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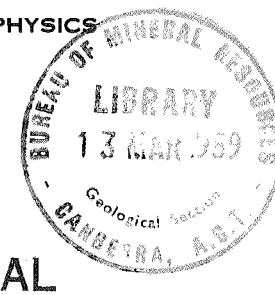

GEOPHYSICAL OBSERVATORY REPORT

VOL. 6 No. 9

SEPTEMBER

1958

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DEPARTMENT OF NATIONAL DEVELOPMENT

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BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

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Unless otherwise stated all times are given in Greenwich Mean Time

The terminology used in this report is that accepted by international convention. Should further information be required, explanation can be obtained by applying to :-

Chief Geophysicist,
Bureau of Mineral Resources,
Geology & Geophysics,
203 Collins Street,
MELBOURNE, C.1.,
A U S T R A L I A.

CONTRIBUTING OBSERVATORIES

WATHEROO MAGNETIC OBSERVATORY P.M. McGregor, Observer-in-Charge

Geographic Latitude	30°19'S	Longitude	115°53'E
Geomagnetic Latitude	-41°.8	Longitude	185°.6

Instruments

Magnetic Equipment

- Askania pattern Magnetometer No.508810.
  La Cour pattern BMZ No.120.
  Askania Earth Inductor No.5111079.
  Eschenhagen pattern D,H,Z, recordi... variometers, normal sensitivity, 20mm/hour recorder.
  La Cour pattern D,H,Z, recording variometers, normal sensitivity, quick run (180mm/hour) recorder.
  Askania Eschenhagen type H variometer with visual recorder 20mm/hour.

Hourly values of ionospheric characteristics and other ionospheric data for Watheroo are included in a separate publication.

GNANGARA MAGNETIC OBSERVATORY P.M. McGregor, Observer-in-Charge

Geographic Latitude	31°47'S	Longitude	115°57'E
Geomagnetic Latitude	-43°.2	Longitude	185°.8

Instruments

Magnetic Equipment

- Magnetometer D.T.M. C.I.W. No.7
  La Cour pattern QHMs Nos.291,292,293.
  La Cour pattern BMZ No.120.
  La Cour pattern D,H,Z, recording variometers, normal sensitivity, 15mm/hour recorder.

TOOLANGI MAGNETIC OBSERVATORY J.R. Cleary, Observer-in-Charge

Geographic Latitude	37°32'S	Longitude	145°28'E
Geomagnetic Latitude	-46°.7	Longitude	220°.8

Instruments

Ruska pattern Magnetometer No.4813.
La Cour pattern QHMs Nos.288,289,290.
Schulze Earth Inductor No.49.
La Cour pattern BMZ No.119.
La Cour pattern D,H,Z, recording variometers, normal sensitivity 15mm/hour recorder.

CONTRIBUTING OBSERVATORIES

MACQUARIE ISLAND MAGNETIC OBSERVATORY A. Turpie, Observer-in-Charge

Geographic Latitude 54°30'S Longitude 158°57'E
Geomagnetic Latitude -61° Longitude 243°

Instruments

La Cour pattern QHMs Nos.177,178,179.
La Cour pattern BMZ No.64.
Kew pattern magnetometer No.158.
La Cour pattern D,H,Z, recording variometers, low sensitivity 15mm/hour recorder.

MAWSON MAGNETIC OBSERVATORY, B.G. Cook, Observer-in-Charge

Geographic Latitude 67°36'.3S Longitude 62°52'.6E
Geomagnetic Latitude -73°.2 Longitude 103°.1

These co-ordinates are based on the latest data available

Instruments

La Cour pattern QHMs Nos.300,301,302.
La Cour pattern BMZ No.62.
La Cour pattern D,H,Z, recording variometers, low sensitivity 15mm/hour recorder.

PORT MORESBY MAGNETIC OBSERVATORY J.A. Brooks, Observer-in-Charge

Geographic Latitude 9°24'.5S Longitude 147°09'.1E
Geomagnetic Latitude -18°.7 Longitude 218°.0

Instruments

La Cour pattern QHMs Nos.187,188,189.
La Cour pattern BMZ No.68.
La Cour pattern D,H,Z, recording variometers, normal sensitivity, 15mm/hour recorder.

NEW GEOPHYSICAL OBSERVATORY AT PORT MORESBY, PAPUA

A new geophysical observatory has been established by this Bureau about 5 miles north of Port Moresby, Papua. The observatory consists of a magnetic and seismological section, and an ionospheric section will be added early in 1959.

The magnetic instruments used are listed elsewhere in this issue.

The magnetic results will be published in this report in the same way as is done for the other observatories. However no K-indices scale has so far been determined. It is intended to obtain magnetograms for about one year and determine the K-indices scale by comparing the frequency distribution with that of some standard observatory for the same period. Therefore K-indices will not be available until the beginning of 1959.

MAGNETIC K-INDICES FOR SEPTEMBER - WATHEROO

Range for lower limit of K=9 is 350 gammas

Day	K-Indices								K-Sum
1	1	2	3	2	2	2	0	3	15
2	3	3	2	2	2	2	1	1	17
3	1	2	4	5	6	4	5	5	32
4	3	3	4	3	6	7	7	7	40
5	6	4	5	3	3	2	3	2	28
6	2	3	1	1	1	1	2	3	14
7	2	3	2	2	2	4	3	3	21
8	3	3	1	1	0	2	1	4	15
9	3	3	3	2	3	3	3	4	24
10	2	2	1	1	3	2	1	2	14
11	3	3	2	1	1	2	2	2	16
12	3	2	2	1	0	0	1	2	11
13	2	1	2	0	0	0	0	1	06
14	1	2	1	1	1	1	1	2	10
15	3	1	2	1	1	1	2	2	13
16	4	5	3	4	4	5	5	3	33
17	3	3	2	3	2	1	1	1	16
18	3	3	0	1	0	0	3	2	12
19	1	-	-	1	1	0	1	1	-
20	1	1	1	0	1	1	1	2	08
21	2	1	1	1	0	0	2	1	08
22	1	1	1	1	0	2	1	0	07
23	2	2	2	2	0	1	1	1	11
24	2	1	1	2	1	1	1	1	10
25	3	5	5	5	5	5	4	4	36
26	3	3	3	3	2	2	1	2	19
27	1	1	1	1	2	3	3	3	15
28	2	2	2	1	2	2	0	2	13
29	2	2	3	1	1	0	0	0	09
30	2	1	3	4	3	3	4	4	24

PRELIMINARY MEAN VALUES OF THE MAGNETIC ELEMENTS FOR SEPTEMBER

WATHEROO -	Declination	2° 41.'0	west
	Horizontal Intensity	24848	gamma
	Vertical Intensity	-52304	gamma

MAGNETIC K-INDICES FOR SEPTEMBER - TOOLANGI

Range for lower limit of K=9 is 500 gammas

Day	K-Indices								K-Sum
1	2	2	1	2	2	1	0	2	12
2	2	2	2	2	3	1	0	2	14
3	1	2	4	5	5	4	4	5	30
4	3	4	3	3	6	7	7	7	40
5	5	5	5	3	4	3	3	3	31
6	2	3	3	1	2	1	2	2	16
7	2	3	3	3	3	3	3	3	23
8	4	3	2	1	1	2	1	5	19
9	4	3	3	3	3	3	3	3	25
10	3	3	2	2	3	3	2	2	20
11	3	2	2	2	1	1	1	2	14
12	2	2	2	1	1	1	0	2	11
13	3	2	1	1	1	0	2	3	13
14	3	2	2	1	1	0	1	2	12
15	2	2	1	1	1	1	1	2	11
16	3	5	4	4	4	5	5	4	34
17	3	4	2	2	3	1	0	1	16
18	2	2	2	1	0	1	2	1	11
19	2	1	1	1	1	1	1	0	08
20	2	2	1	1	1	1	2	2	12
21	3	2	2	1	1	1	2	1	13
22	1	0	0	1	0	1	1	1	05
23	2	3	3	2	1	1	1	2	15
24	3	3	2	3	2	1	0	1	15
25	2	5	5	5	5	5	5	5	37
26	3	4	4	3	3	3	2	3	25
27	2	1	2	3	3	3	3	3	20
28	3	3	2	2	2	2	0	0	14
29	0	2	2	1	1	0	0	1	07
30	1	1	3	4	4	3	4	4	24

PRELIMINARY MEAN VALUES OF THE MAGNETIC ELEMENTS FOR SEPTEMBER

TOOLANGI -	Declination	10° 11.'1	east
	Horizontal Intensity	22690	gamma
	Vertical Intensity	-56432	gamma

MAGNETIC K-INDICES FOR SEPTEMBER - MACQUARIE ISLAND

Range for lower limit of K=9 is 1500 gammas

Day	K-Indices								K-Sum
1	0	1	0	1	4	3	1	1	11
2	0	2	1	2	2	1	0	1	09
3	2	1	4	5	7	4	5	5	33
4	3	3	1	2	7	7	8	6	37
5	6	6	5	4	5	4	4	2	36
6	3	3	1	3	2	0	1	1	14
7	1	2	3	4	5	6	3	4	28
8	-	3	2	3	3	3	1	3	-
9	3	2	3	5	6	5	3	3	30
10	3	3	1	3	5	3	2	1	21
11	2	2	1	2	1	2	1	1	12
12	2	3	1	1	1	0	1	0	09
13	1	1	0	0	0	0	1	0	03
14	0	1	0	0	1	0	1	1	04
15	1	1	1	0	1	1	1	1	07
16	3	5	4	4	6	7	7	4	40
17	3	4	2	3	5	2	0	1	20
18	1	1	1	0	2	1	2	1	09
19	0	1	1	0	3	0	0	1	06
20	1	1	1	0	0	0	1	1	05
21	1	1	1	0	0	0	1	0	04
22	0	1	0	0	0	0	0	0	01
23	1	2	2	2	1	1	1	1	11
24	2	1	3	5	2	2	1	1	17
25	3	6	6	6	7	7	6	5	46
26	4	3	4	5	5	4	3	2	30
27	2	2	3	6	4	5	3	3	28
28	3	3	3	4	4	4	1	1	23
29	1	2	3	2	2	0	0	0	10
30	2	0	1	5	5	5	5	3	26

PRELIMINARY MEAN VALUES OF THE MAGNETIC ELEMENTS FOR SEPTEMBER

MACQUARIE ISLAND - Declination, Horizontal Intensity, Vertical Intensity) Will be published when available

MAGNETIC K-INDICES FOR SEPTEMBER - MAWSON

Range for lower limit of K=9 is 1500 gammas

Day	K-Indices								K-Sum
1	1	1	1	2	3	3	4	4	19
2	3	3	1	1	2	1	2	3	16
3	5	2	4	6	5	5	5	6	38
4	4	5	4	3	5	6	6	8	41
5	7	6	5	4	3	4	6	4	39
6	3	4	2	2	2	1	3	4	21
7	3+	3+	4	3	4	4	6	5	32
8	6	5	3	2	1	3	2	7	29
9	5	4	4	4	5	5	6	6	39
10	4	4	3	2	3	4	3	6	29
11	5	4	2	2	1	2	3	5	24
12	4	4	2	1	0	1	2	3	17
13	1	1	1	0	0	0	2	4	09
14	2	2	2	1	0	1	2	2	12
15	2	1	1	1	0	2	2	5	14
16	6	7	6	3	4	6	5	6	43
17	5	5	3	3	3	2	2	3	26
18	2	1	1	1	1	1	5	3	15
19	2	1	2	1	1	0	4	3	14
20	2	3	2	1	0	0	3	5	16
21	3	2	1	1	0	0	4	3	14
22	4	1	0	0	0	1	3	3	12
23	4	5	3	2	1	3	3	5	26
24	5	2	2	3	3	3	4	5	27
25	5	7	7	6	4	5	6	7	47
26	4	6	5	5	4	4	5	5	38
27	4	3	3	3	3	4	5	5	30
28	5	5	4	3	2	3	2	2	26
29	3	3	3	2	1	1	3	4	20
30	3	3	2	3+	4	4	5	6	30

PRELIMINARY MEAN VALUES OF THE MAGNETIC ELEMENTS FOR SEPTEMBER

MAWSON - Declination, Horizontal Intensity, Vertical Intensity — Will be published when available

MAGNETIC K-INDICES FOR AUGUST - MAWSON

Range for lower limit of K=9 is 1500 gammas

Day	K-Indices								K-Sum
1	5	2	2	3	4	3	3	4	26
2	4	4	3	3	3	3	3	2	25
3	4	5	5	2	3	2	3	4	28
4	3	4	2	2	2	1	3	3	20
5	2	3	2	2	3	1	2	4	19
6	4	3	1	2	0	0	0	5	15
7	3	4	2	3	3	1	4	4	24
8	3	1	1	1	2	2	4	4	18
9	3	4	2	0	0	2	2	5	18
10	3	3	4	2	3	3	4	5	27
11	5	5	5	3	2	5	3	7	35
12	4	5	6	2	1	2	2	3	25
13	5	3	5	3	1	1	3	4	25
14	4	4	1	0	0	3	5	6	23
15	4	4	3	2	1	1	5	5	25
16	6	4	3	2	3	4	4	4	30
17	4	3	7	5	6	8	7	7	47
18	5	5	5	3	2	2	2	5	29
19	4	4	4	3	2	3	4	4	28
20	3	3	3	2	1	2	0	4	18
21	3	2	0	1	1	2	3	5	17
22	8	8	5	3	1	2	3	4	34
23	3	5	5	3	3	3	5	6	33
24	9	8	5	7	5	4	5	3	46
25	5	6	5	3	4	3	4	3	33
26	5	6	5	4	5	4	4	4	37
27	6	8	6	7	6	5	7	6	51
28	4	4	4	3	4	4	5	3	31
29	3	4	3	3	3	2	4	5	27
30	4	5	3	2	2	2	4	4	26
31	3	4	2	3	3	3	2	2	22

PRELIMINARY MEAN VALUES OF THE MAGNETIC ELEMENTS FOR AUGUST

MAWSON - Declination
Horizontal Intensity
Vertical Intensity
} Will be published when available

PRINCIPAL MAGNETIC STORMS AT WATHEROO DURING SEPTEMBER

date	storm time begin	storm time end	sudden commencement type	amplitudes D	H	Z	activity	Max. Activity 0 to 9 day	3-hr per.	K	Ranges D	H	Z
	h m	d h		'	γ	γ					'	γ	γ
03	0845	0510	ssc	+3	+30	+8	ms	04	6,7,8	7	44	304	224
16	00..	1711	...[x]				m	16	2,6,7	5	15	115	83
25	0408	2602	ssc[x]	-3	+23	-16	m	25	2,3,4, 5,6	5	22	140	191

SUDDEN COMMENCEMENTS AND OTHER PHENOMENA AT WATHEROO DURING SEPTEMBER

Day	Time h m	Type	Sense of Movement H	D	Z	Remarks
03	08 45	ssc A	+	+	+	
16	09 31	ssc A	+	+	+	
18	18 54	bp A	+	+	+	
23	17 23	pt A				
25	04 08	ssc[x] A	+[x]	-[x]	-[x]	
30	10 06	ssc A	+	+	+	

PRINCIPAL MAGNETIC STORMS AT TOOLANGI DURING SEPTEMBER

date	storm time begin	storm time end	sudden commencement type	amplitudes D	H	Z	activity	Max. activity 0 to 9 day	3-hr per.	K	Ranges D	H	Z
	h m	d h		'	γ	γ					'	γ	γ
03	0845	--[a]	ssc	+1	+35		m	03	4,5,8	5	18	160	45
04	1415	0606	ssc	-3	+16		ms	04	6,8	7	60	306	198
16	0932	1705	ssc[x]	-2	+51		m	16	6,7	5	15	123	31
25	0407	2615	ssc[x]	+3	+64	-1	m	25	2,3,4, 5,6,7, 8	5	36	166	109
30	1005	--[b]	ssc	-1	+37								

a Storm unfinished before commencement of new storm on 4th September
b Storm still in progress at end of month

SUDDEN COMMENCEMENTS AND OTHER PHENOMENA AT TOOLANGI DURING SEPTEMBER

Day	Time h m	Type	Sense of Movement H	D	Z	Remarks
03	08 45	ssc A	+	+		No discernible Z movement
04	14 15	ssc B	+	-		
16	09 32	ssc A	+	-		
24	10 15	pt B				
25	04 07	ssc[x] A	+[x]	+[x]	-	
25	09 36	si A	+	-	+	
30	10 05	ssc A	+	-		No Z movement

PRINCIPAL MAGNETIC STORMS AT PORT MORESBY DURING MARCH TO SEPTEMBER 1958

date	storm time begin	storm time end	sudden commencement type	amplitudes D	H	Z	activity	Max. activity 0 to 9 day	3-hr per.	K	Ranges D	H	Z
	h m	d h		'	γ	γ					'	γ	γ
March							n i l						
April							n i l						
May													
31	1653	0112	ssc	+1	+31	+27	m				6	111	63
June													
07	0045	0715	ssc[X]	-1	+27	+26	m				9	244	92
21	0206	2204	ssc	..	+4	..	m				9	238	89
28	0714	2917	ssc	..	+16	+14	m				8	211	53
July													
08	0749	09..	ssc	+1	+105	+75	s				12	491	179
			No[X] record 9th 0530-2400 G.M.T.										
21	1637	2214	ssc[X]	+1	+38	+36	m				7	75	72
August													
17	0622	1812	ssc	+1	+48	+40	m				5	191	86
24	0140	2504	ssc	-1	+56	+33	m				8	251	125
Sept													
03	0843	0514	ssc[X]	..	+31	+28	m				13	272	115
25	0407	2602	ssc[X]	+1	+43	+41	m				9	264	112

SUDDEN COMMENCEMENTS AND OTHER PHENOMENA AT PORT MORESBY DURING MARCH TO SEPTEMBER 1958

Day	Time h m	Type	Sense of Movement H	D	Z
March					
10	17 45	bp B	+	-	+
13	12 59	bp B	+	+	+
14	12 12	ssc B	+	-	+
19	14 17	bp B	+	-	+
25	15 41	ssc A	+	+	+
31	03 21	ssc C	+	+	+
Commenced recording 10th March					
No record : 17th 20-24 h.					
30th 10-24 h.					
April					
29	12 05	bp B	+	-	+
29	16 56	bp B	+	-	+
No record : 1st 18-24 h.					
6th					
8th					
9th 08-24 h.					
28th 21-24 h.					
May					
31	16 54	ssc A	+	+	+
No record : 26th 12-24 h.					
June					
07	00 45	ssc[X] B	+	+[X]	+
14	18 27	ssc B	+	-	+
21	02 06	ssc C	+	..	..
28	07 14	ssc B	+	-	+
No record : 5th					

Day	Time h m	Type	Sense of Movement H	D	Z
July					
08	07 49	ssc A	+	-	+
13	21 09	ssc[X] C	+	-[X]	+
21	16 37	ssc[X] A	+	-[X]	+
31	15 30	ssc C	+	+	+
August					
11	11 06	bp B	+	-	+
17	06 22	ssc[X] A	+	+[X]	+
22	02 28	ssc[X] A	+	+[X]	+
24	01 40	ssc A	+	-	+
27	03 04	ssc B	+	+	+
No record : 3rd 19-24 h.					
5th 13-24 h.					
7th 19-24 h.					
8th 04-06 h.					
16-24 h.					
10th 00-07 h.					
September					
03	08 43	ssc A	+	+	+
16	09 30	ssc[X] B	+[X]	+[X]	+[X]
25	04 07	ssc[X] A	+[X]	+[X]	+[X]
30	10 05	ssc B	+	+	+

Solar flare effect during August

Day	Time h m	
09	03 49	Confirmed by ionospheric observations
16	04 35	

PRINCIPAL MAGNETIC STORMS AT MAWSON DURING FEBRUARY TO JUNE 1957

date	storm time begin	storm time end	sudden commencement type	amplitudes D	H	Z	activity	Max. activity 0 to 9 day	3-hr per.	K	Ranges D	H	Z
	h m	d h		'	γ	γ					'	γ	γ
Feb													
03	2025	0612	ssc	+3	-13	-35	ms	03	7				
								04	6,7	7	155	1020	1385
07	1836	0811	....				m	08	3	6	98	420	505
12	1850	--	ssc	-2	+8	+7	ms	13	2,3	7	103	815	593
13	0939	1408	ssc[x]	-19	+38	+93	ms	13	4,5	6	89	489	611
17	1029	1812	ssc[x]	-3	+25	-20	m	17	6,7,8	5	61	400	595
								18	1,2,3				
18	1834	2013	....				ms	19	7	7	106	1005	760
21	0129	2311	--	-2	-48	-49	ms	21	1,4,6, 7,8	6	106	570	805
								22	7				
23	1752	2418	ssc	+1	-11	-74	s	23	7	8	122	895	1752
27	1945	2723	ssc	-12	0	+44	m	27	7	5	41	93	227
March													
01	16..	--	....				m	01	8	6	59	348	705
02	0242	--	ssc	+5	-274	-101	s	02	3	8	169	1326	1780
04	0113	0415	ssc	-2	-200	-48	ms	04	1,2	7	63	775	643
10	0023	1108	ssc	-3	+66	+8	ms	10	3,4	7	112	750	750
16	00..	1610	....				m	16	1	6	48	520	445
16	16..	1713	....				ms	16	7	7	105	679	736
21	1811	2409	ssc	-5	-43	+45	ms	22	7	7	81	790	660
25	0327	2516	ssc[x]	-5	+14	-14	ms	25	2	7	86	655	820
27	1800	2818	ssc	-8	+35	+2	ms	27	7,8	7	119	920	1150
								28	1				
29	0338	2911	ssc[x]	+32	+280	-126	m	29	2	6	44	425	615
	1315	3010	ssc	-1	+30	-40	s	29	6,7	7	101	995	1035
								30	1				
30	2055	3114	....				ms	30	8	6	58	470	610
		Apr.						31	2				
31	16..	0214	....				ms	31	7	7	144	685	830
								01	7				
April													
03	1635	0518	....				ms	03	7	7	81	1030	795
05	2159	0616	....				ms	06	3	7	66	665	480
09	2344	1019	....	Polar Bay			ms	10	1	7	59	820	815
15	18..	1611	....				ms	15	8	7	52	655	655
17	1136	1811	ssc[x]	-20	+161	+55	ms	17	8	6	46	475	440
								18	1				
18	1508	2012	....				ms	18	7	7	109	1030	1120
20	20..	2121	....				m	20	8	6	58	520	640
								21	2,3				
26	1934	2714	ssc[x]	+10	-12	-51	ms	26	7	7	91	640	825
		May						27	2				
30	1930	0118	ssc	Polar Bay			ms	30	7,8	6	95	660	760
								01	2,3				
May													
08	2104	0913	....	Polar Bay			ms	08	8	7	88	460	700
30	0822	3110	ssc[x]	+13	+97	-96	m	30	8	6	44	455	315
June													
03	0607	0512	....				ms	03	8	7	104	920	900
								04	8				
								05	1				
05	1715	0708	ssc	+6	-66	+62	s	06	2	8	172	1110	1340
17	2059	1812	....	Polar Bay			ms	17	8	6	83	550	490
								18	1,2				
18	1840	2009	....	Polar Bay			ms	18	7,8	6	112	700	640
								19	1,2,7				
								20	2				

PRINCIPAL MAGNETIC STORMS AT MAWSON DURING FEBRUARY TO JUNE 1957

date	storm time begin	storm time end	sudden commencement type	amplitudes D	H	Z	activity	Max. activity 0 to 9 day	3-hr per.	K	Ranges D	H	Z
	h m	d h		↑	γ	γ					↑	γ	γ
23	20..	2412	....				ms	24	1,2	6	67	590	555
24	20..	2514	....				m	(24	8	5	52	440	520
								(25	1,3				
25	1942	2716	ssc[x]	+14	-136	+97	ms	26	1,2	7	153	765	755
		July											
30	0529	0113	ssc[x]	-4	+97	-53	s	30	7,8	8	204	2050	1470
								01	2				

SUDDEN COMMENCEMENTS AND OTHER PHENOMENA AT MAWSON DURING FEBRUARY TO JUNE 1957

Day	Time h m	Type	Sense of Movement H	D	Z
Feb					
01	18 55	bp B	-	+	+
02	21 52	pt A			
03	20 25	ssc C	-	+	-
04	17 04	si A			
11	16 00	bp B	-	+	+
12	03 33	bp A	-	-	-
	18 50	ssc C	+	-	+
13	00 10	pt B			
	09 39	ssc[x] A	+[x]	-[x]	+[x]
15	21 36	bps B	-[x]	+	+[x]
17	10 29	ssc[x] B	+[x]	-	-[x]
18	19 01	bs B	-	-	+
20	19 04	bp B	-	+	+
	21 22	bp A	-	-	+
21	01 29	ssc C	-	-	-
	16 17	si A			
22	19 15	si B			
23	17 52	ssc B	-	+	-
24	19 44	bps A	-	+	+
27	02 30	bs A	-	+	-
	19 45	ssc A	0	-	+
28	21 28	bs A	-	-	+
March					
02	02 42	ssc B	-	+	-
03	16 54	bs A	-	-	+
	21 29	bs A	-	-	+
04	01 13	ssc B	-	-	-
	20 55	bps A	-	-	+
05	21 52	bps A	-	-	+
06	00 05	bp A	-	-	-
	16 15	bs B	-	-	+
07	16 21	bp A	-	-	+
	20 28	bps A	-	-	+
08	00 01	bp A	-	±	-
	19 57	bps A	-	±	+
	23 36	bps A	-	+	-
09	05 37	bp A	-	-	-
	19 25	bs A	-	-	+
	21 05	bp B	-	+	±
10	00 23	ssc B	+	-	+
	11 53	si B			
	12 45	si B			

Day	Time h m	Type	Sense of Movement H	D	Z
March					
14	23 49	bp B	-	±	-
17	16 24	bs A	-	±	+
	21 02	bp C	-	+	-
18	12 08	b A	-	±	+
	21 08	bp A	-	+	-
19	19 24	bp A	-	+	-
	23 33	bp A	-	±	-
20	21 47	bps A	-	+	-
21	18 11	ssc B	-	-	+
23	21 40	bs A	-	-	+
24	19 41	bp A	-	+[x]	±[x]
25	03 27	ssc[x] C	+	-[x]	-[x]
26	21 10	bs A	-	-	+
27	00 05	bs A	-	-	-
	11 36	si B			
	18 00	ssc C	+[x]	-[x]	+[x]
29	03 38	ssc[x] A	+[x]	+[x]	-[x]
	13 15	ssc A	+	-	-
30	20 55	bp A	-	-	+
	23 20	bp A	-	-	+
April					
02	18 47	bs A	-	+	+
	22 06	bs A	-	-	a
03	19 00	si A			
04	06 22	si C			
09	18 41	bp A	-	-	+
	23 44	bp A	-	-	+
11	22 37	bps A	-	+	-
15	23 22	bs A	-[x]	-[x]	-[x]
17	11 36	ssc[x] A	+[x]	-[x]	+[x]
18	15 40	si C			
21	21 57	bp A	-	+	-
22	19 50	bp B	-	-	+
23	21 02	bps A	-	-	+
	23 44	bps A	-[x]	-[x]	-
26	19 34	ssc[x] B	+[x]	+[x]	-
27	21 17	bp B	-	+	+
30	19 30	bs A	-	-	+

a No Z trace

SUDDEN COMMENCEMENTS AND OTHER PHENOMENA AT MAWSON DURING FEBRUARY TO JUNE 1957

Day	Time h m	Type	Sense of Movement H	D	Z
May					
02	21 06	bp B	-	+	+
	23 08	bp A	-	-	+
03	18 10	bp B	-	±	+
	22 13	bps A	-	±	±
05	00 08	bp A	-	-	-
	22 54	bp B	-	+	-
	23 55	bps A	-	-	-
06	22 25	bp A	-	-	-
07	00 25	bp A	-	-	-
	04 43	bp B	-	±	-
	17 49	bs A	-	-	+
08	09 17	si B			
	21 04	bp A	-	+	+
	23 43	bp B	-	-	-
09	03 57	bs B	-	±	-
	05 33	bp B	-	±	±
	20 57	bs A	-	-	+
10	19 46	bp A	-	-	+
	22 08	bp A	-	-	-
11	02 18	bs C	-	-	-
	20 47	bps A	-	-	-
	21 34	bps A	-	+	-
	22 12	bps A	-	-	+
12	22 04	bp C	-	-	+
13	00 35	bp B	-	-	+
	16 08	bs B	-	+	+
	22 05	bps A	-	+	+
14	04 17	b A	-	-	-
15	21 25	bp A	-	±	+
16	18 29	bs B	±	+	±
18	00 40	bp C	-	-	-
	22 05	pt B			
19	21 22	bp C	-	-	+
	22 18	bp B	-	+	+
20	05 58	bps B	-	-	+
	19 33	bp B	-	-	-
23	02 04	bp B	-	-	-
24	23 25	bs B	-	-	+
25	21 51	bp A	-	-	+
26	20 16	bps A	-	-	±
	22 01	bs A	-	+	+
27	20 04	pt B			
	20 32	bp C	-	-	+
28	21 54	pt C			
	22 46	bp A	-	-	+
29	23 17	bp A	-	-	+
30	00 20	bp A	-x	-x	-x
	08 22	ssc A	+x	+x	-x

Day	Time h m	Type	Sense of Movement H	D	Z
June					
01	23 14	bp B	-	+	-
03	19 05	si B			
05	03 30	pt A			
05	17 15	ssc B	-	+	+
06	19 26	bps A	-	+	+
07	00 52	bps A	-	±	+
07	21 51	bs A	-	-	
08	01 11	bp B	-	-	-
09	19 21	b B	-	-	+
10	20 20	bp C	+	+	+
12	22 24	bp B	-	+	±
13	21 40	bps A	-	±	-
14	20 03	bp A	-	-	+
15	00 37	bs A	-	-	±
15	05 28	bp B	-	-	+
15	23 14	bp A	-	-	-
16	21 37	bp A	-	-	+
17	06 05	bp B	-	+	+
17	20 59	bp A	-	+	+
18	18 40	bp A	-	-	+
20	19 45	bp A	-	±	+
21	06 33	bs B	-	-	+
21	18 30	bp B	±	+	-
21	19 24	bs A	-	+	+
22	23 32	bp A	-	±	±
23	20 23	bp B	-	-	+
24	01 09	bp A	-	-	-
24	21 46	bp A	-	-	+
25	11 19	si A			
25	19 42	ssc B	-x	+	+x
26	01 05	bs A	-	-	+
26	04 49	bp A	-	-	-
26	10 37	si C			
26	21 31	bs A	-	-	
27	00 04	bs B	-	-	+
28	21 47	bp C	+x	-	+x
30	05 29	ssc A	+x	-	-x