

# Kodakkanal Observatory.

BULLETIN No XII

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## LIST OF PROMINENCES OBSERVED BETWEEN 1907 JANUARY 1 AND 1907 JUNE 30

This list is a continuation of that published in Bulletin No X and contains all the prominences that were recorded visually as well as those photographed with the spectrohelograph. The visual observations were made with the 8 prism reversed spectroscope attached to the 6 inch Cooke refractor using the C line. The photographs were taken in the line H of calcium. The image forming lens of the spectrohelograph is a Cooke Photo visual objective of 12 inches aperture and 20 feet focus the image is therefore about 28 inches (58 millimetres) in diameter. When prominences are photographed in calcium which are not recorded visually Ca is entered in the remarks column but it must not be inferred that these prominences were composed of calcium vapour only without hydrogen only a few cases have been recorded of a calcium prominence without hydrogen and still fewer of a hydrogen prominence without calcium and in all these instances the evidence is inconclusive either from a difference of time between the visual and photographic observations or from the effect of poor seeing.

Owing to the great intensity of the calcium lines it usually happens that more prominences are recorded on the photographs in a hazy sky than can be seen in the C line.

The general distribution of the prominences during the period covered by these observations will be given in a separate bulletin.

In the lists which follow the Indian Standard Time ( $\frac{5}{8}$  hours east on Greenwich Mean Time) at which each prominence was observed is entered in the second column. The true latitude corrected for inclination of the sun's axis in the direction of the line of sight is entered in the fourth and fifth columns and the heights measured from the chromosphere in the seventh column. The observer's initials are given in the first column. They were S Sitarama Aiyar (S S) G Nagaraja Aiyar (G N) and S Muthuswamy Aiyar (S M).

D t d b	H I S	B	L t t d		L m b	H l t	E m k
			N t h	S t h			
1907							
J a n n y 1	G N	9 20	15	54		E 30	
			1	40		D 30	
		18	3	30		E 00 & 75	D b l
		15	05	31		L 30	S l t t h w d
		15	1	28 5		L 30	
		14	1	24 5		D 30	
		10	1	20 5		L 20	
		8	1		20 5	T 20	T p f w f l t - 18 D
		7	8		20 5	L 60	
		4			40	D 80	M t t h t p m
		4			5	L 40	
					(3	L 30	
		10 6	2		77	W 80	
		5	2		74	W 8	T t t d t l m b b y t w t m w l g p
							b t
		4			64	W 80	
		2			42	W 120	
		9 59	3		28	W 80	
		57	1		12	W 30	
		56	05			W 2	
		5	15	15		W 16	
		53	05	40		W 20	
		5	2	48 5		W 80	
		2	1	47		W 40	
		50	9	55 5		W 50	
		2	05	6		W 10	D t h l
J a n n y 2	G N	9 27	1	70		F 20	
		26	05	58		D 20	S l t w t w d
		20	2	42		D 80	} M t
		20	45	37		L 80	
			1	3		E 75	
		48	15	9		E 1	
		48	1		2	L 1	
		48	1		28	E 00	} M t l t h t t p
		18	25		31	E 60	
		41	05		17 5	E 30	
		40	05		51	F 15	
		40			52	D 20	
		37	1		80	W 40	} l l m t l t d t h t h
		37	2		77	W 80	
		35	25		17	W 30	
		34	2		80	W 40	
		32	05	4		W 15	
		31	4	80		W 20	
		30	75	4		W 45	
J a n n y 8	G N	8 57	2	42		E 40	
		57	2	38		D 40	
		5	5	17 5		L 20	
		45	1	11 5		D 30	
		52	1		16 5	E 45	25 w y f m l m b
		50	4		40 5	D 40	
		48	1		47 5	F 20	
		49	1		04	E 20	
		9 8			74	W 00	
		8			70 5	W 15	
		7	1		17	W 5	
		6	8	19 5		W 25	
		0	5	5 5		W 100	v y b g h t
J u n y 4	G N	9 11		49		E 80	
		10	5	22 5		F 4	
		8	6	0		F 80	
		7	05	18		F 15	
		6	1		4	E 15	
		5	1		8	E 40	
		3	1		22 5	E 15	
			05		42	D 15	
			1		49	L 30	
		1	3		54	E 45	

D t d b	H IST	B	L t t d		L m b	H g h t	R m k
			N t h	S t h			
1907							
J n u y 4 - 12	C N	9 0 0 8 59 9 3	1 1 0 4	58 5 61 67 5 77	I D L W	30 40 10 7	20 w y f m l m b S p t d f m l m b b y 25 i t t l t - 75 d - 78 W
		34 14 33 30 10 30 8 8 27 6	0 5 0 3 0 5 3 2 2 1 5 4 9	78 5 72 61 38 31 5 32 14 17 22 28 3 58 5	W W W W W W W W W W W	15 15 60 15 30 20 20 20 20 50 90	I t 10 w y f m l b
J n u y 7	G N	8 50 47 11 1 40 10 37 34 85 9 3 0 0 8 59 78 57 3 58	2 1 2 1 5 1 0 5 2 5 1 0 5 3 2 5 0	19 20 6 5 12 14 16 5 23 27 61 5 86 82 7 72 71 62 37 5 27 6 5 48 5 45	F E I E I I I E I W W W W W W W W W W	60 20 1 12 20 0 10 20 10 20 60 10 15 10 55 75 0 20 10 20	} P t f t h d p l d t d l t 20A t P t 108 d 105 5 R l l y h g t
J y 8	B 9	9 8 4 3 1 8 32 33 33 30 3 6 20 25 9 J 27 2 20 18 16 13	5 8 2 5 1 1 5 1 2 1 5 2 1 5 1 1 1	49 20 17 5 12 14 17 8 30 5 1 56 61 72 67 7 3 12 18 5 22 5	F F F E E I I E L D I W W W W W W W W	80 25 20 20 25 120 25 40 85 10 2 20 60 ± 90 ± 10 40 10 10 25	N w t t p S l t t h w l D t l l f m l m b N w t t l S l t t w l } S N t A g l f t t d i y m l l t l d f m l m b A t g t k d t l d f m l l C l p h l g t l y l t d f l t + 6 W I t D
J y 9	G N	9 3 1 8 57 56 58 53 9 52 4	4 1 1 3 1 2 8 1	40 1 17 11 5 2 5 11 19 54	I E F D L E L E E	60 30 50 140 15 20 60 80 60	B g h t } F t M l l f b g h t h t j k p l l y h g g B g l t A h l d t l g t l i m t l t - 2 D A b d t t h t h

Dt a b	H IST	B	L t t d		L mb	H ght	R m k	
			N th	S nth				
1907	v							
J y 9	GN	8	44	1	56	D	40	10 wyf ml b
			40	1	59 5	E	80	
			40	1	62	E	40	
		9	16	05	74	W	45	
			1	8	61	W	60	
			10	1	21 5	W	15	
			10	1	18	W	15	
			9	1	45	W	25	
			8	1	15	W	60	
			7	15	4	W	15	
			5	2	8	W	15	
			3	1	19	W	20	
J y 12	GN	8	55	0	59	D	15	
			55	05	54	D	25	
			54		50	D	20	
			58	5	80 5	D	6	
			50	5	80 5	D	10	
			42	7	40 5	L	70	
			40	2	74	D	25	
			9	1	86	W	20	
		9	15	05	84	W	15	
			10	1	31	W	60	
			10	1	29	W	20	
			9	1	19	W	15	
			8	1	13	W	15	
			7	05	9 5	W	30	
			6	3	6	W	25	
			4	1	3	W	20	
			3	1	Dq t	W	20	
			0	1	11	W	1	
		8	59	18	28	W	20	
			57	05	60	W	20	
J y 13	GN	9	33	2	2	D	80	C t d t b w t t l t p S N t b m t d by t k l l g d p l l t lmb S N t
			32	9	30	D	45	
			30	55	11	E	60	
			48		72 5	D	1	
			42	2	85	W	80	
			41	2	10	W	15	
			40	2	5	W	40	
			36	15	13	W	20	
			35	1	29	W	15	
J y 14	SS	9	16		73	D	10	
			15	1	51	D	25	
			15	3	47 5	D	25	
			12	15	31	D	25	
				2	22 5	L	20	
				C	12	L	80	
			8	2		D	15	
			5	1	10	E	15	
			0		11	E	150	
		8	5	1	48	E	20	
				05	60 5	F	0	
			42		70	E	20	
		9	9	05	78	E	50	
			35	3	56	W	0 ±	
			27	4	87	W	80	
			27	2	10	W	80	
			7	25	d	W	80	
			23	25	1	W	25	
			20	05	11	W	45	
			18		40	W	80	
					74	W	20	
J n y 15	GN	9	49	3	52 5	E	25	M t l l y p d l y hanging } S N t
			48	2	47	E	30	
			47	1	23 5	E	45	
			46	1	13	E	20	

Dt l b	H IST	B	L t t l		l b	H glt	R l
			N th	S tl			
1007							
J n y 15 - ontā	GN						
	16	1		1	E	20	Ab l t j
	16			9	F	1	
	4			15	E	20	
	8 4	3			I	30	I t l y b g h t T h t f t l p m e w l g l t y d p l d t d
				1	L	2	
	1	1		43	E	4	
	0			48	I	20	
	49			55	F	20	I t l y l g h t j t
	48	3		67	F	1	D t h d f l m b
	17			72 5	I	20	
	11	5		81	W	80	
	9 5	05			W	60 & 30	
	87	1			W	20	
	58	3		9	W	20	
	56	3		8	W	20	
	51	25	2J		W	20	
	1	1	37 5		W	30	
	3	0	13 5		W	1	
I n y 10	SS						
	8 49			8	F	10	
	47	4		48	I	35	
	16	1		30	I	5	V y b g l t t l l h f t t i l t + 24 F
				6 5	F	10	
	38				F	10	
	37			3 5	F	10	
	31			7	F	10	
	34	05		11	F	2	
	33			46 5	I	30	
	33			47 5	F	30	
	31	0		61	F	3	
	31			67	F	3	D t l l l l l
	30			78	I	3	
	2			81	F	2	
	9 10	15		5	W	20	B g l t
		8		11	W	60	N t t
	5	2		8	W	20	D
	8 7	2		1	W	30	M t l l p l l y l s
	9		11		W	20	
	3		11		W	1	
	0	0	85		W	1	S b g d l t l l l b
J y 17	GN						
	1 2			8	F	20	
	1 0			49	F	20	
	8 58	3		28 5	I	4	B g l t t
	57	25		24	I	10	
	56			5	I	10	
	55	8		1	F	30	
	54	1		45	F	1	
	52	25		51	E	40 & 80	
	52			72	F	1	
	52	0		73 5	L	15	
	9 12	1		75	F	120 ±	
	10	8 5		82	W	20	
	J			38	W	5	
		5	5 5	27	W	20	
	6		19		W	20	
		3	48		W	20	
J n n y 18	SS						
	8 51	2		51	I	100	I t d t t j S l t t l w d
	47			19	F	10	
	45	3		7	E	20	
	45				E	25	A b g l t l d l t t d t t l m b b y l d t k
				C	F	10	
	42	05		42	F	25	
	39	3		48 5	F	40	S l t t l w d l g h t l y
	38			60	L		
	31	2		71	L	15	
	25	05			D		

Dt	lb	H IS1	B	L t t d		Lmb	H l t	R m k	
				N t l	S t h				
1907									
Jan	y 18	SS	8 34	1		95	F	80	F t
	- onid		38	05		83	D	1	
			9 1	2		65	W	5	
			8	1		33	W	10	F t
			7	2		285	W	1	
			8 9	2	42		W	10	
							W	60	B ht D D b l l d b b g l t t b
J	y 19	SS	J 17	2	67		F	75	Sl t l g l t l y t h w l
			11		38		F	10	
			10	6	15		E	0	M t l l
			8	05	2		D	5	Sl t t w d
			6	1		3	E	0	
			4	4		7	F	20	
			1	1		40	L	50	N t t p
			8 9			49	F	50	D
						68	E		N i m t l t t C w l l t l y l l l b t h w y
			7	1		715	D	0	F t
			9 44			6	W	15	
			43			78	W	70±	Sl l t l
			42			66	W		A h t w t l w y f l b
			38	8		18	W	90	S N t
			30			8	W		A m l l w y f l b
			30		3		W	1	A l t t k w y f m l m b
			28	05	7		W	10	
			28		11		W	20	
			6	4	18		W		A l w b l
			4		42		W	55	
			2	1	495		W	25	
			21	1	58		W	10	
J	y 20	GN	10 1	1	36		F	15	
			0	1	18		F	15	
			9 20	3	55		F	1 & 70	B t l y b g h t Sh p l l b b t h t l
			20		Eq t		L	15	
			18	1		11	F	20	
			18	1		13	E	20	
			17	05		27	I	40	
			16	2		38	E	30	
			14	05		1	F	20	
			14	1		51	E	4	F t
			11	1		56	I	45	
			12			78	I	15	10 w y f m l r l
			1	10		756	D	30	
			10	1		72	W	90	
			8	2		60	W	90	
			10 30	3		18	W	40	
			28	05	5		W	1	
			8	05	7		W	15	
			27	10	17		W	20	
			7	1	45		W	20	
			5	5	485		W	30	
J	y 21	SS	9 8		11		E	60±	F t
			8	1	85		E	40	D t
			8		6		I	40	D
			6		3		L	30	D
			0	2		9	F	15	
			4		19		F	20	
			1	1	24		E	20	
			8 54	35	74		L	50±	
			9 44		84		W	25	Sl t t w d
			38	6	28		W	45	M t l t h t t p
			32	2	22		W	45	M t l l O l g l t d l l d b t h w y t t l
					12		W	L	M t l t
			80		7		W	25	A f t l t t k d t h d f l b
			26	2	9		W	0	M t l l T p t h m b g t l t + 14 W

Dt l b	H ISI	B	L t t d		Lmb	H glt	E m l
			N th	S tl			
1907							
J y 21	SS	4	17		W	20	A t l y f m l b d l m t p l l t t P g l d
		21	28		W	60	
		17	50		W	20	
J y	GN	10	15		I		CO l l t l l O y l l m b C t l b y t t l l t l l t
		20	1 q t		E	0	
		19			I	0	
		18			I	3	
		1			I	1	
		11			W	2	
		8			W	40	
		10			W	40	
		15			W	40	
		17	05		W	40	
		18	1		W	45	
		18	1		W	40	
		0	2	1	W	30	
		3	2	9	W	0	
		3	3	15	W	0	
		30	8	315	W	30	
		J		51	W	3	
		5	05	85	W	30	
J y 23	SS	8	37	35	I	35	O l m l l l t l y l t d f l t D t l d f l b M g l F l l l t t l l l t t m p l t l d f t N p n C l g l l y d p l d t d M g d F l l g l t t b s p b t t l t l l t l l l l l l w o l f t m t t D t l d f m l m b D A l l k M t l l D D t h d f n l b
		38		5	I		
		31	1		F	10	
		8	1		I	1	
		4	15		F	20	
		2	1		F	2	
		20			I	70	
		17			W	1	
		17			W	1	
		14			W	0	
		11	15		W	1	
		9	1		W	10	
		2	4		W	20	
		0		13	W	15	
		8	58	18	W	10	
		58	0	25	W	5	
		0	10	7	W	0	
		0		0	W	30	
Ja y 24	GN	33	05	29	I	30	M l t 20 t l l s 10 y f m l m b
		33	1	26	I	30	
		3	4	195	I	90	
		30	1	10	F	0	
		30		8	I	15	
		0	15	5	F	0	
		18	0		I	15	
		14	05		F	15	
		15	1		I	90	
		15			I	3	
		1	1		F	25	
		10	1		F	0	
		10	1		F	10	
		10	1		F	17	
		2	25		W	25	
		50	2	215	W	5	
		48		44	W	90	
		41		48	W	20	
		40	6	4	W	100	
		37		60	W	1	
J y 25	SS	8	7	05	F	0	E l t t d M t l l T p s w f l t + k F t d t h d f l m b
		5	5	215	F	50	
		52	15	9	F	30	
		51		4	E	0	
		50	15		F	20	
		17			F	30	

Dt d b	H ISI	B	L t t d		L b	H l t	B k
			N th	S tl			
1907							
J y 2 12 SS	8 1t 46 4 42 38 35	0 1 2 1 0		18 28 2 32 2 81 28	I L L E E W W	20 20 0 60 15 15	D t l d i m l m b P l t D A l h t l l t t h h m l l 10 N M g l b g h t t b S l n t t l w d
	9 19 16 14 10	5 6 1	25 51 81	75	W W W W	60 25 20	
J y 26 GN	9 20 16 15 15 10 8 3 0 30 30 28 28	1 2 1 11    15	20 17     1 20 15		E E E F L E F E W W W W	75 t ) 15 40 0 45 60 1 10 3 60 25	S l t t w d I l j t S l t t w d
J y 27 SS	9 21 20 17 17 15  10 5 41 40 38 31 28 27 27 27	05 2 05 3 4    1 05 2 0 0 0 0	89 8 2 175 L2  14 20 88 52 58 4	05    14 34 84 61 3	F E L L I E I I W W W W W W W	1 10 1 2 60 70 4 1 30 10 2 40 20 20 20 0	V y b g l t t l l D d S l g h t l y b d t t l T p t d t t l l t l N w t t p A n g l l I p f w t l w i f b t t
J y 8 GN	8 57 55 55 51 53 52 50 50 50 9 10 8  8 5  3 3 0	1 1  0 1 0 1 1 2 2  1 8 1 25 1 45	10             18 22 2	10 1 26 47 52 84 84 83 39 24 18 14 105 8	F E E I L E E W W W W W W W W W	30 60 40 10 40 20 10 30 30 60 4 10 20 30 80 0 20 0	B g l t O l h t l y l l l d t d t 0 45m             I t
J y 29 SS	8 58 58 58 58 51 52 51	1 05 05 05  05	31 28 20 24  21 31 35		E E E E I E F	4 45 45 20 25 10 30	l g h t l y b d t t l D D B g h t



D t d b	H IST	B	L t t l		L m b	I l t	r k
			N t h	S t h			
1907	M						
J y 29	B <sup>a</sup>						
	8 49			51	I	95	
	47	1		00	E	2	I t
	46			76	E		
	45			77	I	25 ±	V y f t
	43	05		88	F	10	
	40	2		7	W		
	9 31			3	W	20	I w l
	32	2		17	W	70 ±	I t
	28			4	W	25 ±	Sl l
	28	1		40	W	1	
	26	2		20	W	25	B glt
	24	2		9	W	5	
	18	35	265		W	5	
	18	2	80		W	90	T l b l d w d m t t l l t p m
	12	2	52		W	55	
J y 30	GN						
	9 42		87		I	10	
	41	1	32		I	15	
	40	3	23		I	10	
	38	2	19		I	40	
	36	1	8		I	20	
	35		05		L	0 v 30	
	30			9	I	10	
	30	9		32	I	0	
	5	1		43	I	15	F t
	22	1		175	I	1 w	
	20	0		50	F	100	
	15			60	L	1	D t h d
	15	2		69	E	15	A l d l t w y f l l
	12	1		8	W	10 & 90	120 l g h t l 10 l 10
	10	3		715	W	100	100
	10	1		72	W	80	Sl t w t w d d m t l m l } Fl t l t
	10 5	1		8	W	45	t L t - 41 L t 10 l 10
	3			05	W	0	
	3			18	W	0	C t d w t l l t l
	9 0	13	2		W	15 & 60	
	50	1	185		W	40	
	50	1	55		W	40	
J y 31	SS						
	0 29		13		F	10	
	1	1	25		I	60	
	15	05	23		F	0	C t d t b
	13	15	19		I	0	
	12	05	13		I	15	
	11	2	3		I	15	
	9			2	I	10	
	5	8		29	I	0	A f t t m l l l w d f m t
	0	1		33	I	30	F t B bl
	8 59			45	I	10	
	57			51	L	70	B l t t l
	55			58	E	10 ±	D t l l
	2			69	F	35	Sl t t l d
	50			83	W	10	
	17	25		79	W	1	O l g
	15	05		77	W	20	
				74	W	0	B l t l m l d l w t l d t l l l l t
	14	05		71	W	20	t l
	9 9	05		81	W	20	
	55	25		30	W	0	C l k
	53	05		18	W	25	Sl t w t w d
	51	25		0	W	15	D bl
	45	14	21		W	4	T l l t t t h d B l t
	11	4	10		W	6	D bl Sl t t l w d
	35	6	71		W		l l w b g l t b n l
	31		765		W	10	
I b y 1	GN						
	9 57	1	56		E	15	
	50	05	2		E	20	
	50	2	21		D	30	

Dt lb	H IS F	B	L t t l		Lmb	H ght	R m k
			N tl	S tl			
1807							
Fb yl GN	9 45	14		1	E	80 t 80	
	27	05		52	F	30	
	28	1		81	E	20	
	2	8		84	E	120	Ad t h d l d t t p 160 hgh
	15	2		71	W	90	
		1		6	W	70	
	10 12	1		49	W	90	
	11			38	W	35	
	10	15		d1	W	0	
	9	2		20	W	5	
	7	28		12	W	4	
	6			2	W	15	
	5	18	1		W	2 t 45	
	0	7	17		W	0	At k th d l 55
	9 4	4	56		W	30	
	5	2	82		E	10	
							Cl h t g l l 10 82m
Fb y SS	9 46		665		L	20	
	44	05	45		D	20	
	43	1	895		l	25	
	86	8	13	5	L	20	M t l l
	38				I	10	
	28			)	D	5	B ght l nt dlw l
	28	2		14	D	25	D C d D l g l t y d pl dt l t t b
	28			16	D	20	D d l
	8	15		21	D	10	B g l t
	28	05		63 5	F	10	
	1	1		84	W	2	Sl t tw d
	20	1		8	W	25	D
	18	1		75	W	80	Sl t w tw d
	18	1		25	W	10	D bl
	10 0			87	W	15	
	18			18	W	15	
	15	05		21	W	60	B d t t l C l m d f t n f m
	18			17	W		
	4	1	5		W	20	
	4		16 5		W	30	S N t
	0	2	30		W	10	
	9 8	05	39		W	2	Sl t th d
	56	2	13		W	70	D
	58	4	50		W	75	} f p t d C
	50	1	55		W	10	
	50		56		W	15	
							C l l t pl 81 52
Fb y3 GN	10 5	45	44		D	30	
	2	1	31		L	15	
	0	6	10		F	2	
	0	5	11		I	20	
	0	9	6		F	30	
	9 50	2	1		I	30	
	40	2		10	E	80	A l t w d t l l t p m
	40	1		14	D	40	} R dly h g Tw l t l k l w lght
	40	1		18	F	40	l pl m t t d
	40	2		0	E	40	
	95			26	E	30	
	85	1		32	L	100	D t h d f t
	10 17	8		17	W	70	
	15	05			W	20	
	12	8	18		W	80	
	10	1	41		W	2	
	8	7	2		W	40	A h t l t lmb t l t + 48 d
							+ 55 W
Fb y4 SS	9 26	15	14		E	10	
	25		22		E	40	D t l d
	23		15		F	2	
	21		18		D	50	T p f t
	20	8	5		E	10	

Dt l b	H IST	B	L t t d		L m b	H g t	R m k	
			N t l	S t l				
1907								
F b y 4 id	SS	0 0	05	8		F	1	} S N t
		0 1	1		1	E	20	
		0 4	4		16	E	15	
		8 8	8		8	E	15	
		49 8	05		34	L	20	
		15 5	5		5	D	05	
		42 05	05		2	I	15	
		41 80			7	W	10	
		41 7			71	W	25	
		9 48 1	1		52	W	20	
		1 3	3		45	W	35	
		42 1	4		2	W	5	
		89 2	2		18	W	30	
		87 0	0			W	70	
		34 6	6	Eq t		W	25	
		32 12	12			W	60	
			8)			W	20	
			1				1	
F t d t l d O l m 1 0 B gh								
U l t l h 10 7								
F l y 5 CN	CN	9 28		50		D	25	Mg t gly d l m l t b t l t -19 L
		27 4	4	31		L	20	
		25 0	0	6		I	15	
		20 1	1		17	L	30	
		18 5			5	D	0	
		15 70			70	W	15	
		35 2	2	Eq t		W	10	
		32 15	15			W	2	
		30 2	2	24		W	20	
		W l l O p l t g p l 8 58						
I b y 6 SS	SS	9 18	0	1		I	40	80 h g h O B g h t t 30 l g l O I t A l d t k b d l i M t l l f m l ly N d Mg
		8 2	2	24		D	35	
		7 05	05	18		D	17	
		6 05	05	15		I	10	
		4 7	7	25		I	20	
		8 46 1	1		5	I	2	
		1 15	15		15	I	30	
		13 05	05		19	I	30	
		10 4	4		31	I	20	
		19 5	5		5	L	0	
		17 1	1		6	D	0	
		80 69			81	L	10	
		36 81			81	W	10	
		31 1	1		76	W	2	
		9 31 05	05		50 5	W	10	
		27 15	15		11 5	W	25	
		25 7 5	7 5		7 5	W	10	
		2 2	2	Eq t		W	15	
2 10	10			W	1			
22 20	20			W	10			
20 29	29			W	2			
17 4	4			W	1			
	02			W	8			
S l t t w l D S l t t w l S l t w t w d 20 l g l O O p h t g l h 8 5 J ( J 15								
I b y 7 GN	GN	9 56	6	53		I	35	O 20 w f m l m b
		1 35	35	25		E	15	
		5 1	1	28		E	15	
		50 14	14		28	L	15	
		47 25	25		55	E	40	
		15 1	1		71	L	60	
		40 1	1		74	I	10	
		35 3	3		8	W	0	
		38 1	1		77	W	50	
		31 0	0		74	W	4	
	35		69	W	60			

D t d b	H IST	B	L t t d		L mb	H ght	R m l
			N th	S th			
1907							
F b y7 GN	10 15	2		57	W	30	
	15	1		54	W	70	20 w f mlmb
	7	95		35	W	95	
	3	1		15	W	5	A C l dl t 45 hgh l t b t
	2				W	10	
	1	5		9	W	15	
	1	1		45	W	20	O
	9 58	1		54	W	10	O ph t 1 h 9 19 25
F b y8 SB	9 32	05		59	D	20	
	30	6		49	E	35	
	28	1		40	H	15	I t
	28				D	10	
	18	6		35	I	25	N Mg I b glt t b
	15	2		27	D	15	Sl t thw d
	12	15		55	F	10	
	10	05		81	W	50	
	7	05		83	W	85	T l l
	3	05		80	W	60	B ght b l t l l d l
	8 56	2		87	W	80	I t
	10 0			8	W	35	
	0	2		32	W	10	O p 145 t l C 10 t 9' 3 } M t t l l
	9 54	6		19	W	6	40 l gl O
	5			7	W	10	
	0			28	W	70	Sl t t l l
	50			2	W	10	
	40			34	W	80	
	40			37	W	210	S N t
F b y9 GN	10 8			71	I	15	O pl pl 9' 3
	7	1		54	I	10	
	6	2		52	F	2	
	1	05		48	D	5	
	3	1		20	D	17	
	2	1		105	I	1	
	0	8		2	I	80	
	2	1			L	25	
	20	15		31	W	15	
	1	2		58	W	25	
	1	1		34	W	10	
	14	1		12	W	1	
		15		15	W	25	
		15		28	W	20	O ph t ph 8 1
		15		64	W		
F b 0 SB	9 4	2		9	F	20	
	4	1		50	I	30	F t
	38	0		7	F	2	
	35	1		21	I	45	B l t t l } C t d t l l
	35	05		195	L	4	
	8	05		16	E	15	
	30				I	80	A y f t l l l
	3	9		35	I	85	I l l t l th l
	20	2		115	I	20	D O b l
	8 30			70	I	10	
	30			79	D	40	
	9 1			83	L	50	B a O } C t l l t p O
	8 30			82	F	60	C C
	10 14			78	W	8	A f t l d
	12	05		715	W	10	
	11	05		575	W	0	F t
	11			56	W	15	D
	9	1		58	W	85	
	6	15		33	W	15	
	8	15			W	15	
	2	05		185	W	20	
	0	15		2	W	10	
	0	1		45	W	0	

Dt d b	H IS I	B	L t t u l		L b	H g h t	R m k
			N t l	S t l			
1907	m						
F b y 10 SS	9	1	10		W	20	S N t S l t t w d d m t h th S l t n t l w l C p h t g p h S l 30
	52		22		W	60	
	62	1	315		W	60	
	19		3		W	25	
F b y 11 GN	9	1	64		Γ	10	C H g h d t h d l d 60 w y l b
	40	)	535		D	20	
	38	1	16		Γ	10	
	11 51		11		D	75	
	9 8	1		45	D	1	
	35	2		85	L	20	
	85	1		11	I	25	
	35	05		14	Γ	35	
	25	1		275	F	1	
		1		80	I	15	
	21	4		13	B	25	
	22			58	I	10	
	20	05		815	Γ	0	
	18			88	Γ	10	
	8			53	Γ	10	
	17			82	W	10	
	10			78	W	10	
	7	2		3	W	75	
		1		35	W	1	
	1	3	95		W	75	
	50	4	15		W	120	
	47	1	25		W	10	
	47	1	29		W	30	
	4	05	40		W	10	
F b u y 12 SS	9	8	54		D	35	C p h t g r p h 111 51m
	11	1	205		I	30	
	8	1	145		I	10	
	4	0	10		Γ	20	
	8 31	8	4		D	30	C A l w h m t g l b t l t + d o
	9 2	1		13	B	5	
	8 8	5		41	F	35	
	55	05		475	Γ	20	
	50	4		72	Γ	70	V y f t
	16	1		63	W	30	V y f n t
	45	1		57	W	30	
	12	1			W	30	
	9 28	6	25		W	20	
	24	8	35		W	30	C p h t g 11 8 81m 01 18 d 101 15
F b y 13 GN	9	05	69		Γ	10	
	29	05	675		Γ	10	
	29	05	655		Γ	10	
	27	05	605		Γ	15	
	28	1	5		F	15	
	24	2	55		B	25	
	21	2	51		Γ	15	
	20	3	20		Γ	20	
	16			10	Γ	20	
	16	05		12	Γ	2	
	15	15		16	D	15	
	13	6		48	Γ	35	
	10	1		59	B	10	
	9			8	B	15	
	8	05		8	D	40	
	7	1		88	W	25	
	6	05		75	W	20	
	0	1		69	W	55	
	8 58	1		62	W	45	
	9 37	1	4	58	W	20	

D t d b	H I I	B	L t d		Lmb	H ght	R m l
			N th	th			
1907	x						
F b y 18 GN	9 36		6		W	10	
	35		85		W	30	15 w y f m l b
	8	1	105		W	15	
	34	4	15		W	15	
	31	2	25		W	15	
	11		7		W	3	O A d t h d l 120 y f m l m b O l h t g p h 9 11
F b y 14 SS	8 42	05	00		E	10	O
	10 8	4	50		E	10	
	9 50	05		9	I	20	
	59			17	D	1	
	59			19	L	10	
	58			45	D	15	
	8			27	D	10	
	5	1		48 5	E	20	
	53	1		49	E	15	
	51	05		79	W	15	
	50			69 5	W	15	
	49	05		68	W	15	
	8 4			75	W	150	O h l l l f l t
	9 17	1		34 5	W	20	
	47	15		32	W	4	
	45			27	W	60	D t h d l d
	10			25	W	180	A b t l g g d t l d l d t d
	8			10	W	100	( b t d t l f t h t t h t h n
	8	05		8	W	15	B l t m t l l S N t
	5			16	W	10	O d t d f t h t t l t h
	8			15	W		N p b t O d p l d b t h w y
	7			13	W	90	
	0	25		11	W	65	S l t t w d
	8 57	2	15		W	20	
	57	2	18		W	20	
	50	2	21 5		W	30	O t
	50		27		W	60	A l l m b d t d t l + 20 W
	10 10		8		W	10	
			40		W	15	O p l t g p l 8 42 d 9 8
F b y 15 GN	0 6	05	01		D	15	
	0	4	52		E	30	85 l g l C
	8 57		81		D	20	
	8		28		L	0	
	55	2	28		L	15	F t
	58	2	20		L	20	
	58		75		E	15	
	5			9	E	15	
	1	2		17	L	30	
	50	2		22	E	2	
	45	3		48 5	E	0 & 15	
	45	05		80	W	25	
	9 28			57	W	10	
	26			54 5	W	10	
	25	5		39	W	60	
	20	2		28	W	25	
	16	5		19	W	30	
	11	5		1	W	30	5 l g h C
	10		1		W	10	C l h t g p l 8 28 d 9 0
F b y 16 GN	9 40	6	51		F	60	
	37	0	41 5		D	30	N t f n d C
	37		39		D	0	
	8 47	1	38		D	25	C
	47		38 5		E	20	C
		10	17		E	1	
	3 39	05	10 5		L	1	
	8 47			8	D	15	C







Dt d l	II 157	B	L t t d		I mb	II g l t	R l
			N th	S tl			
1907	m						
F b y 22 GN	8 0	1		25	D	15	A l d m t d t l m b b y t w t m t l a t -30 l-38 E f l l t p t 80 O
	8 0			31	E	10 30	
	9 6					4 60 &	
	48			68	D	70	
	47			75	E	10	
	25			70	W	15	
	19			65	W	30	
	19			5	W	60	
	0	2		81	W	5	
	20	5		28	W	50	
	19	1			W	15	
	17	15		175	W	10	
	13	15		23	W	15	
	15	2		27	W	2	
	8 1	05		39	W	25	
F b y 23 SS	9 3	05	47		D	15	C p h t g 1 h 8 19
	1	3	30		I	1	
	11	4	26		D	20	
	9	3	15		I	25	
	5	3		7	I	20	
	9 25	5		30	L	120-80	
	9	15		86	L	70	
	55	0		51	E	80	
	51			3	L	10	
	53	2		8	I	10	
	1			8	L	1	
	4J	05		81	W	10	
	18			78	W	10	
	18			76	W	10	
	J 56	2		81	W	20	
4			21	W	25		
5			r	W	5		
19		1		W	40		
48	0	9		W	5		
15	1	25		W	80		
F b y 24 SS	0 43	7	12		I	0	C p h t g p h 8 25 N Mg l b g h t (p m b l Mg) A t l t + 8 I t h w m l l d t h d C I d t C C A m l l d t h d C I d t l t - 58 W F t O k b t l C p h t g p h 8 24 m I t l y b g h t t l t w h t d t t d i g l n g w v D D b b b b b g h t D B t p p d h l f h f t t h l t
	38	1		80	I	1	
	38	25		34	I	50	
	30	2		58	I	85	
	28	2		77	I	80	
	9 26			82 5	W	10	
	r	0		78	W	10	
	25	0		74	W	10	
	21	1		6	W	10	
	21	2		63 5	W	25	
	20	3		54 5	W	10	
	19	1		38	W	20	
	10 1	05		28	W	10	
	3	1		20	W	20	
	2	15		15	W	15	
1		4		W	40		
0	1	7		W	15		
0 58	15	28		W	10		
57	4	52		W	20		
5		59		W	10		
58	2	72		W	35		
F b y 2 GN	8 28	05	85		F	25	
		3	5		I	20	
		8	18		F	20	

Dt d b	H IST	B	L t t d		Lmb	H glt	B k
			N th	S th			
1907	v						
F b y 25 GN	8 26	2	6		D	5	V y b g l t b t b g l t D D b fl m t 5 h g h b t
	9 21	1		185	E	10	
	20	1		28	D	10	
	20			33	E	20	
	19			37	l	10	
	15	8		565	D	45	90 h g h n O
				60	D	100 ±	Tw l t g t k b t h d t h d f m l m b m g t t p
	6	4		665	J	45	
	8 23	05		71	D	20	O
	28	15		73	D	25	O
	9 4	05		81	D	35	P b b l y 10 w l t d m l t
	8 28			88	E	30	O
	3			76	W	10	O
	8			8	W	7	O S l t t w d
	28			64	W	20	O Aw y f m l m b
	10 36	1		40	W	10	
	36	1		365	W	20	
	35	1		285	W	10	
	3	05		26	W	20	] O t O
	34	05		21	W	30	Aw y f l m b
	32		18		W	2	
	32	05	19		W	20	
	30		25		W	60	B l l w l m t t l l m b t l t + 10 W
	25	05	30		W	95	
	24	3	51		W	0	
	23	4	56		W	30	O O
	18	05	72		E	15	O p l t g l l 2 28
Γ b y 26 SS	9 11	15	81		E	20	
	9		56		D	1	
	0	2	88		E	30	
	8 59		30		E	0	
	58	15	28		l	20	
	58	15	23		D	0	F t
	56		19		F	0	
	55		18		L	(0 ±	80 O
	1	2	10		I	10	M t l l
	4			11	F	3	D t l l
	48	7		21	I	20	
	41			8	E	15	S l t t l w d
	38	1		38	F	25	
	36			4	L	30	S l t l w l
	36			56	F	10	
	32	2		70	E	5	
	32			72	F	10	
	30	0		83	F	20	V y f t
	24			79	W	120	C V f t
	29			78	W	20	V y f t
	9 46			67	W	10	
	45	2		5	W	10	
	12	05		41	W	15	
	42	1		10	W	35	
	40	2		1	W	15	
	39	1		14	W	45 ±	D t h d
	39			12	W	20	
	36	1		10	W	70	
	8 44		2		W	30	O D t h d
	35	3	6		W	0	
	9 25	12	0		W	70	S N t
	21	4	29		W	5	
	16	8	54		W	30	
Γ b y 27 GV	9 45		89			15	O l h t g l 8 19 d 8 44
	42	2	27		F	20	A d t h d t k
	40	6	0		D	0	
	7	8	8		E	60 & 80	D p m t l l p d l y h g O d p l d t d t l

D t d b	H I S T	B	L t t d		L m b	H g l t	R m l
			N t l	S t l			
1907 F b y 7 G N							
	0 1	05	2	1	E	5	
	0 0	8		135	E	10	
	0 4	4		21	E	1	slightly U O
	8 35			6	E	10	
	35			32	E	35	O d t l d
	58			39	E	30	D d
	58			40	E	30	S m t l by t l s l O
		8		4	E	30	
		1		745	E	15	S O
	48	25		83	W	25	
	16	1		61	W	1	
	1 7	15		9	W	85	
		2		42	W	30	
		4		26	W	60	N w t t p
				165	W	20	
		1		135	W	30	
				10	W	15	
	J 1	1	8		W	25	Oh g g
	50	18	20		W	20 & 15	D
	17	4	58		W	30	
							O l l t g l l s s
y 28 S S	9 28		79		D	25	D t l d
	22		87		L	80	D O } C t l by t l t t p
	15	6			E	30	
	10		13		E	25	
	J		8		L	15	
	J		4		F	10	M t l l
		25		10	F	50	
	8 J			13	F	60 & 80	80 O
	58	15		28	F	10	
	55	05		32	E	20	B g h t f 25 f m b f t l t
	3	1		60	F	5	
	1	4		68	D	10	
	4	15		82	W	60 & 80	
	44	2		63	W	1	
	10 8	05		51	W	5	
	6	4		13	W	30	
	1			10	W	15	
	2			28	W	30	
	0			1	W	70 & 120	N t t p I w l t g t l t l t h t l f t t l g h t l b f l t w g t l y O
	9 5	1	8		W	25	
	51	25		3	W	20	
	1	18	19		W	30	
						100	
						50	
	8		58		W	40	I t O h g l t y d l l d b t h w y t l t + 28 W V y b g h t C O p l t g p l s s l
M 1 C N	10 17	5	42		L	10	
	1	1	31		F	80	
	15		24		D	80	
	4	15	20		L	30	
	0	2	17		F	30	
	0	2	14		E	30	
	0	05	11		L		
	0	1	8		F	20	
	9 57	1	1		L	45-85	D t h l l m t
	6	8		9	F	40	
	55	2		22	F	20	
	4	1		14	D	45	
	52	2		49	E	80	
	50	2		66	E	20	
	48	8		72	E	100	
	42			88	W	15	
	40	25		66	W	25	



D t d b	H ISI	B	L t t d		L b	H ght	R k
			N th	S th			
1907							
M 14	SS	9	41		F	30	
			40		L	25	
			40		F	40	D t l d
		6	0		F	30	S N t
		(	0		F	60	O t d t h l t l m
					L		B g l t t k t t h t t l t l m
		8	45		L	50	
			4		P	10	
			4		F	10	
			45	J 5	F	20	
			12	0 5	E	1	
		10	(		W	4	
			20	0	W	35	
			20	0	W	20	A O t k p t l t p f t h
			20		W	15	
			20	1	W	10	
			18	1	W	15	
			13	3	W	35	B l t d t h l t p m
			(	13	W	40	
			4	1	W	20	
					W	30	
							O i l t g p h 8' l 1 9h 24m
M 15	C N	8	20		E	10	( S l t t l w d
		10	14	1 5	L	20	N p m O
			10	8	E	8	
			10	1	E	25	85 C
			7	5	E	1	
			5	1	E	50	N i m O
			0		F	70	
			0	1	I	60	A O t k f t l t l b g t l t
						40	-1 E
		9	54	2	l	15	
			51	0 5	E	30	
			4		l	10	
			47		W	30	
			6		W	25	
			4		W	25	
		8	20	( 5	W	15	O A g l l t b l d f l l
				0 5	W	10	
				4	W	15	
		10	25	1 5	W	15	
			21	1 5	W	1	
			24	1	W	10	
			22	1	W	10	
			2	1	W	10	
			1	3	W	1	
			20	1	W	1	3 l d C
			18		W	15	
			17	3	W	5	
							C p l t l l 8 20 d 9' 13
M 16	S	9	20	6	I	180	A h l w 150 C
			10	7	F	45	
		8	4	0	E	20	
			43	6	P	45	F p t l b g t l t -30 E
			40		E	15	
			37		E	20	
			38	0	W	10	
		9	50		W	40	V y f t
			4	3	W	20	
			40	5	W	2	
			30	1	W	10	
			34	4	W	10	
			3	2	W	10	
							C p l t g p l 8' l l n d 9' 18
M 17	GN	9	20	4	E	150	V y f t C p n 9 b d d 170
			15	2	E	85	h g l
			12	10	E	80	



Dt	lb	H IS	B	Lttl		Lmb	H gl	Rm k
				N	S			
1007								
M	110	98	J 38	1	9	W	5	} C t d t t p C h t p l g s
			1	0	53	W	2	
			1	1	49	W	20	
M	h11	88	9 8	3	745	1	20	I O t p m t l m b t l t + 8 h I l f w t h d f l t + 10 f S l t t h d 8 8 10 60 20 1 15 30 ( 20 10 20 0 10 45 ± 10 60 30 30 30 35 3 50 0 60 15 3 30 10 30 30 0 40 40 50 40 25 25 110 10 0 20 20 40 0 10 20 15 50 ±
			0 r	0	715	1	10	
			4	1	0	1	1	
			2	4	52	1	5	
			17	2	31	1	5	
			10	05	1	1	(	
						1	0	
			8 50	9	10	1	10	
			3	3	15	1	60	
			4		5	1	20	
			71		(2	1	15	
			4)	0	(7	1	30 ( 20	
			44	1	8)	1	10	
			1	5	7 5	1	20	
			10	5	58	1	0 10	
			3	15	115	1	45 ±	
			0 38		Dq t	1	2	
			38		285	1	10	
M	h12	GN	8 55	3	51	1	60 30	A t m f w f m t p f l t + 15 E 30 60 30 35 3 50 0 60 15 3 30 10 30 30 0 40 40 50 40 25 25 110 10 0 20 20 40 0 10 20 15 50 ±
			8	8	385	1	30	
			45	0	4	1	30	
			13		10	1	60	
			41		19	1	30	
			10	2	2	1	35	
			10	15	27	1	3	
			98	5	40	1	50	
			37	05	4	1	0	
			94		59	1	60	
			80		(	1	15	
			9 9	2	37	1	3	
			6	3	2	1	30	
			7	35	18	1	10	
			3	1	1	1	30	
			1		10	1	30	
			0	35	22	1	0	
			0	15	28	1	40	
			0	15	35	1	40	
M	h13	89	J 16	5	2	1	50	T l y t l m b t l t - 37 E n C I p f f l t - 68 E } C t d t t p B a t t l R t R t l n t w t w l
			9	1	35	1	40	
			9	1	20	1	25	
			9	1	24	1	30	
			5	05	19	1	20	
			1		9	1	10	
			8 50	15		1	5	
			59		4	1	2	
			73	1	24	1	25	
			15	8	44	1	110	
			10	15	58	1	10	
			35	1	64	1	0	
			32		8	1	20	
			32		88	1	20	
			0	05	61	1	40	
			17	05	57	1	0	
			9 47		49	1	10	
			46		7	1	20	
			18		19	1	15	
			41	1	5	1	50 ±	

Dt	lb	H ISL	B	L t t d		Lmb	H ht	R m k	
				N r d l	S t l				
1907									
M h 13	SS	9 38	15	9		W	35	} C t l by t l t t p C p h t g j h 8 l 88m 9 l l	
		36		5		W	15		
		36		7 5		W	20		
		35		9		W	25		
		32		)		W	20		
		30	3	34		W	25		
		8	4	4		W	15		
M l 14	GN	9 32		7 3		F	2		} S N t A C t k 210 h h b t l p m  C A t l l l l t l n b C N t t p A t l d t l l f m l m b C i l t l l 9 l 25 9 l 54 l l 0 l 35  } O t d 60 h g l O  A l l t d t h d l d w f t h O p l t p h t b m g t h H g h t 65  } O t l t t l by t l 60 h g l O  C i l t g j h 8 l 81m
		25		63		D	390		
		32	4	53		E	45		
		31	12	27		E	0		
		30	2		4	E	1		
		30	2		8	E	1		
		29			11	E	30		
		29	4		1	E	60		
		25			30	I	90		
		5			8 5	E	40		
		25			42 5	E	45		
		2			48	D	30		
		23	1		61	E	20		
		22			66	F	1		
		20			82	W	35		
		50	1		40 5	W	3		
		47	15		35	W	25		
		46	8		15	W	80		
		42			2	W	30		
		40	8	45		W	30		
M h 15	GN	9 25	4			E	5	} O t d 60 h g l O  A l l t d t h d l d w f t h O p l t p h t b m g t h H g h t 65  } O t l t t l by t l 60 h g l O  C i l t g j h 8 l 81m	
		20	6	31		E	50		
		20	15	26		E	30		
		14	2	10 5		E	15		
		18	0 5	C		I	25		
		1	1		3	E	15		
		10	5		15 5	E	0 & 60		
			2		40	F	30		
			15		43	E	30		
		8 56	1		48	E	30		
			2		2	F	20		
			2		82	I	20		
		55	0		80	W	10		
		55	6		78	W	10		
		9 55	6		13	W	4		
		40	3		15	W	30		
		38	2	18		W	20		
			1	26		W	10		
		35	4	41		W	30		
		2	1	40		W	30		
				78		W	25		
M h 16	SS	9 10	1	8		E	10	} O t d by l t m	
		5	3	52		I	2		
		8	4	34		E	15		
		48	0 5	2		L	10		
		47	0 5		2	E	10		
		45	2		11	F	35		
		4	1		17	E	8		
		40	0 5		2	D	40		
		35	0 5		47	E	15		
		34	1		63	D	0		
		30	1		69 5	E	25		
		20	0 5		72	E	15		
		27	0		88	F	10		
		9 48	4		47	W	15		
		48	5		34	W	90		
		38	1		C	W	60		





D t d b	H I S T	B	L t t d		L m b	H g h t	R m k	
			N t h	S t h				
1907								
M h 19 -ntz	SS	8 58 50	2 16	2 0	D E	15 35	M t l l T l t p t f t h l t l t - 2 D w b l M g	
		45 41 40 35	1 1 15	45 68 5 73 62	E E W	10 25 5 0	] S l n t t w l h t l T l r t l m b t l t - 07 W C A l t h l l l t	
		10 6 9 50 50 50 45 48 48 36	2 2 1 16	17 85 21 20 17 1	W W W W W W W W	100 15 20 80 20 20 10 10		
		28 20	1 1	2 7 34	W W	10 15		40 & 90 A g l f t l p m t d t t l t h t l t 85 h g l O
				49 81	W W	10 15		P g l d L m b w l l g f t 9 l 50 m C p h t g p h 8 l 25
M h 20	GN	8 12 40 39 37 34 47 30 28 47 25	2 2 7 5 4 8 1	25 17 11 45 18 5 23 5 51 78 78 68 5 64 5 40 22 5 21 19	E E E E E D W W W W W W	15 10 20 20 35 30 90 50 1 5 10 20 20 40 80 90		S l t t l w d C S l t f l t - 27 D w l t 150 A t m f w t w d f m t t p C N p m n O C D t h d D 90 O C p h t g p h 8 l 47 m d 9 l 6
		50	18	34 5	W	70 & 15		
M h 21	SS	9 8 4 8 58	6	73 58 5 26 20	I E F D	10 10 10 30		M t l l T h t p m t w b l N d M g b t l t t h m t h n H y d g n
		54 51 45 37 29 29 9 10 38 37 35 33 29 28 27	18 10 0 5 1 1 0 5 0 5 2 2	18 8 5 20 81 82 88 45 5 38 29 25 5 14	D D E E D W W W W W W W W W W	10 10 25 15 30 25 40 10 25 10 25 40 15 40		D b l B g h t t b T w t k m t g t t p C t d t h p m t l t + 8 5 W b y C t k
		25 21 18 14 10	15 3 4	24 28 5 37 56 79	W W W W W	2 80 7 10 10		C p h t g p h 9 l 18 d 9 l 89 m
M h 22	GN	8 81 81 91 30	1 15 0 5 0 5	22 5 10 12 26	F L E E	20 15 10 10		



D t d b	H I S T	B	L t t l		L m b	H g h t	R m l
			N t h	s t h			
1907	v						
M h 25	GN	8 37	1	73	W	20	
- t2		9 1		95	W	2	D t h d
		15	05	50	W	20	
		18	1	88 5	W	20	
		18	5	35	W	2	
		18	2	21	W	25	
		10	2	29	W	2	Ch g g Th p m w d t tly bl
		10	2	34	W	45	D D d b B ght Cl g M h b ght C t l th l t p m
		8	1	52	W	20	
		1	1	56 5	W	1	
		1	1	61	W	20	C ph t 1 h 8 12 d 8' 35
M h 26	SB	9 2		58	E	10	
		8 7	1	29	L	0	
		58	05	28	L	20	
		55		21	L	25	
		53		22	L	10	
		53		19 5	E	80	M t th p m t l t + 24 E t t p
		51	1	15	E	25	
		40	5	55	L	20	E t d b g l t D b l f i t t l th M t l l N t h d f t l p m w w l l n N d Mg
		35	6		E	40	M t l l
		30	1	25	L	4	
		30	1	26	E	15	
		28	1	33	L	20	
		24	1	52	E	20	
		22		67	L	20	
		20		9	L	15	
		18		81	E	10	} V y f t
		16		74	W	25	D D t h l
		33	1	53	W	10	
		32	3	40 5	W	30	
		31		38	W	30	
		28	9	10 5	W	55	D b l
		22	15	9	W	20	M t l l
		20	1	10 5	W	2	
		18	9	30 5	W	35	N t l l f tly ble N d Mg
		10	5	56 5	W	65	C ph t g ph 8' 5m d 8' 42
M h 27	SS	9 13	1	74 5	L	20	
		8 6	3	34	D	5 30 &	A g l f f p n
		30	1	17	D	20	C t d t t h l t b
		24		10 5	L	10	M t l l B t d t l t - 18 D C
		22	9	28 5	L	10	
		12		7	L	50	D t l d
		10		63	L		
		9		69	L	25	D t l d
		6		79	E	60	
		0		75 5	D	5	D t h d
		8 53		65	W	25	
		10 10	4	40	W	50	
		7	8	4	W	50	
		3	1	17	W	10	
		1		12 5	W	30 ±	V y f t d b l f i t g t h t h
			1	9 5	W	20	
		9 53		5	W	35 ±	A t l w y f m l m b
		57	4	10	W	20 & 35	
		55		33	W	10	
		55		35	W	10	
		50	9	54 5	W	65	C ph t g pl 8' 35
M h 28	SS	9 8	05	81	E	20	
		7	05	80	L	20	
				68	E	10	



D t d b	I IST	B	L t d		L l	H g l t	R l	
			th	5 th				
M h 31	SS	J 10	8	50		I	0	Cl Mg r b g l t b 120 C M t l M t l E d t l d d l M t l S l t t w d m C t h II C t C l o n o Y y f t D t h l D D t h d D b l 7 C C l t l l q l l 70 C M t l A l w p m t l t k 3 O l g s A t l p g t l g l t m t t h t S l t t w d D D D D t l l B d t t l } C t C D t l d C t d t t p N t t p P l d C h t g p l 8 h 30 S l t w t w l
		1	7	275		I	10	
		8 57	4	1		I	0	
		54	P		15	I	1	
		52			85	I	2	
		1	0		13	E	45	
		40	05		155	R	10	
		46	3		2	I	40	
		44	7		36	E	70	
		41	2		39	E	0	
		38	4		15	L	2	
		8	4		51	I	40	
		7			65	L	100	
		20	1		60	W	85	
		14			5	W	30	
		13			08	W	30	
		4	05		47	W	5	
		41	1		41	W	5	
		40			11	W	5	
		37	05		1	W	10	
36	3		0	W	5			
33	1	14		W	10			
31	2	35		W	90			
7		37		W	25			
6		40		W	15			
4	5	5		W	3			
Ap 11	SS	9 5	7	525		I	90	
		1	05	27		F	10	
		8 6	8	L 1		I	20	
		4	15		11	E	30	
		58			13	F	30	
		0	7		20	E	8	
		42			31	F	35	
		40	1		40	L	10	
		36			46	I	8	
		3	2		5	F	110	
		31			70	R	25	
		30			55	E	5	
		6			8	E	40	
		10 56	05		7	V	35	
		6	4		50	W	10	
		6			17	W	30	
		5			40	W	25	
		5			35	W	25	
		55			83	W	20	
		3			22	W	40	
9 11	1		175	W	0			
41	1		12	W	20			
39	8	10		W	10			
36	1	235		W	3			
32	45	53		W	0			
Ap 12	GN	10 45	1	71		I	45	
		42	6	525		E	60	
		40	5		05	I	85	
			15		16	E	15	
		8 37	2		41	L	20	
		37	15		46	I	0	
			1		64	I	45	
		10 35	6		78	E	4	
		32			72	W	60	
		30	3		645	W	45	
	15		4	W	30			
	1		15	W	25			

D t n d b	H I S F	B	L t t l		I m b	I t t	R k
			N t l	S t h			
1907							
Ap 1	GN	10	46			W	20
— tã			47	10		W	
			48	1		W	50
Ap 13	SS	10	35	15		F	50
			36			I	30
			37			F	30
			38			L	0
			39			I	20
			40			E	10
			41			F	0
			42			I	60
			43			I	10
			44			W	1
			45			W	0
			46			W	30
			47			W	15
			48			W	40
			49			W	15
			50			W	85
			51			W	15
			52			W	30
			53			W	3
			54			W	
Ap 14	GN	9	41	0		D	30
			42	05		I	30
			43	05		I	0
			44			I	30
			45			F	0
			46			F	80
			47			E	1
			48			F	0
			49			I	4
			50			I	30
			51			I	0
			52			L	0
			53			I	1
			54			I	1
			55			I	15
			56			I	20
			57			I	0
			58			I	20
			59			I	20
			60			F	30
			61			E	0
			62			W	30
			63			W	10
			64			W	20
			65			W	10
			66			W	20
			67			W	10
			68			W	20
			69			W	10
			70			W	20
			71			W	10
			72			W	20
			73			W	10
			74			W	20
			75			W	10
			76			W	20
			77			W	10
			78			W	20
			79			W	10
			80			W	20
			81			W	10
			82			W	20
			83			W	10
			84			W	20
			85			W	10
			86			W	20
			87			W	10
			88			W	20
			89			W	10
			90			W	20
			91			W	10
			92			W	20
			93			W	10
			94			W	20
			95			W	10
			96			W	20
			97			W	10
			98			W	20
			99			W	10
			100			W	20
Ap 15	SS	9	10			D	30
			11			E	60
			12			F	90
			13			E	70
			14			D	10
			15			L	60
			16			E	1
			17			F	10
			18			F	80
			19			E	20
			20			F	1
			21			F	10 & 20
			22			F	2
			23			F	15
			24			W	20
			25			W	5
			26			W	





Dt db	H ISF	B	L t t l		Lmb	Ht	R n k
			N th	S tl			
1907							
Ap 10	(N	8 4	1	75	I	10 90 & 45	10 115 118 O t 8 34 8 d J l d p t ly O l l g t l y d f t f
		38		11	I	K	
		37	1		L	10	
		37	15		L	1	
		3			L	10	
		6			F		
		8	1		E	1	A t l f t l t l m l t l t - 26 E
		34	1	8)	L	0	
		31	0	42	I	20	C ) C t l by O t l t t p
		31	1	17	I	10	( ) A l t l t t w y f m l m b
		34		1	I	45	
		32	05	7	W	10	A l t l C
			1	76	W	10	
				8	W	4	
				2	W	5	
		9 16	15	30	W	5	B l t t t 80 C O t l t - 1 W
		1		10	W	90	I p t i m l O t l t - 1 W
		14	1	11	W	1	
		4	32	6	W	2 60 45 & 10	A l f l l y t l t
		8 31		74	W	15 ±	C O l l l l 8 31 8 55 l l 13
Al 110	SS	8 17	(	23	I	35	M t l l O l y b l C
		13	1	4	I	10	
		37			I	10	
		35			F	10	
		33	2	30	I	10	
		31	1	15 5	I	25	O l g t t l l
		28	1	50	I	2	I t D t l l
		23		0	I	70 ±	
		21	0	78	I	25	
		20		81	I	0	
		18	1	80	W	0	D l l
		18		7)	W	10	
		16	05	8	W	2	
		15	1	7	W	15	D l l
		13	1	7	W	75	
		9 4	10	27	W	10	
		7		1	W		
			1	18	W	10	
			11	34	W	60	
		8 51		(d	W	20	( l l t l l 8 40
Ap 111	(N	9 26	1	55	E	0	
		25	4	2	I	60	
		20	0 f		I	20	I k l l
			0	26	W	20	
		32	9	42	W	3f	Th l t t l
		30	0	9	W	45	S l t t l w l
		28	0	11	W	1	
		27	4	37	W	20	W t l l
Ap 112	SS	8 48		83	I	10	I t
		40		05	L	10	
		38		6	L	2	
		31	6	4	F	20	
		28	9		E	15	
		28		45	I	0	A f t t k l t t f l t - 2 E
		28		10	E	9	A t k l t g t w d d t g t l l t
				18			p m
		8	1	42	F	2	D t l d
		21	3	4 5	F	60	50 O
		18		61 5	F	15	
		17		66	F	10	

D t n d b	H I S T	B	L t t l		L m b	H l t	R k
			N t h	S t h			
1907							
Ap 1 12 - 12	SS	8 13		8	W	1	
		13		80	W	8	
		13		79	W	20	
		10		60 5	W	70	100 O
		11	1	4 5	W	40	8 b d t t 1
		9		36 5	W	55	
		7	1	9	W	5	
		3		5	W	10	
		0		14 5	W	60	B d t t 1 N M l l g l t t b
		8 56	0 5	18	W	10	S N t
		53	3	21 5	W	10	V b l N M l F
		1		87	W	0	
		49		4	W	10	
		46	1	67 5	W	10	
44		84	W	10			
Ap 1 13	SS	8 57		79	D	10	O l t p h J 59
		6		60	D	10	
		5		5	E	40	
		48		16	F	10	
		48		1	E	0	
		46	4	9	E	15	
		40	J		E	70	
		87	1 5	48 5	D	2	
		10 2	0 5	67 5	L	15	
		8 85		77	W	10	D t l d
		88		80	W	30	S l t t w d
		32		55	W	10	
		9	3	48 5	W	0	N M l l t t b
		6	3	80 5	W	80	l l l t w l 7
4		28 5	W	30			
		18	W	50	M t f t d p p d t 9 17 t l l		
14	3	6 5	W	3	b l t t l l p t t t l t l t		
9 7	1 5	19	W	25	A t k b t l 2 l g l t l l		
0	4	25	W	35	d m t l m b t l t + 1 v		
1		4	W	15	T l p t t l t + 25 W l l N d		
					M g		
					C p l t p h J 8 m		
Ap 1 14	GN	8 4		51	I	100	
		51	2	27	E	2	
		0	4	22	E	30	D l l O l y 2 b l C
		47	6	10	I	20	
		4		1	E	25	A t l 2 l d t h d f l l
		46	4	9	E	20	
		46		13	E	20	
		45	8	2	F	0	
		48	3	42 5	I	45	
		41	1	47	E	20	
		40	0 5	54	I	5	
		37		82	E	0	
		35		7	W	15	
		9 0		45 5	W	45 and 60	
12	1	32	W	20	A l d b t (0 h g h f t t f m l t		
7	4		W	25	- 80 t l t - 43 W		
4	10	1	W	40	A b t 70 C		
1	4	25	W	30	C p m t l t l t + 13 W		
		35	W	10	D b l O l y 2 b d C		
Ap 1 15	SS	11 4	0 5	56	E	30	C l h t p l 8 2
		t 15	0 5	38	E	0	B d t t p
				33	D	50	D t h d
			1 5	27	E	35	
			1 8	25	E	15	
				18	E	20	
		12	E	15			

D t d b	H IST	B	L t t d		I b	H ght	R k
			V th	S tl			
1907							
Ap 115 12	SS	1		23	F	5	
		8		8	F	20	
				685	E	10	
				8	W	5	
				48	W	0	
				42	W	20	
				38	W	60	A l t g t k 6 l g l l d f l b
				34	W	40	
		4		2	W	30	Ob d l d l y l g b k l l
Ap 116	GN	9	84	57	F	60	
			34	5	I	40	
			81	3	I	20	
			23	18	I	30	
			8		L	20	
			7		L	1	
			2		I	1	
				30	I	10	
				785	F	20	
			49	15	F	40	O
			49	1	E	40	O
			1	05	L	15	
			49		W	30	C
			1		W	20	O l m a b d l 60 l 6 l
			0		W	0	
			0	05	W	15	
			49		W	30	
			15		W	0	T l b d d w d l y t t l t p a m
				35	W	10	
			40	10	W	0	
			44	4	W	60	
			11	05	W	0	
			40	1	W	40	
			39		W	30	Bl nd d d t l d
			98	1	W	30	
			37	1	W	30	F t
			15	1	W	30	C i l t 5 l l 8 h 19 m
Ap 117	SS	9	15	59	I	45	O t l t l m l l y t l l l
			11	21	F	25	
			11	185	I	0	
			8		L	85	D bl
			89		F	10	R i l l y l l 6 g
			37		I	0	
			35		D	20	
			81		E	45	GO I O
			82		L	10	
			80		I	2	
			29		W	10	F t W t t h t l
			29		W	40	J D t b l
			27		W	50	D a
			0		W	20	
			9	11	W	2	N l l g l C b t t l w C t k
			31		W	15	t d g f m l t - 34 t 4 W
			9		W	1	
			5		W	10	
			27		W	0	O p h t p h 9 l 9 (l l l l t)
Ap 118	GN	8		62	F	45	C
			J		E	15	
			7		W	10	A h l k
			6		W	40	
					W	45	D t l d
			15	15	W	20	
			18		W	10	
			1	05	W	15	
			12	24	W	90	

Dt lb	H ISF	B	L t t l		L b	H ght	R l
			N th	S th			
190							
Ap 118	GN		31		W	4	C D t l l
		1	52		W	40	
			65		W		C
Ap 119	SS	05	33		E	10	C r l t g 11 81 25
			21		E	15	
		05	65	715	E	80	M l l t b
					E	10	C p m d f m l t - 76 t - 81 E
							l 00 h l
				575	W	30	
		05		54	W	30	
		2		44	W	20	
				14	W	10	
		35		7	W	3	V y f t p t b
			29		W	10	
			8		W	20	
			52		W	60	A C t l b t 4 l p t h g h t n
							b
			55		W	20	
			85		W	20	V y f t
							C p l t 1 h 81 16
Ap 120	GN	3	27		I	45	
		1	10		E	60	B l t t l
		15	13		E	80	
		0	8		L	?	
		15	1		E	80	
		15		0	I	80	
		1		14	I	20	
		1		1	E	1	
		2		445	I	70	
				4	F	20	
		0		85	W	20	
		3		70	W	4	
		1		68	W	1	
				0	W	60	D d t t b l t t p
		15		48	W	30	
		2		33	W	30	C t d t t j
		05		205	W	15	
				14	W	8	C t d O
		1		11	W	45	
		1	105		W	1	
		1	1		W	1	
		1	08		W	1	( p h t g 1 h 81 21 m
Ap 121	SS	1	80		L	10	
		1	41		L	10	O l g h t l y d p l d t d
			7		E	10	
				1	L	2	
		0		17	E	20	T l f w l d 4
		1		4	D	10	
		2		60	I	20	
		15		8	W	60	5 C
				73	W	10	
		1		5	W	2	
		1		43	W	80	
		2		86	W	20	t d t b
		15		82	W	1	
				175	W	30	C D t l d
		1		7	W	20	
		2	75		W	0	
		3	18		W	0	
		1	75		W	30	A t l b t 7 l f w t h g h t t p
			27		W	60	
			58		W	1	
		05	60		W		
		15	05		W	10	
							Th l
							C l h t 1 h 11 14



Dt d b	H IST	B	L t t l		L m i	H h t	R m l
			N t h	S t l			
1907							
Ap 12	SS	8 15		06	W	100	Sl t tw d M t l t 9h10m
— 12		9 15	0	1	W	10	
		11	1	3	W	0	
		10	4	26	W	25	
		7	2	1	W	35	Oh d g p lly C d D l hly l pl dt
		7	1	9	W	0	
		4	5		W	30	An gl l
		59	3	25	W	40	N pt b
		59	1	31	W	20	
		57	05	34 5	W	1	
		8		49	W	10	C
		54	6	56	W	30 & 3	
		(	1	61	W	10	O
							S N t
							C pl t pl St 6m
Ap 1 6	GN	8 41		21	E	35	
		40	2	7	E	75	S V t l
		35	2		L	0	
		21	2	8 5	E	10	O
		21		18	I	90	O Sl t thw l
		30	1	41 5	E	00	I O t d t t l b th l t
		30	2	16	E	60	fth m t gt th t l m
		7		5	E	35	Sl t tw d t l l
		27	3	9	E	30	Sl g lly b d t l l
		f	1	64 5	F	1	
		2	05	84	E	20	
		21		43	W	40	O D t h d
		52	15	19	W		
		51	1	1	W	30	
		0		Lq t	W	20	
		0	0	28	W	5	
		0		32	W	85	D t l l
		47	6	53	W	95	A g l l
							S N t
							C l l t ph 8 1m 8l 14 d 1 18
Ap 1 27	SS	11 17	1	47	W	35	
		40	05	10	W	2	
							N b t l l l t l A 180 2Jr
Ap 1 28	GN	13 24	15	25 5	E	30	
		8	2	48	F	50	
		22	15	72	W	20	
		0		47	W	65	
		0	05	40	W	55	Sl t t d l th
		20	14	13	W	60	
		8	1	44	W	30	B d w t d
		16	1	55	W	20	
		16	2	57	W	2	
		15	05	74 5	W	15	
Ap 1 29	SS	8 54		50	E	0	O
		58		19	E	15	
		7	2	Eq t	E	30	
		50	4	2	I	10	
		48		8	E	40	
		45	2	47	F	30	O t d by O t k
		54	2	70	D	30	
		54	2	81	D	65	O
		9 32		87 5	W	50	D t l d
		32		35	W	20	
		29	05	16	W	20	
		23	3	9	W	10	
		18	1	19	W	60	Sl t tw d 90 O
		15	3	41	W	85	5 b d O
		11	1	58	W	35	O pl t ph 8 54m

D t d b	H I S T	B	L t t l		L b	H l t	R m k
			N t	S unt			
1907							
Ap 130	GN	14 4 8 6 86 14 50 51 9 17	2 2 1 1 15	35 17 195 67 69 J 05	E J P L W W W W W W	25 20 20 1 45 20 0 1 0 30	D t l l B t l l l t + 34 W O C p h t j h 3 38
My 1	SS	5 51 15 15 30 9 1 15 c	15 05 2 4	35 16 9 61 77 41 4 58	L L I I W W W W	35 90 90 60 30 2 5	C n t l b b d 120 l gl C D t h d O l m l y t l l b t l t - 58 E V y f t N w t t p C p l t g j h 3 1 m
My 2	GN	h 7 55 0 0 8 12 3 31 9 0 0 9 5 1 9 21 9 0 0 0	2 1 1 1 1 0 5 15 2 1 3 5 3 05 1 1 1 1	59 37 18 1 29 68 715 70 17 11 325 9 15 5 15 58 51 8	I I I I I I I W W W W W W W W W W W W	10 80 110 110 20 20 20 10 0 30 60 30 2 1 10 90 15 15	65 C 11 11 11 t d by b o l l t 140 l gl C D t l d t d by t k 5 l t C S l t t d C C t d by t l t t l C C p l t j l 3 36
My 3	SS	8 5 47 40 90 21 28 0 19 18 16 15 9 1 23 1 1 0 9 59 58	15 1 1 1 05 1 1 1 1 1 1 2 2 2 05 05 1	51 37 20 19 56 80 80 815 84 7 99 4 35 11 21 34 54 585	B F J I I E E F W W W W W W W W W W W	1 10 115 120 25 5 20 15 10 15 75 30 25 80 10 15 10 15	A l t O t k p e d t l f O t l S l t t k y L l b t 75 w y f m i m l 200 h gl C I p t m i l l B g l t F t C O l k 50 n O C p h t j l 3 3 m
My 4	GN	8 31 30 7	3 1 2	515 31 125	E D E	60 20 15	S C

Dt db	H IS 1	B	t l		L b	H lt	P l
			N th	b th			
1907							
My 4 - 22	GN			8	I	10	
		8 21		79	W	90 ±	D t l d b l t t l 60 l g l d y f t
		21	05	78	W	40	V y f t O
		20	05	74	W	15	
		20	4	70	W	50	F l t l 60 l l d y f t O
			15	40	W	90	D t l l
		52	2	37	W	70	\ w i t b
		50	3	11	W	15	
		42	1		W	11	l d O } N l y t d l y O t k
			4	15	W	90	
				25	W	15	D t l l
		40	1	31	W	30	
			2	36	W	10	
							C l l t 1 l 8 l 9 4
My 5	SS	9 9		2	I	10 ±	E t
		8 59		14	I	3	B d t t l
		8		8	E	0	
		56	05	28	D	0	
		4	2	31	I	25	D b l
		54	15	44	D	10	
		54	1	46	L	30	
		48	1	71	W	25 ±	V y f t
		9 40	15	1	W	80 ±	E t
		40	1	7	W	1	I t t l l t p f t
		3	1	20	W	60 ±	B g l t } O t l
		37	6	28	W	60 ±	l t b } O t l
							8 l
My 6	GN	9 0	4	2	I	80	O C
		8 57		05	I	15	
		55	1	5	I	90	
		48	15	14	L	10	I p t t h t } C t d b y O t k
		4	0	15	L	100	B d t t p
		41	0	27	I	70	
		40		31	I	20	
		38	4	35	L	35	M t t l t p
		38	8	43	F	60	} C t d t b
		36	1	4	F	30	
		3	1	5	I	20	D l l
		31		7	W	80 ±	D d t t b l 60 O
		9 8		19	W	9	
		7	15	19	W	30	
		5	2	28	W	4	} O t l l y C l
		5	2	29	W	60	
		5	2	31	W	10	M t t l l t l } C l l t p h 8 l 9 2 t t l
My 7	SS	9 40	05	51	I	60 ±	S l t t w d
		37	1	45	L	25 ±	V y f t
		85	5	2 5	D	40 ±	J h l l n t O
		80	15	8	I	20	
		29	1	30	I	15	
		27	2	12 5	I	60	C t C
		2	05	58	D	10	
		20	15	78	W	10	
		58	2	52 5	W	2	O O
		55	0	32	W	30 ±	
		10 54	2	8	W	30	C } O t d b y O t l t t p
		9 47	2	27	W	30	
		17	15	1	W	30	C p h t p h l l 4
My 8	GN	9 28	3	54 5	F	60 ±	
		18	3	33	E	0	
		16	1	28	E	1	O l y l b d O
		14	2	28	I	20	
		12	25	18	E	30	



Dt	ab	H IST	B	I t t d		L b	H l t	R k
				N t l	b h			
1907								
M y 8 - n b z	CN	12	2	14		l	20	
		12	2	11		l	0	
		9	6			F	( ±	F C t k f w t l w l f m t
		0	15		8	F	20	
		0	5		145	F	20	
		0	2		2	L	3	A t l f n t p l y m t t l l t p m t
		8	6		30	l	80	O n t d t t l l t l y O t k
		51	0		485	l	1	} O C
		1	15		50	l	30	
		0	1		14	F	30	
		0	1		66	F	1	
		C			68	F	45	A l t l d t l
		50	1		70	F	10	
		50	0		73	F	10	
		48	1		87	W		
10	1		80	W	100	D t l d		
38			45	W	70	D t l l f l m l		
9	4		63	W	60	D t l l f l m l f t		
41	1		555	W	6	A f t t k t d m l d f		
						l t - ( l W F p m t l m l t l t		
						l W		
	86	5		32	W	40		
	38	2		20	W	10		
	31	3		1	W	10		
	30	2	32		W			
	27	5	1		W	2		
	28		0		W	20		
C o l l t g l l o l								
M y 9	SS	3		72		F	10	
		31		65		F	2	
		11	29	4	55	I	45	D t l l
		2	1	5	30	L	10	
		1	4			I	40	
		9	10	3		F	2	
		8	57	05		I	30	
		51	0			F	5	
						W	10	
		11	37	1		W	40	± C V y f t
			11	05		W	20	±
			40	2		W	0	±
	9	2	415	W	1			
	95	1	8	V	20			
C p l t p l l l l 39								
M y 10	GN	9	20	1	5	F	70	
		18	3	8		F	100	
			9	8		F	3	
				30		E	40	
		14		13		k	80	
		20			395	J	70	A C t k 90 w y f l l
		10	1		48	J	60	A C t k p l f t h t y f l t
								-43 F
		25			79	W	4	A w y f m l m b
		33	1		455	W	30	
			1		43	W	40	
					39	W	9	D t l d
31	25		385	N	3			
30	05		11	W	10			
9			7	W	5	± H n h b l w y t l		
			5	W	2			
26	4	30		W	60			
24	15	41		V	20			
C p l t p h l l 0								
M y 11	SS	8	40	6	59	E	210	± In C 270 t 8 20 l t l y h d t
								l l l m
		35	05	49		F	15	
	32	35	37		F	45	B g l t t T Mg l y b g h t	
							t b	

Dt d b	H I 9 T	B	L t t d		I b	H ght	R m k		
			N th	S th					
1907									
M y 11 — 22	SS	8 20	1	16	7	E	0		
		5	1		11	L	30		
		25					5	T p b h b t l d t l m t t h l t d t h t p m	
		21	05			14	L	25	
		0	1			3	E	10	
		14	25			415	E	5	T p b l t l w d
		8				61	D	2	D
		4	15			68	I	70	F t A t t l t l f t l t 70 h h
		3	1			78	L	0 ±	F t A l d l t w y f m l b a l t g t l w l
		2				51	W	1	
		1				8	W	30	9 l t t l w d
		9				755	W	15	
		4				68	W	30	D t h l
		2				60	W	1	
		2				1	W	0	D t l l
8 56	05			45	W	60	D t d f l t - 40 W		
54	15	15		43	W	20			
52	5		18	7	W	20	9 l t P t l y b l t l t l l		
49	3		27		W	10			
					W	00 ±			
						1	C p h t p h b 8 0 d l l i m		
M y 12	GN	8 8	1	97		E	20		
		30		82		E	10		
		30	1	4		E	30		
		29	05	15		I	15		
		27				L	10	S l w d l l m t t l O	
		27	15		15	D	10		
		6			19	E	30		
		25	3		8	I	30		
		25	25		44	D	80 & 40	D b l	
		20	1		48	D	30		
		0			71	F	1		
		19			7	E	60	D t l d	
		19			8	E	10		
		7			87	D	0		
		6	3		80	W	60	D t l d	
0	3		76	W	80				
49			605	W	15 & 30				
	15		43	W	30	V y b g k t O			
48	3		1	W	80				
43	8		85	W	30				
10	0		1	W	40				
			9	W	1				
			815	W	10				
	15		49	W	20				
			51	W		N p t n O t l t l p h h w d p l l t f b t O A			
	88	2	4	W	15	C p h t p h 8 12 18 47			
M y 13	GN	8 48	0	64		I	10		
		47	2	5		F	20		
		46	3	385		I	0		
		45	05	30		I	20		
		45	05	2		L	15		
		43	15	16		F	10		
		42	15	13		E	10		
		41	3	8		F	80	T l l m l t g t h	
			1		5	E	0		
			1			E	15		
						I	1		
						I	20		
			05			I	0		
			15			D	20		
			05			E	15		
				E	65	D t h d			

Dt	ll	H 157	B	L t l		L b	H glt	R m k
				V th	S tl			
1907								
M y 18 - 11	C N	8 33			78	E	45	
		31	05		86	E	0	
		30	05		88	W		
		30			75	W	90	O l t - 1 l d l d m t l b g
		4	1		43	W	3	
		7	1		2	W	3	
		5	3		15	W	10	
		7	7		10	W	4	
		0	7		3	W	30	
		5	8	3	30	W	30	4 4 95
5	4		19	W	60	P tly l t h d f w l m b		
1	1		79	W		C p l t g j h 8 d 8 1 2		
M y 14	G N	9 5		41		1	90	80 n C
		0	2		8	1	8	
		19	15		86	W		I w C d l l t l
		15	2		77	W	90 ±	O l l b y C t l
		3			72	W	30	
		30	2		88	W	10	D t l l
		29	2		43	W	95	D b t 4 1 g
		29	2	10 5	12	W	20	
		7	1		49	W	45	80 O
		7			51	W	17	C j h t j h 8 90 d 8 41
M y 1	C N	8 14	0	19		1	10	C
		14	0	14		1	10	C
		9 3	1	28		L	30	T w O t k t d b t h d f o n t l
		3	1	29		E	60	C t l
		14		18		F	10	S m t l b y t k b u t C l g
		0	1		0	1	20	
		8 8	3		75	1	30	
		(	1		14	1	1	
			05		47	1	15	
		51	05		51	1	10	
14	2		88	1	10	C		
0	3		74	1	100			
0	3		86	W	1			
9 47	05		81	W	60	V y f t O		
4	1		6	W	7			
4	(		50 5	W	1			
			21	W	30 40			
	1		115	W	4			
40	3		24 5	W	4			
8 14			81	W	10	C d t h l		
9 14			38	W	25 ±	C d		
8 30	2		37	W	0			
8 14			51	W	15	O j h t j l 8 1 1 n d 8 1 2 9		
M y 16	G N	10 12	15	78		L	35	D b l 40 O
		11	7	85		I	15 & 25	M n t O
		10	15	2		I		O p m t n d t l t - 2 F
		9	5		8	L	25	A O t k f t p m t l b n t l t
								-14 1
		11 0	2		20	E	10	C
			1		91	D	2 ±	O
		10 8			1	E	25	N t l g l O
		11 0			46	1	15	C
		10 5			68	F	20	
11 0			82	L	20	O		
10 8	15		80	W	85	A C t l t l m b t l t - 77 W		

Dt nd b	H I b T	B	L t t d		L mb	H ht	R m k
			N tl	S th			
190							
My 16 - 22	GN	10 0 0 0 20 20 18	1 1 2 4	70 6 62 58 13	W W W W W	15 8 80 1 40 45	A O t k p d tw d f mtl tp D a b l n C 130 C } Th t t tl f m d 100 ± C } lyd l g l 110 hgh ddt l d f ml b t b th d t l 4 m D t l l C t d by ( t k 15 ± 0 ( ph t g pl 11 0
My 17	GN	8 36 35 3 34 32  31 31 30  25 2 23  20 45 44  20	1 2 05 1 1 3  1 1  05 15  05 7 4 8	68 5 8 56 58 30 25 5 20  10 21 8  88 84 81 7  87 5 21 10  8  87	E E E L L P E I E E  W W W W  W W W W  W	15 4 15 1 4 2 1 3 20 4 60 30 30 60 30 30 60 3 30 30 40 10	D t l l S t l t l d B g t U t l d s b d hyd g d b t 7 O D t l d D t l d C t l t t l l t } Ch g g b y C t k b t 80 40 & 15 10 C ph t pl 81 20
My 18	GN	8 50 0 45 45	15 2 05	60 5 48 44 18 9	F P E E I L	45 4 30 15 1 90	{ ( t d D t l d A t l g d w t l d i th t l l t ly b ght m pt C l g t l y d l l d t i P m w D b b b b l
My 19	GN	10 38 38 39 39 36  35 35 35 31	1 1 05   05 1 2 1	61 58 22 16 5  8 10 18 27 30	E E E E E  E E E L E	15 4 10 10 6  1 20 45 20 30	C ph t g ph 8h 20 B l t t p E t D t h d b t l hyl g l 0 i b d O



D t n d b	H I S T	B	L t t d		I b	H l t	R	
			V t i	S t i				
907 M y 2	GN	8 40		81		E	1	
			1	88 5		E	10	
			1 15	40		L	10	
			1	34 5		E	5	
			1	31		E	20	
			1	17 5		L	15	
			1			E	15	
		7 36				F	0	C
		8 48			59	F	5	C
		48	1		78	E	15	O
		48	1		88			
		7 52	2		44	W	60	
		50			8	W	10	
		48			9	W	15	
		17	2 5			W	35	
		4	3	39		W	30	
		4	1	38 5		W	1	
5 44	1	51		W	0			
44	2	57		W	30			
41		7		W	15			
40	1	94		W	30			
						( l h t l h 8 l 48 l 0 )		
M y 28	S 5	8 47	0	41 5		L	20	
		6			40	l	4	C
		6			60	l	60	C
		34			68	r	10	
		J 13			87	W	40 ±	D t h l V y t t
		10	0 5		48	W	25	10 C
		4	1	8	0	W	25	O l p l d t l t t
		3	5	18		W	25	M t C
		1	1	33		W	15	
		0	4 5	6		W	3	
		9 55				W	30 ±	D t l d O l l g p l 8 l 20 m d 8 l 48 m
M y 4	G V	9 45	4	42		I	35	
		42		35		E	20	
		41	2	26		E	35	
		16			4	L	10	C
		39	2		8	F	10	Bright
		38	0 5		30	l	5	
		37	1		47	r	0	r t h l m t l 40 C
		37	1		15	L	60	D d
		37	1		58	r	7	D d 65 n C
		35			59	r	7	D b l O f t l d t l d f m t h l m b
								d f t h t h
		16	1		70	W	80	O
		30	1 5		69	W	30	
		16			58	W	40	O
		9 1	1 5		45	W	0	
		0	1 5		48	W	5	
		8 6	1 5	7		W	45	
		56	1	15		W	75	60 O } M t t t p
		49	1 5	33 5		W	5	
		49	0 5	30		W	15	
		48		57		W	40	
						C l l t p l 8 l 10 d 8 h 29 m		
M y 25	S 5	9 19		61		E	15	
		17	3	4		r	2	
			6	23		E	50	P t d t t l
			6	12		E	5	M t l l O i d t b t t h l t
		8 3	2		1	E		
		50	4		45 5	L	10	
		43	1 5		58	L	40	
		39			88	D	10	t 80 O
		43			34	W	20 ±	S N t
		9 40	1		17 5	W	10	
		39			12	W	5	
		8 49	3		6	W	20 ±	C
		9 3				W	60 ±	S N t
9	1 5	5		W	20 ±	D b l		









Dt l b	II IST	B	L t t d		L m b	H ht	R m k
			N h	S th			
190							
J 4 - 4d	CN	8 51 51 1 50 48	1 15 1 4	20 16 15 3 3	W W W W	25 25 15 80 25	O p m 4 h l d t th l t O O i h t p h 8 24 19 58
J 5	SM	10 37 34 34 34 9 44 31 10 9 9 28 10 25 11 44 10 21 8 8 88 10 15 11 7	1 05 1 6 4 15 15 05 15 2 2 05 1	655 58 52 48 8 8 12 45 72 48 34 28 1 17 35	E E E D E D D F E W W W W W W	10 10 5 10 90 15 15 25 40 30 25 20 15 20 25 10	M t th t S l t t l w d C C O p h t p l 8 38m
Jun 6	GN	9 8 28 10 2 1	2 15 15	Eq t 11 11 2	E E W W	40 30 0 30	W t l 1
J 7	SS	8 36 8 30 9 5 0 8 58 36	2 15 05 5	575 34 20 18 1 38 42 58 635 54 47 18 10 285	E E E E P E D D W W W W W	25 25 20 0 35 5 10 20 15 80 10 0 10 15 20	v y f t C S l d V y b g l t O d p l l t l t b l d t l t th t T l 1 m h d d p p d t 8 8 C C S C i h t p h 8 30
Jun 8	GN	9 22 22 2 0 17 16 8 5 9 42 42 10 87 10 8 84 8 18 56 55	8 2 05 05 2 15 15 15 15 8 19 205 325 35 8 15 05 15 15	57 54 485 425 35 28 6 6 19 205 325 35 61 12 8 8 28 34 48	I L D D D E E L L E L W W W W W	55 80 20 15 4 15 15 40 15 15 20 30 70 25 5 20 45 35 10	} O t d t b P t d t t p C S l t t w d t l l t D b l f l m t l M t O W t t h 18 30 t 9 30 C p h t j h 8 5 S h 28 d 9 h 38

Dt	lb	H IS P	B	L t t d		L mb	H ght	E m l
				N th	S th			
1907								
Ju 9	SM	9 8	4	55		L	60	A l n t g I t
		8 48	2	19		E	20	
		98			27	I	10	
		34			30	E	20	
		38	05		33 5	E	15	
					64	W	40	
					55	W	25	
					49	W	15	
					42	W	15	
					20 5	W	20	
			12 5	W	30			
Ju 14	SS	14 0	15	56		E	80	S l t n t h w d
		15 15	1	13		E	85	
			1		19	D	20	
			1		88	W	20	
			1	10		W	20	
Ju 16	SM	10 32	4	59		D	80	O l d w d f w l t b l S l t t w d D M t t t p S g b d
		0	05	26		L	25	
		20	15	24		E	25	
		1)	2	19		E	20	
		17	2		10	E	10	
		16			15 5	E	30	
		15			18	D	20	
		9 25			28	F	10	
		11 0			60	W	35	
		10 54	15		8 5	W	50	
		8	25		24	W	60	
		51	8		18 5	W	60	
		17	1		10	W	40	
		45	2		6	W	15	
		10	15	22		W	15	
Jun 17	SS	13 44	4	33		I	2	O O A b t 70 l g h d l n t t w l n O O O O W t l b d O l l t g p l 18 44
		14 4	4		12	L	9	
		15 15	1		21	D	1	
		15 15	0		22	F	35	
		18 44			80	E	20	
		41	2		51	D	60	
		44	15		16	W	30	
Jun 20	SM	9 17		75		F	20	A l l i D n h l 30 O D B d t t l M t l l t b D D 3108 b b l i d b b g l t M t t l t p m M t l l D D i 3108 l l l b l 49211 b g h l D l l o p t d b t h w y d b t 4 l d } O l l t t p D M t t t p N w t t l 25 O D O l k O n t d t t h t b y O t k 30 O O n t d t t l n t C t g t l w 50 n O
		35	15	67		I	20 & 15	
		38	1	58		L	4	
		30	15	54		I	4	
		30	0	30		F	20	
		28		05		E	15	
		28	0	17		E	5	
		20	4	9		F	70	
		55	8		8	E	30 & 4	
		2			35	F	10	
		50			41	l	60	
		47			4 5	F	70	
		45	0		52	F	20	
		44	1		61 5	F	20	
		41	15		64 5	l	20	
		10 30	8		55	W	60	
		21			48	W	7	
		18	05		44	W	80	
14	4		8	W	50			
1	4		12 5	W	60			

D t d b	H nr IST	B	L t t d		L mb	H ght	R l
			V th	S th			
1907							
J 20	SM	10 10	05	6	W	60	80 C Sl t tw l tp t lnt tlt + 2 W n C
		8	15	11	W	20	
		2		22	W	10	
		8	8	39	W	60	4 b d d 30 hgl C
		58	2	47	W	80	
		50		50	W	50	O pltg ph 8' 58
J 1	SS	8 45	05	805	E	2	
		42		445	E	25	
		40	25	295	E	40	
		37	1		E	10	
		36		05	E	25	
		28		10	E	25	
				20	L	80 ±	A t k 3 l gp lll l l A l 8' 35 t w t l t l
		26	15	48	E	25	
		28	1	56	E	25	F t
		22		64	E	25	
		20		695	E	10	
		0		87	E	10	
		8 59		76	W	15	
		58	2	55	W	15	80 C
		13	15	445	W	40	O
		13		86	W	1	O
		56	05	31	W	20	
		55	15	14	W	10	
		18	05	25	W	30	C
		51	2	36	W	25	
		49	1	445	W	40	C p m 8 b d
		18		51	W	40	O O phtg ph 8' 13m
J 22	SS	9 55	8	45	E	50	P t d t t p 35 C
		49	25	305	E	0	50 C
		42			D	25	
		40	4	58	E	45	D ubl 60 n C
		38	05	78	E	20	
		38	05	80	E	15	
		8 33		445	W	30	O
		10 J		87	W	10	
		9		8	W	10	
		7	15	215	W	10	Oh m ph l t l l l ght fom l t 8 t -14 W
		8		1	W	10	
		0	4	52	W	90 ±	P t d t t p C phtg ph 8' 32 d 8' 49
J 23	GN	9 7	1	395	F	45 ±	P t d t t l
			1	22	W	15	
J 24	SS	9 4	05	50	E	15	
		0		46	E	20	
		8 57		81	E	25	l d f t
		58			E	10	
		55	1	10	E	10	
		53	2	21	F	20	
		52	2	38	E	10	D bl
		50	15	8	E	80	D
		49		57	E	15	140 O
		48		685	E	50 ±	D O
		17		65	E	25	} F t hyd g
		4		68	E	140	O
		46		80	E	25	
		46		82	E	20	
		9 25	2	84	E	20	} M t t t p
		22	05	78	W	10	
				395	W	0	
				325	W	105	A t k 2 l gp l l t l mb

D t nd b	II IST	B	r t tnd		L mb	II ht	R m l
			N tl	S tl			
1J07							
Jn 24 — m d	SS	8 10	18 36	2	W W W	40 ± 20 40 ±	Sl t g l t l d O l l t g pl Sl 17 18 83m
Jan 25	GN	15 0	05 0		D	50	
		49	05 48		D	20	
		48	05 37		E	30	
		45	1 3		D	30	
		1	1 1		D	90	Sl t thw d f l t +20 L tl tl t l t b g y b l t
		40		9	E	45	
		39	1	2	D	60	Sl t l t y b l t t l
		37	05	80	E	45	R i l w t l w d
		36	1	49	D	1	
		35	2	62	T	25	
		35	2	(C	L	2	
		34		71	W	1	
		33	1	35	W	30	C l m 60 l l d t l n b g t l t 21 5 W
		32		14	W	3	S N t
		31	6	20	W	0 ±	D bl
30	2	41	W	1			
30	15	58	W	±	D bl B l t t p O l l t g l l l l 17m		
Jn 26	SM	9 81	6 11		D	35	} C t l by C t l
		7	0 35		T	30	
		2		25	I	25	
		8 41		10	I	60 ±	O D t h l
		9 20	15	15	D	5	
		8 41		17	I	50 ±	O A t k e l g d l l l t l b
		9 18	4	21	F	50	N w t t l
		12		11	I	10	
		11		49	T	20	
		10	1	52 5	E	20	
		8		(1	F	10	
		6		73 5	L	10	
		4		7J	D	20	
		8	1	85	W	15	N t l g h O t h 2
		15 2	1	28	W	2	Sl t t w d th t
2	1	0	W	10			
			W	30			
15		25	W	60	D t l d		
14 0	4	10	W	60 ±	90 n O F m y d l t d l t d t l d f l m l ( t )		
18	2	14	W	25			
18 56	2	41	W	30			
9 52	1	14	W	15			
15		25	W	10	C n l k O p h t g l l Sl 14 d 9 2		
J 27	GN	1	48		I	15	
		8 45	7 25		L	85	} O t d by
		42	1 2		I	0 ±	
				21	L	15	
			1	48 5	E	30	
				50 5	T	25 ±	
			1	48	E	25	
		9 50	05	74	E	25	W n t n t 81 35
		50	15	77	E	25	D
		8 35	2	85	E	30	V y f n t t 15
		9 11	1	95	W	(0	H l k t t p
		10	05	80 5	W	25 ±	Sl t thw d } S t d by t l l h g l l l t l m b l 0
		10	15	27 5	W	30 ±	D
		9	1	28	W	35	D
		8	15	18	W	10	
7		9	W	20			
5	1	4	W	50	F t T p b l w d l y l l l t l t +3 W A t l t t h l m t p t w l t h t p f t h p m n t l t -1 W		

Dt d b	H IST	H	L t t d		L m b	H g l	R m l
			N t h	S t h			
1907							
J 2	( \	9 0	9		W	50	A d t l l t l 0 l
— 23		8 5	69		W	60	B d t t l
J 8	SM	8	71		E	10	C p h t g l h 8 l 9 n d 8 l 37
		5	50		D	10	
		10 10	25		E	10	
		9	18		E	20	
		5			L	85	
		8 8	25	6	E	85	] A O t l l t l 3 D t h g l t l l t
		54	25	10	E	8	
		9 50	05	38	E	20	
		50	05	89 5	E	10	
		8 27		77	E	45	
		47	25	79 5	E	15	
		37	05	44	W	10	
		37		40 5	W	80	
		37		21	W	15	
		9 20	2	8	W	20	
		37	5	10 5	W	25	
		37	8	48	W	80	
		37	8	60	W	80	
		10 35	0	1	W	15	
Jun	GN		50		E	10	
			15		E	15	
		10 5	05	6	E	15	
		9 0	2		E	35	
		0	15		E	7	
		0	15		E	10 5	
		11 8	18		L	25	
				9	D	40	
		8	05	65 5	W	15	
		2	1	80 5	W	15	
		2	15	17	W	20	
		0		Eq t	W	1	
			18		W	15	
		10 59	05	28	W	45	
		55	2	60	W	45	
		55	15	88	W	35	
							D t h d
							A O t m h w w t d f t l t p
							C p l t p h 8 l 7

## NOTES

- 1907
- January 8 Lat - 12 to - 17 E Very bright b displaced about 1A both ways at Lats 13 and 17 Metallic Bright lines -4922<sup>a</sup> (faint) 4924 1 5016 3 5018 5 b b b b 234 8 5269 5276 2 5283 8 (5283 8 was bright on the red side and dark on the violet side) 5316 8 D D D was displaced both ways at Lat - 13 L Height at the tallest place was about 90 at 8<sup>h</sup> 58<sup>m</sup> but the prominences at Lats - 13 and - 17 had coalesced
- 14 Lat + 12 E A streak connects the base of this prominence with the top of the last There is a faint extension of the prominence for 5 further east
- Lat - 41 E A very bright cloud with its base 80 away from limb It is connected to the limb by two streaks the southern one brighter and meeting the limb at Lat - 41 E and the eastern one fainter and meeting the limb at Lat - 04 E
- Lats - 10 - 3 + 1 + 11 W Chromosphere elevated continuously from Lat - 14 W to Lat + 16 W A streak parallel to limb and 70 high at Lat - 18 W
- 19 Lat - 13 W Mg Na and Fe lines bright O slightly displaced bodily to violet at Lat - 14 W
- February 2 Lat + 16 5 W Very bright metallic D displaced 1A and F 1.5A to red at Lat + 14 W Chromosphere slightly elevated from this prominence as far as the equator
- 4 Lat - 19 and - 16 E Very bright metallic Rapidly changing Surmounted by a large faint fragmentary prominence 210 high and extending from the equator to Lat - 20 E Na Mg Fe lines and 66 7 strong at Lat - 12 and - 15 E Prominence forms well visible in Na and Mg O slightly displaced both ways at Lats - 12 and - 15 D form completely changed at 9<sup>h</sup> 17
- 8 Lat + 37 W A cloud with its base 2 away from limb The northern end of the base is connected to the last prominence by a Ca streak Another broken Ca streak proceeds westwards from it as far as Lat + 18 W The Ca cloud was 80 high and 135 away from limb at 8<sup>h</sup> 42<sup>m</sup> and 75 high and 125 away from limb at 9<sup>h</sup> 53
- 10 Lat + 10 W Bright metallic Na and Mg and Fe lines bright A cloud 60 high was floating over it with its base about 120 away from limb
- 14 Lat - 18 W Brilliant Metallic Bright lines -4922 4 4924 1 4934 2 5016 3 5018 6 5031 2 b b b b 5197 8 5204 8 5206 2 5208 7 5234 8 5276 2 5284 2 5316 8 5363 0 D D and 6677 The prominence was rapidly changing
- 18 Lats - 20 - 14 - 7 + 1 W Metallic the bright lines were strongest at Lat - 14 W At 8<sup>h</sup> 50 to 9<sup>h</sup> 50 the lines observed were -
- |                                  |        |
|----------------------------------|--------|
| 49 2 0                           | 5233 1 |
| 49 4 1                           | 5234 8 |
| 4934 2                           | 5237 5 |
| 4957 8                           | 5240 0 |
| 4973 6                           | 5269 6 |
| 5012 2                           | 5270 5 |
| 5016 3 (faint but broad)         | 5276 2 |
| 5018 6                           | 5283 8 |
| 5031 2                           | 5316 8 |
| 5171 8                           | 5325 7 |
| b                                | 5328 2 |
| b''                              | 5363 0 |
| b'                               | 5371 8 |
| b                                | 5400 7 |
| 5188 9 (base of the double line) | 5406 0 |
| 5195 6                           | 5412 5 |
| 519 8                            | 429 9  |
| 5204 8                           | 484 7  |
| 5206 2                           | 5447 1 |
| 5208                             | 5455 8 |
| 5216 4                           | 5535 1 |

- 1907
- February  
—contd
- 18 Prominence form easily visible in b b b and b but rapidly changing C D and the b group slightly displaced both ways at Lats —14 —16 5 and —20 W Image very unsteady towards the end of the observation
- 19 Lat —1 W Rapidly changing eruptive metallic intensely bright almost white in the centre Spikelike jets to west of prominence 10 high only in Ca
- 20 Lat —20 E Top extends as far as Lat —7 E in hydrogen and as far as Lat —4 in Ca The stem at Lat —18 E was metallic The whole was visible in Na and Mg
- 22 Lat —65 and —55 W Ca In hydrogen there were a few prominences seen about the place when beginning the observation but they disappeared before coming round the circle to the same place again
- 23 Lat +26 E Metallic Bright lines observed were —4922 4 4924 1 5016 3 b b b b D D 6677 the whole prominence being visible in b b b b D D D and F were displaced to red at several places 3A in  $\Gamma$  and about 2A in D to violet at Lat +24 E
- 26 Lat +20 W Metallic Greater part of prominence well visible in Na and Mg In Ca the e was a discontinuous streak 130 high slanting southwards from the top The streak was faint at 8<sup>h</sup> 19<sup>m</sup> and strong at 8<sup>h</sup> 44<sup>m</sup>
- March
- 2 Lat +21 E A detached Ca cloud connects with prominences at Lats +24 5 and +21 E
- 4 Lat —21 E Eruptive F displaced 1A to red at several places displaced to violet on nearly the whole prominence greatest amount 4A at the base D displaced 3A to violet at the base Bright lines observed —
- |                  |               |
|------------------|---------------|
| 492 4            | 5206 2        |
| 4924 1           | 5208 7        |
| 4934 2           | 5226 9 ?      |
| 5016 3 (diffuse) | 5227 2        |
| 5018 0           | 5234 8        |
| b                | 5269 7        |
| b <sup>1</sup>   | 5276 2        |
| b                | 5283 8        |
| b                | 5316 8        |
| 5189 0           | 5363 058 o }  |
| 5197 8           | 5362 944 }    |
| 5204 8           | Im g unsteady |
- 7 Lat +60 W Rapidly changing 80 high at 9<sup>h</sup> 22<sup>m</sup> Not visible in Ca at 8<sup>h</sup> 30<sup>m</sup> but strong and 30 high at 9<sup>h</sup> 10<sup>m</sup>
- 14 Lat +63 E C<sub>1</sub> Two very tall streaks detached from limb with a broad patch extending to Lat +50 E at the top of one of them Probably eruptive Absent in Ca photographs taken at 9<sup>h</sup> 54<sup>m</sup> and 10<sup>h</sup> 35
- 29 Lat +1 5 E Intensely bright eruptive It had the distinct appearance of being made up of innumerable spikes the one at Lat +15 E showing a slight displacement to red in C Rapidly changing The two ends of the prominence were very bright in C and visible in b b b D and D
- April
- 12 Lat +18 W Metallic There was no prominence at this position at 8<sup>h</sup> 55<sup>m</sup> but C was slightly displaced to red 30 high and slanting westwards at 8<sup>h</sup> 58<sup>m</sup> Very rapidly changing
- 25 Ca flocculi photographs showed several dark streaks inside the disc but near the limb from Lat +9 to +40 L They probably correspond to the long group of prominences observed on the three previous days
- 26 Lat +7 E Top broad and slants northwards It meets limb again at Lat +15 E in Ca 50 only in Ca Na Mg and Fe lines bright at base There was a dark marking on the Ca flocculi photographs from Lat +9 to +40 E corresponding to the streaks noted on the previous day



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- May 20 Lat — 84 D Faint Nothing here in the Ca photographs at 8<sup>h</sup> 39<sup>m</sup> and 9<sup>h</sup> 5<sup>m</sup> A Ca streak from this position passes through the top of the next prominence as far as Lat — 86 W
- 21 Lat — 38 E A cloud about 16 long connected to limb at Lat — 43 E It is also connected by delicate Ca filaments to the last and the next prominences Connected by delicate filaments at 12<sup>h</sup> in hydrogen
- 25 Lat — 88 D Rapidly changing Very bright 25 high at 8<sup>h</sup> 41<sup>m</sup> and 40 at 8<sup>h</sup> 44<sup>m</sup> Becoming fainter at 8<sup>h</sup> 45<sup>m</sup> It became a faint slanting streak at 8<sup>h</sup> 46<sup>m</sup>
- Lat + 15 W A cloud away from limb The Ca prominence was 6 broad connected to limb from Lat + 3 to + 9 W and slanting northwards The Ca prominence was gradually growing in height the total height being 130 at 8<sup>h</sup> 49<sup>m</sup> 165 at 9<sup>h</sup> 6<sup>m</sup> and 270 at 10<sup>h</sup> 45<sup>m</sup> It became detached and very much smaller in size at 10<sup>h</sup> 45<sup>m</sup> A bright Ca spot at Lat + 19 W was ascending at an approximate rate of 15.7 miles per second between 8<sup>h</sup> 49<sup>m</sup> and 9<sup>h</sup> 6<sup>m</sup> and 3.2 miles per second between 9<sup>h</sup> 6<sup>m</sup> and 10<sup>h</sup> 45<sup>m</sup> the mean velocity being 9.3 miles per second
- 30 Lat — 8 D Eruptive C slightly displaced to red Slants northwards Height 85 at 8<sup>h</sup> 43<sup>m</sup> and 55 at 8<sup>h</sup> 47<sup>m</sup> Changing rapidly
- Lat — 7 W Two streaks slant southwards from near the base Eruptive in Ca 210 high at 8<sup>h</sup> 7<sup>m</sup> 330 at 8<sup>h</sup> 19<sup>m</sup> and about 50 only at 8<sup>h</sup> 44<sup>m</sup> Form rapidly changing in both Ca and hydrogen
- June 25 Lat — 14 W Top flows as far as Lat — 4 W the westernmost point being about 60 high Ca prominence shows another streak flowing westwards

SOIAR PHYSICS OBSERVATORY }  
 KODAIKANAJ }  
 November 8 1907 }

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