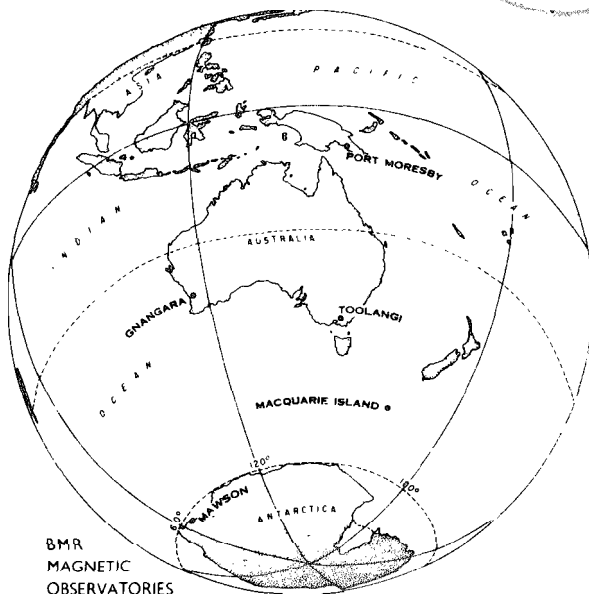


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BUREAU OF MINERAL RESOURCES,
GEOLOGY & GEOPHYSICS

GEOFYSICAL OBSERVATORY REPORT



Volume 20, No. 5
May 1972

Issued under the authority of

The Hon. Reginald W. Swartz, Minister for National Development

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COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

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C O N T E N T S

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

Assistant Director (Geophysics),
Bureau of Mineral Resources,
P.O. Box 378,
CANBERRA CITY. A.C.T. 2601

CONTRIBUTING OBSERVATORIES

OBSERVATORY	OBSERVER IN CHARGE	GEOGRAPHIC		GEOMAGNETIC	
		LAT	LONG	LAT	LONG
GNANGARA	<i>P. J. Gregson</i>	31°47'S	115°57'E	— 43.3°	185.8°
MACQUARIE I	<i>M.W. McMullan</i>	54°30'S	158°57'E	— 61.1°	243.1°
MAWSON	<i>J. Silich</i>	67°36'S	62°53'E	— 73.1°	102.9°
PORT MORESBY	<i>I.B. Everingham</i>	9°25'S	147°09'E	— 18.6°	217.9°
TOOLANGI	<i>G.R. Small</i>	37°32'S	145°28'E	— 46.7°	220.8°

MAGNETOGRAPHS

OBSERVATORY	TYPE	NOMINAL SCALE VALUES		
		NORMAL	SENSITIVE	RAPID RUN
		D H Z	D H Z	D H Z
GNANGARA	<i>Eschenhagen</i>	1 2½ 5½		
MACQUARIE I	<i>La Cour</i>	2½ 24 21		1 5½ 6
MAWSON	<i>La Cour</i>	2½ 21 22	1 10 10	
PORT MORESBY	<i>La Cour</i>	½ 2½ 3½		
TOOLANGI	<i>La Cour</i>	1 4½ 5		

Scale values are in minutes of arc/mm (D) and gammas/mm (H,Z)

MAGNETOMETERS

*Absolute data are based on control observations made with QHM's BMZ's
Askania Declinometers and Proton Precession Magnetometers
Errors in preliminary values are not likely to exceed ±5γ or 0.5 minutes*

G N A N G A R A

MAGNETIC K-INDICES - MAY 1972

Range for lower limit of K=9 is 350 gammas

<u>Day</u>	<u>K-Indices</u>								<u>K-Sum</u>	<u>C</u>
01	3	3	4	2	4	4	3	3	26	1
02	2	2	3	4	2	1	3	3	20	1
03	2	1	2	2	2	2	1	1	13	0
04	2	1	2	1	3	2	1	1	13	0
05	1	1	1	1	1	1	2	2	10	0
06	2	2	2	2	3	2	3	2	18	0
07	0	0	0	0	0	0	0	1	01	0
08	0	1	0	0	0	1	2	0	04	0
09	1	2	3	2	3	2	4	4	21	1
10	2	2	2	2	4	3	4	1	20	1
11	1	1	2	1	1	3	2	2	13	0
12	2	2	2	1	4	1	1	1	14	1
13	2	1	2	0	0	2	2	3	12	0
14	2	1	1	1	2	2	2	1	12	0
15	1	1	0	0	1	1	7	5	16	1
16	5	2	2	2	1	1	1	1	15	1
17	3	2	3	2	3	2	2	1	18	0
18	2	2	2	2	1	1	2	1	13	0
19	2	1	1	1	0	0	1	2	08	0
20	2	0	0	2	1	0	0	1	06	0
21	1	1	1	0	0	1	1	1	06	0
22	1	1	0	1	0	1	1	1	06	0
23	2	1	0	0	1	3	2	2	11	0
24	1	1	2	0	0	1	1	0	06	0
25	1	2	2	0	0	0	1	1	07	0
26	2	2	0	2	2	2	3	3	16	0
27	2	1	0	0	1	2	4	2	12	0
28	3	2	2	3	2	5	4	2	23	1
29	2	3	2	2	2	3	2	2	18	0
30	2	2	1	1	2	3	2	2	15	0
31	2	2	1	2	2	2	1	2	14	0

M A C Q U A R I E I S L A N D

MAGNETIC K-INDICES - MAY 1972

Range for lower limit of K=9 is 1500 gammas

<u>Day</u>	<u>K-Indices</u>								<u>K-Sum</u>	<u>C</u>
01	2	4	5	3	6	3	1	1	25	1
02	-	3	3	5	4	2	2	7	--	-
03	2	1	1	3	2	1	1	1	12	0
04	1	1	1	1	3	1	1	1	10	0
05	1	2	1	1	0	1	1	0	07	0
06	1	1	4	2	4	1	1	1	15	1
07	-	0	0	0	1	0	1	1	--	-
08	1	1	1	0	1	1	1	1	07	0
09	1	1	4	3	4	2	3	2	21	1
10	1	2	3	-	4	2	1	1	--	-
11	1	1	1	2	1	4	1	1	12	0
12	1	2	3	3	5	1	0	1	16	1
13	2	1	1	0	1	3	2	1	11	0
14	2	1	1	2	3	2	2	0	13	0
15	1	0	0	1	0	0	6	4	12	0
16	4	2	2	3	1	1	1	1	15	1
17	3	3	1	2	5	3	1	1	19	1
18	2	3	1	3	2	0	0	0	11	0
19	1	1	0	0	1	0	0	0	03	0
20	1	1	0	3	2	0	0	1	08	0
21	1	1	0	0	0	1	0	0	03	0
22	1	1	2	1	0	0	0	0	05	0
23	1	0	0	0	1	3	2	1	08	0
24	1	2	1	0	0	0	0	0	04	0
25	0	0	0	0	0	0	0	1	01	0
26	1	1	0	2	1	2	2	1	10	0
27	2	1	0	0	1	2	2	2	10	0
28	2	1	1	5	3	6	2	1	21	1
29	1	2	2	2	4	2	1	1	15	1
30	2	2	1	2	1	1	1	2	12	0
31	2	3	2	2	3	2	0	1	15	0

M A W S O N

MAGNETIC K-INDICES - MAY 1972

Range for lower limit of K=9 is 1500 gammas

<u>Day</u>	<u>K-Indices</u>								<u>K-Sum</u>	<u>C</u>
01	5	6	5	3	3	4	7	5	38	2
02	4	4	4	5	3	1	5	6	32	2
03	4	2	2	3	3	2	3	2	21	1
04	3	3	2	3	2	2	2	2	19	1
05	3	4	2	1	2	2	3	6	23	1
06	2	2	3	2	2	2	4	3	20	1
07	4	2	1	0	0	0	1	4	12	0
08	2	2	0	0	0	0	4	3	11	0
09	2	2	4	4	2	4	6	6	30	2
10	4	3	3	3	2	2	5	5	27	1
11	2	2	2	2	2	2	4	5	21	1
12	3	5	5	3	1	1	1	3	22	1
13	5	3	2	0	0	5	6	6	27	1
14	4	4	2	1	2	2	2	4	21	1
15	3	3	1	1	2	2	8	6	26	1
16	6	4	3	2	1	1	1	2	20	1
17	3	3	3	1	3	3	1	4	21	1
18	5	4	4	3	2	1	2	2	23	1
19	3	2	1	1	0	0	3	4	14	1
20	6	3	1	2	2	1	0	5	20	1
21	3	1	0	0	0	1	4	4	13	0
22	4	3	2	2	1	1	1	5	19	1
23	5	2	0	0	1	3	5	5	21	1
24	4	5	4	1	1	0	0	0	16	1
25	0	2	3	1	0	2	0	4	12	0
26	5	4	1	1	1	4	5	6	27	1
27	5	3	1	1	2	2	6	6	26	1
28	5	3	4	3	4	5	4	1	29	1
29	2	3	4	3	3	3	2	5	25	1
30	5	4	3	3	4	4	6	5	34	2
31	4	5	5	4	3	3	2	6	32	2

P O R T M O R E S B Y

MAGNETIC K-INDICES - MAY 1972

Range for lower limit of K=9 is 300 gammas

<u>Day</u>	<u>K-Indices</u>								<u>K-Sum</u>	<u>C</u>
01	3	3	4	3	3	2	2	3	23	1
02	2	3	5	4	2	2	2	2	22	1
03	2	2	2	2	2	1	1	1	13	0
04	2	1	1	1	2	1	1	1	10	0
05	2	1	1	1	1	1	1	1	09	0
06	2	2	1	2	2	2	2	1	14	0
07	1	1	0	0	1	0	0	1	04	0
08	1	1	1	0	1	1	1	1	07	0
09	2	3	5	4	2	1	3	3	23	1
10	2	3	2	2	2	2	2	1	16	0
11	1	3	4	1	1	3	1	1	15	1
12	-	-	2	3	4	-	1	1	--	1
13	2	2	2	1	1	2	1	1	12	0
14	1	0	1	1	1	1	2	2	09	0
15	1	1	1	1	2	1	6	4	17	1
16	4	4	3	3	1	1	1	1	18	1
17	4	3	3	2	3	2	1	1	19	1
18	3	4	4	2	2	1	2	1	19	1
19	1	0	1	1	0	0	0	1	04	0
20	0	0	1	2	1	1	1	1	07	0
21	2	1	2	1	0	1	1	1	09	0
22	1	2	2	1	1	1	2	1	11	0
23	1	1	2	1	2	2	1	1	11	0
24	2	3	4	1	1	1	1	1	14	1
25	1	2	2	1	1	1	1	2	11	0
26	2	1	1	1	1	1	2	2	11	0
27	2	1	2	0	1	2	3	1	12	0
28	3	2	3	4	3	3	3	1	22	1
29	1	2	3	2	2	1	1	1	13	0
30	3	3	2	1	3	3	3	1	19	1
31	2	4	3	3	2	2	1	2	19	1

T O O L A N G I

MAGNETIC K-INDICES - MAY 1972

Range for lower limit of K=9 is 500 gammas

<u>Day</u>	<u>K-Indices</u>								<u>K-Sum</u>	<u>C</u>
01	3	3	4	2	4	3	2	2	23	1
02	2	3	4	4	2	1	3	2	21	1
03	2	1	1	2	1	1	1	1	10	0
04	1	2	1	0	3	2	1	0	10	0
05	1	1	1	0	1	0	1	1	06	0
06	2	1	2	2	3	2	2	1	15	0
07	2	2	0	0	0	0	0	1	05	0
08	1	1	0	0	1	2	2	0	07	0
09	2	2	4	4	4	3	3	3	25	1
10	2	2	3	2	3	2	3	1	18	0
11	0	2	2	1	2	3	2	2	14	0
12	2	2	3	2	4	1	1	1	16	1
13	2	1	1	0	0	2	3	3	12	0
14	1	2	2	1	3	3	2	1	15	0
15	1	0	0	1	1	0	7	5	15	1
16	4	4	3	2	1	1	0	0	15	1
17	3	3	2	2	3	2	1	2	18	0
18	2	4	3	3	2	1	1	0	16	1
19	1	2	1	0	1	0	0	0	05	0
20	1	2	1	2	1	0	0	0	07	0
21	1	1	1	1	0	0	0	0	04	0
22	1	2	1	1	1	0	1	0	07	0
23	1	1	0	0	1	3	2	1	09	0
24	3	2	2	0	1	1	0	0	09	0
25	1	1	2	1	1	1	1	1	09	0
26	2	2	2	2	1	2	3	3	17	0
27	2	2	0	0	2	3	3	2	14	0
28	3	2	2	4	2	4	3	2	22	1
29	2	3	2	3	2	2	2	2	18	0
30	3	2	1	2	2	2	2	1	15	0
31	2	4	3	3	2	2	1	2	19	1

MAY 1972
PRINCIPAL MAGNETIC STORMS

Observatory	Storm - time					Sudden commencement				Degree of activity	Maximal activity on K - scale 0 to 9			Ranges			
	Begin			End		Type	Amplitudes				Day	3 - hour period	K	D	H	Z	
							D	H	Z								
	d	h	m	d	h		/	γ	γ					/	γ	γ	
GNANGARA	15	18	50	16	03	ssc*	+9*	+57*	+50*	ms	15	7	7	30	130	160	
PORT MORESBY	15	18	50	18	14	ssc*	+1.3	+64	+60	ms	15	7	6	9	130	100	
TOOLANGI	15	18	49	16	11	ssc	-6	+60	+10	ms	15	7	7	32	220	60	

MAY 1972

PRELIMINARY MONTHLY MEAN VALUES

Based on selected quiet days

OBSERVATORY	H	D	Z
	γ	$^{\circ}$,	γ
GNANGARA	26732	03 04.7W	-53446
MACQUARIE I.	12940	27 23.4E	-64014
MAWSON	18380	62 12.1W	-47609
PORT MORESBY	36159	06 14.7E	-23219
TOOLANGI	22321	10 42.9E	-55317

SUDDEN COMMENCEMENTS AND OTHER PHENOMENA

OBSERVATORY	DAY	TIME	TYPE	SENSE OF MOVEMENT	
				H	D
GNANGARA	09	0519	ssc B	+	-
	10	1443	bp B	+	+
	12	1255	bp B	+	-
	15	1850	ssc* A	+	+
PORT MORESBY	15	1850	ssc* A	+	+
TOOLANGI	09	0518	ssc B	+	-
	15	1849	ssc A	+	-