9.0		22	53.96		31 4.5
8.8		25	39.18		37 19.6
Not found		32	15.62		38 7.1
8.5		47	25.06		36 28.7
8.7		47	35.50		36 14.2
8.4		49	5.49		41 12.1
8.8		49	40.54		36 46.2
8.5		50	0.53		33 49.8
8.5		55	46.91		36 5.4
9.0		59	17.67		36 26.4
8.7	20	0	10.05		31 11.1
8.3		9	45.19		40 3.9
8.3		12	49.19		34 19.4
8.7		21	21.53		39 30.8
X5		25	29.99		40 38.4
8.8		26	47.32		35 46.4
8.3		32	28.05		40 11.0
9.5		34	1.08		32 39.2
9.0		34	11.37		30 24.8
8.5	20	54	23.20	+1	38 44.7

Zone 249

19	18	2.8	7.0
	18	9.3	13.5
	18	41.0	45.5
	18	59.5	63.5
	19	30.6	34.9
	19	59.3	63.5
		B	
	20	47.8	52.1
	20	54.8	59.1
	21	8.8	13.2
	21	29.1	33.4
19	21	39.8	44.1

Zone 258

19	18	3.4	7.6
	18	9.6	13.8
	18	41.6	45.9
	18	59.8	64.0
	19	31.1	35.5
	19	59.7	63.9
		D	
	20	48.5	(52.7)
	20	55.1	59.5
	21	9.4	13.5
	21	29.5	34.0
19	21	40.4	44.4

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1864phae.proj.:237S

~~27 Sept 1864~~

Sept 27th 1864

~~186~~

Nebs ab
Nm rec,

Telescope East of Pier

Zero determined 83°41'

W' used 353 47

9	4.25	Catalogue	8.4	9	4 46	
9.5	4 16		9.0	9.7	4 37	
11	6 14			11.2	6 35	il
11.5	8 20			10.7	6 36	
					8 42	
9.2	3 5	Catalogue	8.2	9 5	3 26	
11.3	9 16			11.0	9 38	
	B				D	
11	10 7				10 29	zl
					10 27	
10.8	2 55			10.5	3 18	
10.2	3 56		9.3	10 2	4 19	
10.3	1 6			10.6	5 58	dl d
10.0	5 39					

Nov 23d 1864

Nebs ab
Nm rec

Telescope E. of Pier

Zero used 353° 51'

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19	21	45.7	49.7	19	21	46.3	50.3
	21	59.8	63.9		22	—	4.5
	22	10.6	14.7		22	11.0	15.2
	22	19.0	23.2		22	—	23.7
	22	36.7 D	40.9		22	37.2	41.5
	22	49.1	—		22	49.4	53.6
	22	53.3	57.6		22	—	58.1
	23	29.7	—		23	30.2	—
	23	—	33.8		23	—	34.3
	23	52.1 D.D	56.2		23	52.7	56.8
	24	29.9	34.1		24	30.4	34.7
	24	41.7	46.1		24	42.4	46.5
	25	1.0	5.4		25		
	25	38.9	43.1		25	39.5	43.7
	25	52.6	56.8		25	53.2	57.2
	26	20.8	25.0		26	21.2	25.5
	27	18.8	22.9		27	19.2	23.6
	27	37.2	41.5		27	37.7	41.9
	27	57.8	62.1		27	58.3	62.6
	28	12.3	16.4		28	12.9	17.0
	28	28.4 BDB	32.7		28	28.9 B.D.D	33.3
	29	5.6	9.9		29	6.1	10.3
		11.0	15.2			11.4	15.7
		58.2	62.4			58.6	62.9
		59.6	63.7		30	0.2	4.3
	30	27.2	31.4			27.7	31.7
		53.9	58.0			54.3	58.7
	31	18.0	22.2		31	18.5	22.6
		25.6 D.D.D	30.0			25.9 D.D.D	30.1
	32	3.6	7.9		32	4.0	8.4
		27.7	31.9		32	28.3	32.5
		42.2	46.5		32	40.9	44.9
	33	9.0	13.2		33	42.9 9.4	46.9 13.6
19	33	25.3 B	29.5	19	33		

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9.8	10 28		9.5-		10 48	
10.0	6 44		9.5		7 5	1l prob
7.0	10 36	Catalogue	9.3		11 0	
9.8	9 29	B.6	9.3	10.	9 51	1l
9.5-	8 15-	Catalogue	9.2		8 55-	
	D					
9.3	4 30	Catalogue	8.9	9.7	4 57	
8.5-	1 4	Catalogue	9.0	9.5-	1 26	1l pos
10.2	9 32	2l			10 52	"
9.3	3 49	1l ns	8.9	9.2	4 12	wires lost
10.2	5-34			10.3	5-56	
	DD					many stars not obs
10.7	8 22			11.0	8 45-	
10.3	2 31			10.7	2 53	
10.8	2 53					seen two later obs
9.3	7 23		8.8	9.2	7 44	
10.2	4 36			10.0	4 57	
10.3	3 18			10.7	3 41	
9.5-	1.46		9.4	10.0	1 8	sure
10.2	1 30			10.5-	1 52	
9.8	7 55-		9.5	10.0	8 18	
10.2	7 22			10.3	7 44	
10.2	4 20		9.5-	10.0	4 43	
	BBB			BBB		
9.7	1 45-			9.5-	11 7	
10.8	6 22	ns		10.7	6 44	ns
10.2	5-14			10.5-	5-35-	
9.3	7 53	ns	9.2	9.3	8 13	ns
10.5-	7 55			11.0	8 16	
10	1 39			10.5-	2 2	
10.5-	6 51			10.3	7 15-	
10.2	8 57		9.5	10.2	9 14	
	DDD			DDD		
10.2	3 52			10.3	4 16	
9.2	5-8		9.0	9.3	5-32	
9.5	9 34		9.5	9.3	9 50	Prob
10.8	8 28			10.2	8 46	
10.0	4 38			10.8	8 49	
	B					

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19	33	55.1	59.4	19	33	55.4	59.8
	34	16.1	20.2		34	10.4	14.5
		36.5	40.7		34	16.5	20.6
	35	8.8	13.0		34	36.9	41.1
		~~17.0~~	17.0		35	3.4	7.5
		35.5	—		35	9.2	—
		—	40.2		35	13.0	17.2
		D.			35	36.1	—
					35	—	40.4
	36	58.9	62.9		36	59.1	63.2
	37	6.7	10.8		37	7.0	11.0
		39.4	43.5		37	~~14.4~~	18.8
	38	14.2	18.3		37	39.6	43.9
		~~21~~	22.6		38	~~14.4~~	—
		45.0	49.4		38	18.8	23.0
		D.			38	45.6	49.9
	38	58.9	—		38	59.3	63.5
	38	—	63.7		39	0.0	64.1
	39	12.1	16.3		39	12.6	16.9
		31.6	35.9		39	32.1	36.3
		49.5	53.6		39	49.9	54.2
		57.3	61.6		~~3~~		
	40	24.3	28.5		40	15.6	19.8
		27.6	31.9		40	24.8	28.9
		D.D.			40	36.1	40.3
						D.D.	
	41	26.5	30.7		41	26.9	31.0
		—	35.0				
	42	2.7	6.8		42	3.1	7.3
		15.0	19.3		42	15.4	19.7
		25.0	29.3		42	25.5	29.7
		52.7	~~57.0~~		42	53.2	57.4
		D.D.				D	
	43	18.6	22.7		43	19.0	23.1
		38.2	42.3		43	38.6	42.9
	44	16.6	20.8		44	17.1	21.7
		29.6	31.9		44	18.5	22.7
		29.4	33.6		44	29.9	34.1
		51.4	55.5		44	51.7	55.8
		58.5	62.7		44	—	63.0
19	45	6.3	10.5	19	45	6.8	10.7
		B.				DD	

Probably belongs 4 Mon. This

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11.2	3 30			11.0	3 51	
9.8	8 47			10.7	7 57	
9.5	~~9 26~~			10.0	9 11	
10.0	10 35		9.5		~~8 50~~ 9 26	doubt
10.0	5 1	Examine tape			~~10 56~~	
					5 23	
9 5	0 35	2l		10.0	0 53	2l
10 2	2 46	1l ns		10.2	3 6	1l
D						
11.2	4 39			11.0	5 0	little comp & fall
11.3	5 14			10.8	5 35	I doubt
11.2	2 51				2 34	
11.2	1 39			10.7	3 14	
11 0	7 55	1l			2 ~~0~~	2l
10.0	1 26			10.7	8 17	
B				10.3	1 50	
9.3	7 29	2l		9.3	7 53	
9.8	6 20	1l ns		10.0	6 45	
9.5	9 15				9 39	
9.8	0 38			10.3	1 0	
9.3	1 33		9.2	10.0	1 56	
10.2	2 0			10.0	2 24	1l lost
10.5	3 48	double comp & fall 12			7 0	
10 5	1 44				4 9	
B D				10.3	(2 7) seen	
					~~B D D~~	
10 3	9 43			10.5	10 5	
11.2	1 52	(1l prob)			~~7 55~~	
9.7	7 11		9.5	9.8	7 33	
10.0	5 55			10.0	6 19	
10.2	0 38			10.3	0 59	
10.0	4 23			10.2	4 45	
D D				B		
9.7	5 14			10.0	5 36	
10.0	8 44			10.2	9 7	
10.0	6 50			10 2	7 13	
10.0	1 33			10.5	4 30	
9.8	1 28	ns		10.0	1 50	
10.0	3 39.			10.2	4 1	
10.0	9 35			10 3	7 57	doubt
9.8	6 39			10 3	9 5 9	
B				D D		

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1864phae.proj..237S

19	45	34.5	38.7
	46	6.4	—
	46	11.1	15.3
	46	37.6	41.8
	46	46.0	50.3
	47	0.8	—
	47	4.3	8.5
		D.	
	47	24.4	28.6
	47	35.2	39.3
	47	49.9	54.0
	48	15.7	19.9
	48	32.7	—
	48	36.5	40.7
	49	3.4	7.5
	49	11.7	15.9
		D.13	
	49	39.6	43.9
	49	59.9	64.0
	51	44.9	49.2
	52	4.4	8.7
	52	43.0	47.1
	52	—	51.1
	52	54.7	58.9
	53	20.3	24.4
	53	42.0	46.2
	54	1.9	6.2
		BD	
	54	32.5	—
	54	36.0	40.2
	54	57.5	61.8
	55	7.9	12.9
	55	28.3	32.5
	55	45.7	50.1
		D.	
	57	0.0	4.4
		24.8	28.9
		43.7	47.8
19	57	—	53.7

19	45	35.1	39.3
	46	6.6	10.9
	46	[11.4]	15.7
	46	38.1	42.3
	46	46.6	50.7
	47	1.3	5.5
	47	4.7	9.0
	47	25.0	29.0
	47	35.7	39.9
	47	50.3	54.6
	48	16.1	20.4
	48	33.0	~~34~~
	48	36.9	41.2
	49	3.7	[7.9]
	49	12.2	16.4
	49	40.1	44.4
	50	0.3	4.5
	51	45.4	49.5
	52	4.9	9.4
	~~52~~		
	52	47.7	51.9
	52	55.3	59.6
	53	20.7	25.0
	53	42.5	46.8
	54	2.5	6.7
	54	33.0	
	54	36.4	40.7
	54	58.1	62.3
	55	8.3	12.5
	55	28.5	32.9
	55	46.4	50.6
		D.	
	57	0.5	4.9
	57	25.1	29.3
19	57	43.9	48.2

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1864phae..proj..237S

9.5	6 14		9.5	9.8	6 36	
10.2	6 2	2l		10.5	6 25	
10.2	4 45		9.5	10.3	5 7	ns 1st two seen
10.2	1 47			10.0	2 9	
10.2	4 0			10.0	4 23	
9.8	2 19	2l	9.5	(10.3)	2 42	
9.5	10 11		9.3	9.7	10 33	ns
D						
9.0	6 15	Catalogue	8.5	9.5	6 37	
8.8	6 5	Catalogue	8.7	9.5	6 29	
9.3	9 11		9.3	9.8	9 33	
8.0	3 33		9.4	9.8	3 53	
10.5	4 9	Comp 1 fell		10.7	4 31	2l
10.2	2 35			10.2	2 56	ns
8.0	11 13	Catalogue	8.4			2 doubt nr δ
11.0	4 1			10.3	4 25	
D	B					
9.0	6 46	Catalogue	8.8	9.2	7.8	
8.5	3 50	Comp 8th fell Catalogue	8.8	9.2	4 14	
9.0	9 52		9.5	9.5	10 16	
9.5	1 45				1 9	
9.3	11 11		9.5			
10.0	2 33	1l δ doubt		10.0	3 5	
10.0	2 16			10.2	2 39	ns
9.5	7 56		9.5	9.8	8 21	
10.2	9 43			10.2	10.6	
9.7	7 32		9.5	10.0	7 56	
B	B					
10.0	8 15	2l	9.5	9.7	8 37	2l
9.3	0 36		9.0	9.8	0 57	
9.7	3 34			10.0	3 56	
10.8	7 45			10.3	8 5	
10.5	1 30			10.0	1 54	ns
8.8	6 02	Catalogue	8.5	9.3	6 25	
D	long					
9.5	1 16			9.8	1 40	
11.2	7 41			11.0	8 5	
9.3	10 22		9.3	9.3	10 45	
11.0	5 31	1l prob		11	5 52	AR lost

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1864phae.proj..237S

19	58	27.5	31.6	19	58	28.0	32.1
		44.3	48.5		58	44.9	48.9
		58.3	54.5		58	50.7	54.9
		D.18				D.	
	59	17.1	21.3		59	17.6	21.8
		43.9	47.9		59	44.0	48.2
		54.4	—	19	59	59.8	—
		—	63.9	20	0	—	4.4
20	0	9.4	13.6		0	9.9	14.2
		56.5	60.7		0	57.0	61.3
		58.5	62.9		0	59.7	63.3
	1	23.4	27.5		1	23.8	28.0
		D.D.				D	
	2	2.4	6.5		2	2.7	7.0
	2	37.5	41.8		2	37.9	42.1
	3	15.5	— D		3	16.0	—
	3	19.2	23.5		3	19.7	23.9
	3	31.9	36.0		3		
	3	56.1	60.3		3	56.5	60.5
	4	20.8	25.0				
	4	31.3	35.5		4	31.8	36.0
		B.					
	5	0.1	4.3		5	0.5	4.8
		26.5	—		5	27.3	
		31.6	35.6		5	31.9	36.3
		53.4	57.6		5	53.8	58.0
	6	33.3	37.5		6	33.7	37.9
		45.4	49.6		6	45.8	49.9
		52.7	56.9		6	53.1	57.3
	7	24.9	29.0		7	25.9	29.4
		B.D				D	
	8	2.4	6.6		8	2.9	7.1
		13.6	17.7		8	14.0	18.2
		39.4	—		8	40.0	44.1
		46.6	50.7		8	47.0	51.2
		—	57.8		8	48.0	52.2
	8	—	63.7	20	8	59.8	64.0
20	9	17.3	21.6				
		B.					

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1864phae.proj.:2378

10.2	6 45-			10.0	7 8		
10.5	10 23			10.3	10 47		
9.8	11 2	ns		9.8	0		S lost
	D B				B		
9.2	6 25		9.0	9.0	6 48		
11.0	9 49			9.7	10 12		
9.3	3 26	2 l	{9.0}	10.7	3 57	2 l	
10.2	3 59	1 l		~~9~~	4 14	~~ns~~ l	
9.2	1 11		Catalogue — 8.7	9.3	1 35		
9.2	9 18		9.5	9.5	9 41		
10.0	5 41	ns		10.2	6 3		
11.2	2 23			10.8	2 48		
	2 B				D		
9.7	8 32			9.7	8 55-		
10.8	9 24			10.5-	9 48		
10.2	9 32	2 l			10 54	2 l	
9.5	8 54		R6 9.5		10 16	ns	
9.5-	1 14				1 36		S shows
9.2	6 31			10.0	7 4		
10.8	2 21						lost.
10.5-	8 22			10.5-	8 46		
	B						
10.3	1 11			10.0	1 35-		
10.0	1 25-	2 l		10.3	1 50	2 l	
9.2	7 6		9.0	9.5-	7 31		
9.5-	6 11			10.0	6 35-		
10.5-	7 39			10.5-	8 2		comp & spec 16h 10.5 may
10.0	5 15-				5 40		
10.2	6 50			10.2	7 15-		
9.8	5 18			11.0	7 43		
	B D			10.0	5 43		
10.2	4 39	very faint Comp & Spec			B		
10.5	8 5-			11.0	5 2		
10.0	3 39	2 l		10.3	8 28		
9.0	10 51		9.5-		4 2		
9.0	2 6	l	R6 9.3	9.5-	10 14		
10	8 33	l		9.2	2 31		
10.5-	3 0			10.0	8 56		
	B						

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1864phae.proj..237S

20	9	34.4	—	20	9	34.8	39.0
	9	44.7	48.8		9	45.1	49.3
	10	49.8	54.0		10	50.3	54.5
	11	21.9	26.0		11	22.5	26.6
	11	31.6	35.8 L		11	31.9	36.1
					11	49.2	53.4
	12	7.9	6.1		12	2.3	6.7
	12	38.3	—		12	38.7	42.8
	12	45.9	—		12	46.4	50.5
	12	48.7	53.0		12	49.3	53.5
	13	23.3	27.4		13	23.8	27.9
	13	25.4	29.5		13	25.8	30.0
	14	10.9	15.3		14	11.5	15.7
	14	17.3	21.5		14	17.8	21.9
		D.B.D.				B.	
	14	46.8	51.3		14	47.5	51.7
	14	52.0	56.3		14	52.5	56.7
	15	0.2	4.4		15	0.8	4.8
	15	33.5	37.7		15	34.0	38.2
	15	56.7	60.9		15	5	61.3 at Yerk by record
	16	32.0	36.3		16	32.5	36.7
		D.D.					
	16	52.4	56.6		16	52.9	— D Yerk by record
	17	8.8	13.0		17	9.2	13.5
	17	15.6	19.9		17	16.1	20.3
	17	36.2	40.3 L		17	36.6	40.8
	17	56.1	60.2		17	46.8	51.0
					17	56.5	60.6
	18	21.5	25.6		18	21.9	26.1
		D.B.D.				D.B.D.	
	18	50.0	54.2		18	50.4	54.8
	19	5.7	9.8		19	6.2	10.3
	19	17.0	21.2		19	17.6	21.8
	20	0.2	4.3		20	0.6	4.8
	20	23.4	27.5		20	23.9	28.0
	20	43.2	47.3		20	43.5	47.6
	20	55.1	59.5		20	55.6	59.8
20	21	20.9	25.1	20	21	21.3	25.6
		D.B.D.D.				B. B. B.	

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10.2	4 2	2l		10.0	4 27	
7.5-	10 5	Catalogue	8.3	8.8	10 29	
10.0	6 35-			10.0	6 57	
9.0	7 3		9.5-	9.5-	7 26	
9.5-	8 23			10.2	8 46	
10.0	4 20			10.5-	9 25-	
10.0	9 48	2l		10.2	4 45-	
9.8	8 41	2l		10.0	10 10	
8.7	4 24	Catalogue	8.3	10.2	9 4	
10.0	4 39		9.4	9.0	4 45-	
10.0	3 55-			10.0	5 2	ns
10.5-	4 55-			10.0	4 18	
10.0	8 31			10.5-	5 20	
BD	BD			10	8 54	
9.5-	2 14			B		
9.5-	1 52	ns	9.5-	9.8	2 37	
9.7	4 13		9.5	9.8	2 15-	
9.2	5 13			10.2	4 36	
9.5	0 19				5 36	
9.0	10 37			10.0	0 45-	
D	D		9.5	9.5-	11 0	
9.3	10 23			9.8	10 46	
10.0	4 28			11.0	4 50	
9.7	6 14			10.0	6 36	
10.3	10 14			10.3	10 37	
10.2	3 15-			11.0	5 16	
10.3	7 45-			10,7	3 39	
D	BD			10.5-	8 8	
				BD	BD	
11.2	8 31			11.0	8 54	
11.3	4 20			10.7	4 46-	
8.8	6 8		9.1	9.0	6 33	
9.0	10 36			8.8	11 0	
11.3	B 36			10.3	3 58	
9.5-	9 47			9.7	10 10	
9.8	1 49			10.0	2 13	
8.8	9 33	Catalogue	8.7	8 7	9 56	
D	DDD			B	BBB	

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20	22	28.7	33.0	20	22	29.1	33.2	
	22	51.8	56.0		22	52.3	—	2 var. det by record
	23	1.7	6.0		23	2.4	—	" " "
	23	10.6	15.0		23	11.3	15.7	
	23	27.5	31.8		23	28.0	32.2	
	24	8.2	12.4					
	24	36.1	40.4		24	36.5	40.8	
	24	51.0	55.3		24	51.5	55.8	
	25	29.6	33.8		25	30.0	34.2	
		D.13				D		
	26	7.9	12.4		26	8.5	12.7	
	26	46.9	51.0		26	47.2	51.6	
	27	26.1	30.3		27	26.7	30.8	
	27	48.7	52.8		27	49.0	53.4	
	28	16.4	20.9		28	17.0	21.1	
		D				D.13		
	28	42.7	—		28	43.1	47.3	
	28	46.7	50.7		28	—	51.3	
	29	12.8	16.9		29	13.1	17.4	
	29	33.0	37.2		29	33.6	37.8	
	29	54.5	58.9		29	55.0	59.2	
	30	4.5	8.7		30	5.0	9.1	
					30	8.6	12.9	
	30	38.6	42.7		30	38.9	43.1	
	30	59.1	63.4		30	59.6	63.9	
	31	11.2	15.3		31	11.5	15.7	
	31	23.0	—		31	23.6	27.9	
	31	32.1	36.2		31	32.7	36.7	
					31	40.13	44.4	
	31	59.4	63.7		31	60.0	64.1	
	32	8.8	12.9		32	9.2	13.5	
	32	~~7.4~~	21.8		32	18.0	22.2	
	32	27.3	31.6		32	27.8	32.0	
		D				D.R.D		
					32	58.0	62.1	
	33	8.0	12.2		33	8.4	12.7	
	33	10.6	14.7		33	11.0	15.3	
	33	40.2	44.2		33	40.7	44.9	
	33	52.5	56.7		33	53.1	—	Lat.
	34	0.7	4.9		34	1.2	5.5	
	34	~~15.0~~	15.0		34	11.3	15.6	
					34	—	37.9	
20	35	14.3	18.6	20	35	14.9	19.1	
		B				D		

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10.0	9 32				9.6	9 53-	
10.0	7 37				10.2	8 0	
9.2	5- 1				9.8	5-25-	
9.5-	5-8				10.2	5-31	
10.0	1 53				10.5-	2 16	
11.2	8 25-						sun
10.8	7 7				10.5-	7 30	
11.0	2 7				11.0	2 30	
7.5-	10 43	Catalogue			7.0	11 4	
	D B					B	
10.0	4 0		9.5-		9.5-	4 24	
8.8	5-46	Catalogue	8.8		8.8	6 10	
					10.-	2 17	same AR not obs & doubtful
9.0	11 15-		9.5		9.2	11 39	
10.2	8 53				9.5-	9 15-	
10.2	4 42				10.8	5-5-	
	B					D B	
10.3	8 16	2 l			10.5-	8 40	
10.3	5-40				10.2	6 0	1 l = doubt
10.0	2 13				10.2	2 35-	
8.8	3 5-		9.3		9.5-	3 27	
9.7	1 41				10.0	2 6	
9.5-	9 22				10.0	9 45-	
9.3	9 56				10.8	10 14	ns
9.5-	2 55-				10.0	10 20	
9.5-	7 18				10.0	3 19	
9.7	5 40	2 l			10.0	7 43	
9.7	9 58				10.2	4 6	
9.3	3 40	Comp S Jpr	9.5		10.0	10 22	
9.3	10 2				10.0	10 30	
10.0	8 7	2 l			10.0	4 3	
8.3	10 16	Catalogue	8.3		9.5-	10 26	
	D				10.0	8 30	
					8.0	10 38	
						D B D	
10.5-	8 2				9.2	0 38	
9.8	2 25-	ns			11.0	8 26	
11.0	7 30				10.0	2 47	
10.7	3 58				11.0	7 6-2	
9.2	2 38	Catalogue			10.8	4 20	
9.0	0 23-	S doubt — Catalogue			9.3-	3 4	
10.0	4 54				9.2	0 49	
	B				11.0	5 28	1 l
					10.0	5-18	
						D	

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20	35	31.6	35.7	20	35	31.9	36.3	
	36	25.4	29.4		36	25.7	29.9	
	37	9.4	13.7		37	10.0	14.2	
	38	0.9	5.0		38	1.3	5.5	
		—	6.6		38	6.3	10.3	
		31.0	—		38	31.6	35.7	
		39.9	44.0		38	40.3	44.5	
					38	50.0	—	
	39	28.5	32.7		39	29.0	33.2	
		31.0	35.1		39	31.5	35.8	
	40	22.5	26.6		40	22.9	27.2	
		27.8	32.2		40	—	32.7	1st hrd 2 record.
	41	3.0	7.1		41	3.4	7.6	
		D				B13		
	41	31.9	36.2		41	32.4	36.6	
		44.9	49.3		41	45.6	49.8	
		52.9	57.1		41	53.5	—	
	42	6.3	10.4		—	— — —	~~7.7~~	
	43	16.6	20.8		43	15.7	19.8	
		B			43	17.1	21.2	
	44	5.6	9.7		44	5.9	10.2	
		34.6	—					
		—	39.2		44	35.4	39.7	
	45	17.5	21.7		45	18.0	22.2	
		42.8	47.0		45	43.2	47.4	
		52.8	57.0		45	53.1	57.5	
		B.D				B.		
	46	38.8	—		46	39.3	43.5	
	46	47.2	51.4		46	47.6	51.9	
	47	19.8	23.9		47	18.9	13.2	
					47	—	24.3	
	47	45.1	49.3		47	45.6	49.9	
	48	6.6	10.7		48	7.1	=	2d wire lost. record doubtful
	48	43.9	47.7		48	33.1	=	" lost.
					48	44.3	48.-	
	49	32.0	36.0		49	32.5	36.7	
	49	46.9	51.0		49	47.5	51.6	
	49	49.1	53.2		49	49.7	53.9	
		BD				B.D		
20	50	22.7	26.9	20	50	22.9	27.2	

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9.3	9 59			9.5-	9.0	10 25-	
10,8	8 13				10.7	8 39	
10,2	5-30	ns			10.3	5-53	
10,0	9 22				9.8	9 45-	
10 0	8 37	1 l			10.0	9 0	
10.0	6 25-	2 l			9 8	6.46	
10.0	1 47	fell of comp N	dist about 3' pre 11th Watkins Close		10.0	2 4	
10.0	6 45-				10.2	4 4	
	2 3				10.0	4 4	
					10.2	2 27	ns
9,0	7 31			9.2	9.3	7 55-	false t
10,2	4 5-				10.2	4 29	
9.5	3 49			9.3	9.5-	4 14	
D					BB		
						6 41	
10.8	6 19						
8.8	2 18			8.6	8 8	2 43	} telescope vibrating v
9.0	2 40			8 8	9.4	3 3	
10.3	6 59				10.5-	7 24	AR lost
10.0	9 44				9.2	10 6	ns
B					10.0	11 7	
9.8	10 43						
10 5-	1 56	2 l					
11.0	3 57	1 l			11.0	4 22	
9.0	4 58			8.5-	9.0	5-25-	
11.0	8 8				11.0	8 30	
10.8	6 18				11.0	6 40	
BD					D		
9.8	2 47	2 l			10,0	3 9	
10.0	2 55-				10.5-	3 20	
10.5-	10 44				10.5-	10 30	
10.0	11 0				10 2	11 7	
10.8	6 1				10.0	11 24	
10.7	7 17				10.7	6 29	
10.8	6 41				10.2	0 47	
10.3-	4 35-				10.5-	7 40	
10 5-	6-37				11.0	7 5-	
BB					10 5-	4 57	
					10.8	6 0	ns
					BD		
11.0	9 11				10.8	9 36	

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20	50	45.2	49.2	20	50	45.7	49.7	min doubtful
	51	4.8	9.0		50	51.3		
	51	33.7	37.8		51	5.2	9.4	
	52	21.9	26.0 L		51	34.2	38.3	
	52	46.0	50.2		52	22.5	26.6	
		D			52	41.9	46.8	min doubtful
	53	45.4	49.5		52	—	50.7	
	54	18.7	—			11.B		
	54	22.7	26.8		53	45.8	49.9	
	54	38.3	42.4		54	18.8		
	55	27.1	31.4 L		54	23.0	27.3	
	55	54.5	—		54	36.7	43.0	
		—	58.5		55	27.6	31.7	
		D	L		55	42.0	46.4	
	56	30.8	35.0		55	—	59.1	
20	56	45.0	49.2		55	54.7	—	
					56	3.3?		
					56	31.2	35.5	
				20	56	45.4	49.5	

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9.8	6 20				6 44		
9.7	9 35			11.5	6 50	AR not good	
11.0	6 41			10.0	9 56		
10.0	7 17			11.2	7 4		
10.2	6 52			10.0	7 40		
	D			10.3	10 5		
				10.5	7 13	1l	
					B B		
10.0	6 15			10.0	6 35		
10.0	4 29	2l			4 50	2l	
8.5	8 44	Catalogue	8.5	8.3	9 5		
10.0	5 53	acct before 1 wire	9.4	10.0	6 15		
10.2	8 45			10.0	9 8		
10.0	5 30	2l		10.5	9 4		
10.0	3 57	1l					
	D			10.2	4 20	2l	
				10.0	5 52		
					4 46	1 bad	
9.5	1 44		9.5		2 0		
9.8	4 48			10.2	5 13		

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S. W. Safford
R. V. A. Rogers
M. A. McConnel

No. of Zone	AR	Dec.	Date 1864	Observer	Recorder	Telescope with Ref. & Micr.
238	14 53 - 16 29	1°20' - 1°30'	June 23	S.	R. M.	E
240	Repeated		— 29	S.	R.	E
239	14 18 - 15 58	1 30 - 1 40	June 28	S.	R.	E
242	Repeated		July 5	S.	R. M.	E
241	15 49 - 17 42	1 30 - 1 40	June 30	S.	R. M.	E
247			Sept 7			
243	16 26 - 17 46	1 20 - 1 30	July 8	S	M	E
245	Repeated.		— 29	B	S	E
244	17 44 - 19 15	1 20 - 1 30	July 9	S	M	E
248			Sept. 26.	S.	M.	E.
246	17 39 - 19 19	1 30 - 1 40	July 30	S	M	E.
251			Oct 21	S	M	E
249	19 18 - 20 56	1 30 - 1 40	Sept. 27	S	M	E
258			Nov. 23	S	M	E

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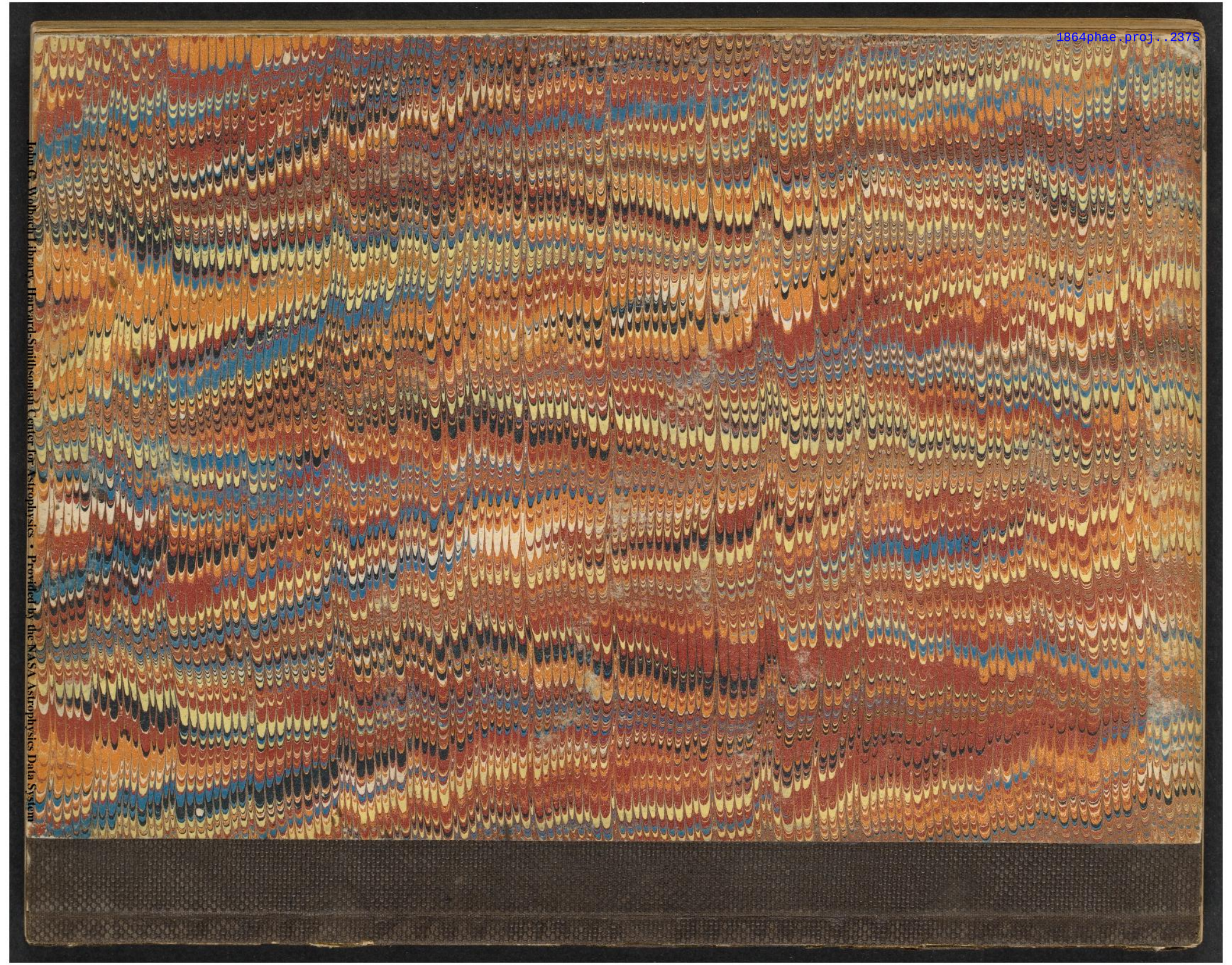
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