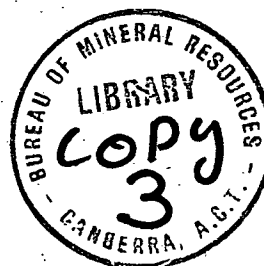


**DEPARTMENT OF
MINERALS AND ENERGY**



**BUREAU OF MINERAL RESOURCES,
GEOLOGY AND GEOPHYSICS**

Record 1974/10



**PORT MORESBY GEOPHYSICAL OBSERVATORY
ANNUAL REPORT
1972**

by

I.D. Ripper and B.A. Gaul

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SUMMARY

Standard observatory programs in seismology, geomagnetism, and ionospherics were continued at Port Moresby during 1972 by the Bureau of Mineral Resources.

The network of regional seismograph stations was changed: one station was installed at Talasea, and the stations at Pomio and Goroka, were closed.

Accelerographs were installed at the DCA transmitter station and the P & T repeater station at Lae, and at the Musa Damsite.

Seismicity decreased from the high level reached in 1971.

1. INTRODUCTION

The Bureau of Mineral Resources, Geology and Geophysics (BMR) opened a geophysical observatory at Port Moresby in 1957 (Observatory Staff, 1965). The program of investigations was restricted initially to geomagnetic and seismological work at Port Moresby, but it has been enlarged subsequently. The Appendix summarizes principal events in the history of the observatory. Detailed annual accounts of operations to 1971 may be found in BMR Records by several authors.

This report describes the activities during the year 1972. In addition to seismological, geomagnetic, and ionospheric work at Port Moresby, networks of seismograph and accelerograph stations were maintained, the latter in conjunction with other government and private agencies.

A brief review of the 1972 regional seismicity and a list of all well recorded earthquakes in the New Guinea Solomon Islands region are given herein.

2. STAFF AND VISITORS

Tables 1 and 2 give details of staff during 1972.

The number of man-days spent by staff visiting other Papua New Guinea centres were: Talasea, 16; Musa Damsite, 11; Lae 11; Rabaul, 8; Momote, 7; Goroka, 7; Kavieng, 6; Wabag, 5; Wewak, 4; Pomio, 4; Yonki, 1; Madang, 1; Kimbe, 1; Total, 82.

The Observer-in-Charge visited Canberra HQ for the annual planning meeting in August.

Table 3 lists visitors to the Observatory during 1972.

3. SEISMOLOGY

Table 4 lists the co-ordinates and instruments of the BMR stations, and Plate 1 shows the positions of all seismograph stations operated by the observatory in Papua New Guinea during 1972.

The most common problem of outstation maintenance was the unreliability of the EMI power units, which broke down often - possibly as a result of overheating while running on battery power supply.

Recording stations

Port Moresby (PMG): Routine recording on the Port Moresby World Wide Standard Seismograph (WWSSN) continued and regular calibration checks were made. The supplementary Willmore, Sprengnether, and Wood-Anderson seismographs continued to operate as standby instruments to the WWSSN for strong ground motion recording and for magnitude determinations. A tape-recording seismograph was operated for the Carnegie Institution of Washington.

Konedobu (KDB): The station operated whenever an ER230 recorder was available in the office laboratory. Recordings were used for rapid visual monitoring of earthquake activity. Results were not reported in the seismic bulletin. The ER230 recorders could not be maintained efficiently.

Goroka (GKA): Continual breakdown of the ER230 pen-recorder, and operation difficulties at the Goroka site finally necessitated closing the station in November.

Lae Tech (LAT): The station was operated by personnel of the Institute of Technology, Lae. Operation was satisfactory. The 0.3-second galvanometer was replaced by an 0.7-second galvanometer on 28 April to improve the signal-to-noise ratio.

Momote (MOM): The Momote station on Manus Island was operated by personnel of the Commonwealth Bureau of Meteorology. Operation was satisfactory. On 25 March, the Wood-Anderson seismograph was restored after a nine-month period of erratic behaviour. Also on 25 March, the batteries were repositioned outside the seismic hut.

Wabag (WAB): Operation was satisfactory, with minor losses of records caused by drift of the galvanometer, by the Wood-Anderson seismometer being misorientated by strong earthquake motions, and by insufficient battery voltages. The Honda generator was withdrawn on 13 September, when an increase in the availability of mains power rendered it redundant.

Kavieng (KAV): On 29 June a new Sprengnether pen-recorder replaced the ER230 recorder. However, problems with the pen suspension were not finally rectified until 8 August. Losses of records in November and December were caused by a faulty EMI power unit.

Pomio (PNB): The station was dismantled on 31 May when it was no longer required as a station close to the aftershock region of the M8

earthquakes of July 1971. Some of the equipment was transferred to Talasea.

Talasea (TLS): Until the installation of station equipment on 6 August, the station grounds were maintained by the Talasea Council. Clock and radio faults delayed the start of routine recording until 18 August.

Kobuan (KOA) and Panguna (PAA): The Kobuan station was owned and operated in 1972 by Bougainville Copper Pty Ltd. Responsibility for interpretation of the seismograms was transferred from the Rabaul Volcanological Observatory to the Port Moresby Geophysical Observatory on 1 August.

On 30 November the Kobuan station at Kieta ceased operation and the equipment was transferred to Panguna, where recording recommenced on 4 December.

The station has been reliable.

Accelerograph network

Table 5 lists data on accelerographs operating in Papua New Guinea in 1972. The instrument sites are shown in Plate 1.

A summary of accelerograph movements during 1972 follows:

Date	Instrument	From	To	Action
4 Jun	2-BMR M02s		Musa River damsite	Installation
20-21 Jun	2-Carpentaria Exploration M02s	Frieda River	Lae	Repair
21-22 Jun	2-CDW M02s	Ramu Yonki Ramu Intake	Ramu Intake Ramu Yonki	Exchange
22 Jul	2-Carpentaria Exploration M02s	Lae	Frieda R.	Re-installation
26 Jul	1-Kennecott M02	Star Mountain	Port Moresby	Repair
6 Aug	1-CDW SMA-I (new)		Lae P & T Repeater Station	Installation

Date	Instrument	From	To	Action
Sep	1-Kennecott M02	Port Moresby	Star Mountains	Re-installation
19 Sep	1-CDW SMA-I (new)	Port Moresby	Lae, DCA transmitter station	Installation
9 Nov	1-CDW M02	Rabaul Sulphur Ck	Rabaul Wanliss St.	Transfer of site
29 Nov	2-CDW SMA-Is	Lae, DCA P & T	Port Moresby	Removal
29 Nov	1-BMR M02	Port Moresby	Lae, P & T	Installation
2-6 Dec	2-BMR M02s	Musa River Damsite	Port Moresby	Removal
4-7 Dec	2-CDW SMA-Is	Port Moresby	Musa River Damsite	Installation

A new electric motor was fitted to the Frieda River A M02 and a clutch adjustment was made to the Frieda River B instrument. The Star Mountains Base Station M02 was damaged by moisture entering through a stripped screw hole in the end plate. A general overhaul of the instrument was necessary.

The 14 earthquakes which triggered accelerographs in 1972 are listed in Table 6. The earthquake on 16 September yielded valuable information at the Musa River Damsite about the geological effects on acceleration, for both accelerographs - the one on hard rock, the other on adjoining (soft-rock) hilltop - were triggered. The record clearly showed that acceleration on the hilltop was considerably greater than at the valley hard-rock site.

Collection and distribution of data

Records were airmailed about twice weekly from the seismograph stations and analyses of all seismograms were then carried out at the observatory office, Port Moresby. P-wave arrival times were telegraphed to the United States Environmental Research Laboratories ERL (previously

CGS and NOS). Weekly bulletins listed all seismic analyses. Phase data were transcribed onto card punch forms, which were sent to BMR, Canberra, for processing and for inclusion in a magnetic tape for the International Seismological Centre (ISC), Edinburgh.

Table 7 lists the monthly number of seismic events recorded by each station. About 13 000 P arrivals were recorded by the network, which is a slight decrease from the seismically active previous year (1971). The WWSSN station, PMG, recorded 70% of the number of shocks recorded during 1971.

Felt effects and ERL hypocentres were entered on the storage and retrieval computer file held at the Computer Centre, Port Moresby. Accelerograms were forwarded to BMR, Canberra, for digitization and analysis.

The earthquakes for which intensity questionnaires were distributed are listed in Table 8.

1972 seismicity: New Guinea and Solomon Islands

The level of seismicity decreased considerably in 1972 compared with 1971, when three M8 earthquakes occurred. The most active region was the north Solomon Sea/east New Britain/Bougainville triangle; several earthquakes from the region were felt at Rabaul with intensities up to MM6. The M7.2 earthquake which occurred in the north Solomon Sea on 17 August caused minor sea surges along the southeast coast of New Britain.

Lae experienced an MM4-6 intensity from an M4.9 event within 20 km of the township on 20 January (epicentre 6.9°S 147.2°E); so too did the Musa River Dam site from a M4.9 event within 20 km of the site on 16 September.

A swarm of seismic/volcanic events occurred close to Ritter Island (at the southwest end of New Britain) between 1930 and 2200 UT on 8 October. About 40 events with ML in the range 2.5-3.9 were recorded at LAT, TLS, and PMG. T waves from the events were recorded at Wake and Midway Islands, in mid-Pacific.

Earthquakes in the New Guinea/Solomon Islands region for which ERL used 15 or more stations to compute the hypocentres are listed in Table 9. Plate 2 shows the epicentres of earthquakes with magnitude M6 and greater.

4. GEOMAGNETISM

Normal-run magnetograph

The La Cour 15 mm/hr magnetograph continued to record variations in geomagnetic horizontal intensity, vertical intensity, and declination at Port Moresby.

Twenty-seven hours of record was lost owing to: (a) the recorder drive gears being jammed (16 hours); (b) the power cable being accidentally cut (5 hours); and (c) operator mistakes (6 hours).

Control observations. A set of absolute observations using 3 QHMs, a BMZ, and a declinometer was made once a week. The preliminary instrument corrections used in the calculation of all preliminary results are shown in Table 10.

Scale values. H and Z scale values were measured weekly and D was measured monthly using coil currents of 6 mA and 10 mA. Adopted scale values and RMS deviations of observed values are shown in Table 11.

Baseline values. The H baseline values continued to decrease, and required 1 nT decrements in adopted values about every five days. On 15 March the trace was recentred by rotation of the torsion head, resulting in a change in adopted baseline value of 125 nT. The D and Z baseline values showed only small fluctuations about the mean.

Orientation. The test made on the H variometer on 23 September showed the H recording magnet (N pole) was $0.2^{\circ} \pm 0.2^{\circ}$ N of the magnetic E prime vertical. The reference azimuth was 06.1° , and H at the time of measurement was 36 161 nT. This test was repeated on 21 December and the result obtained was (N pole) $0.3^{\circ} \pm 0.2^{\circ}$ N of E, with no change in the reference azimuth. H at the time of measurement was 36 127 nT.

Tests made on the D variometer on 23 September and 21 December showed that the D recording magnet (N pole) was $0.4^{\circ} \pm 0.2^{\circ}$ W of N and $0.3^{\circ} \pm 0.2^{\circ}$ W of N respectively. The reference azimuth was 06.1° , and the values of D at the time of the measurements were $06^{\circ} 13' \text{ E}$ and $06^{\circ} 11' \text{ E}$ respectively.

Tests made on the Z variometer on 21 December, 22 December, 29 December and 4 January 1973 showed that the Z recording magnet was N pole south and up at an angle of $0.5^{\circ} \pm 0.4^{\circ}$.

Data reduction and distribution

Adopted scale and baseline values were sent with the 35 mm magnetogram copies to World Data Centre A, and with the magnetograms to BMR Observatory Group, Canberra, for the mean hourly value derivation program. Recorded solar flare effects, sudden commencements, sudden impulses, storms, and pulsations were reported monthly to the Data Centre and to other international agencies.

Monthly mean values for 1972 of H, D, Z, and the K-index at Port Moresby are listed in Table 12; H continued to decrease steadily at a rate of about 25 nT/yr, while Z increased at a slightly greater rate (40 nT/yr) than the average (30 nT/yr) for the past 12 years. D continued its easterly trend of 1'/yr. Table 13 gives the annual mean values of all components for the 12-year period 1961-1972.

5. IONOSPHERICS

Ionospheric characteristics scaled during 1972 were f min, fEs, fbEs, (M3000)F2, fx(I) and (M3000)I.

The ionosonde operated with frequent breakdowns despite an overhaul by an IPS physicist in May. Breakdowns continued to be caused by ageing of equipment, and repairs were hampered by the difficulty of obtaining spares. The ionosonde was unserviceable from 8 November to 31 December.

6. REPORTS, PAPERS, AND PROJECTS

A paper entitled 'Information on Western Australia Earthquakes, 1849-1960' was published (Everingham, 1972), and a joint paper on mechanisms of Australian earthquakes was prepared (Fitch, Worthington & Everingham, 1973).

First drafts of reports were completed on (a) the 1971 Port Moresby annual report (Ripper & Gaull, 1973); (b) tsunamis in Papua New Guinea (Everingham, in prep.); (c) submarine slumps in the Lae area, Papua New Guinea (Everingham, 1973); and (d) some earthquake focal mechanisms in the New Guinea Solomon Islands region, 1963-1968 (Ripper, in prep.).

Investigations into the seismicity of Papua New Guinea and into earthquake risk at the major Papua New Guinea towns continued.

7. NOTES ON OPERATIONS

- April Magnetic and seismic area of Tabletop was enclosed by security fencing.
- May A burglar alarm was installed at the magnetic and seismic installations, Tabletop.
- December Commonwealth Department of Works, Port Moresby took over salary payments and staff records for the the Observatory permanent local officers.

8. ACKNOWLEDGEMENTS

The co-operation of the Commonwealth Bureau of Meteorology and Departments of Works and Civil Aviation, the Institute of Technology, the Goroka Teachers' College, the Rabaul Observatory, the Division of District Administration, the Department of Forests, Kennecott Pacific Pty Ltd, Bougainville Copper Limited and Carpentaria Exploration Company in the operation and maintenance of the seismic and accelerograph network is gladly acknowledged.

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10. APPENDIX

PRINCIPAL EVENTS, PORT MORESBY
GEOPHYSICAL OBSERVATORY, 1957-1972

1957 Mar	Regular absolute observations (D,H,Z) commenced
1957 Dec	PMG seismograph recording commenced
1958 Mar	Normal-run geomagnetic recording commenced
1959 Oct - 1971 Oct	Rapid-run geomagnetic recording
1961 May	Ionospheric recording commenced
1962-1963	Regional magnetic survey
1962 Jul	WWSSN station installed at PMG
1964 Jan	Gravity calibration range established in Port Moresby
1964 Nov - 1966 Dec	TPN LP-Z seismograph operation
1964 Dec - 1965 Dec	POP LP-Z seismograph operation
1965 Dec - 1967 Mar	KRG LP-Z seismograph operation
1966 Feb - 1966 Oct	DNG LP-Z seismograph operation
1966 Jul	DTM wide-band high dynamic range seismograph installed at PMG
1966 Nov - 1967 May	LAE P-Z seismograph operation
1967 Jan - 1967 May	TPN SP-Z seismograph operation
1967 May	LAE seismograph converted to SP-Z
1967 Jul - 1970 May	GRK SP-Z seismograph operation
1967 Aug	2 M02 accelerographs (property of CRA) installed at Kieta and subsequently moved to Panguna
1967 Oct	Ramu (Yonki) M02 (CDW) accelerograph installed
1968 Apr - 1972 Nov	Rabaul (Sulphur Creek) M02 (CDW) accelerograph operation
1968 Sep	WEW aftershock recordings
1968 Oct - 1968 Dec	WEK aftershock recordings
1968 Oct	Wewak M02 (CDW) accelerograph installed

1968 Dec	WAB SP seismograph operation commenced
1969 Apr - 1969 Jun	Regional magnetic survey
1969 Jul	Ramu (Intake) M02 (CDW) accelerograph installed
1969 Oct	MOM SP seismograph operation commenced
1970 Mar - 1972 Nov	GKA SP seismograph operation (in lieu of GRK)
1970 May	LAT SP seismograph operation commenced (in lieu of LAE)
1970 Nov	MAD aftershock recordings
1971 May	Frieda River A M02 accelerograph (property of Carpentaria Explorations) installed
1971 Jul	Lae (CDW yard) M02 accelerograph installed
1971 Aug - 1972 May	PNB SP seismograph operation and aftershock recordings
1971 Aug	KAV SP seismograph operation commenced
1971 Aug	Rabaul (Observatory) M02 accelerograph installed
1971 Aug	Frieda River B M02 accelerograph (property of Carpentaria Explorations) installed
1971 Aug	Star Mountains (NO. 1) M02 accelerograph (property of Kennecott) installed
1971 Sep	Star Mountains (No. 2) M02 accelerograph (property of Kennecott) installed
1971 Nov	Lae (Botany Building) M02 (CDW) accelerograph installed
1972 Jun - 1972 Dec	Musa Damsite - two M02 accelerographs operated
1972 Aug - 1972 Nov	Lae P & T repeater station - SMA/1 (CDW) accelerograph operated
1972 Sep - 1972 Nov	Lae DCA transmitter station - SMA/1 (CDW) accelerograph operated
1972 Nov	Rabaul (Wanliss Street) M02 (CDW) accelerograph installed (removed from Sulphur Creek)

TABLE 1
OBSERVATORY STAFF, 1972

<u>Officer</u>	<u>Designation</u>
<u>COMMONWEALTH OF AUSTRALIA PUBLIC SERVICE</u>	
I.B. Everingham	Observer-in-Charge
I.D. Ripper	Geophysicist Class 2
B.A. Gaull	Geophysicist Class 1
Mrs W.M. Byrne	Technical Officer Grade 2
P.M. Ryan	Technical Officer Grade 2 (until 14 November)
J.T. Vote	Technical Officer Grade 1
Mrs A. Dawe	Typist
<u>PAPUA NEW GUINEA PUBLIC SERVICE</u>	
P. Rupa	Clerk Class 3
R. Lamond	Technical Assistant Grade 1 (until 20 October)
A. Tom	Technical Assistant Grade 1
D. Kepalan	Observer, Wabag
F. Sevese	Clerical Assistant Grade 1
A. Kaila	Gardener

TABLE 2

ASSOCIATED PERSONNEL, 1972

<u>Officer</u>	<u>Designation</u>
J. Wui	Gardener
S. Geno	Student, 1 January to 3 February, 11 December to 31 December
K. Gooley	Physicist IPS, 3 May to 6 June
H. Mohi	Trainee Observer, Talasea, from 9 July
Mrs G. Taggert	Stenographer, 4 September to 27 October

TABLE 3

VISITORS TO THE PORT MORESBY GEOPHYSICAL OBSERVATORY, 1972

<u>Visitor</u>	<u>Organization</u>	<u>Month</u>
Dr G. Emeleus	University of PNG	February
I. Brazier	Inst. Tech. Lae	February
R. Page	National Development	May
P. Corrigan	National Development	May
R. Thompson	National Development	June
L. Williams	BMR	July
D. Coutts	BMR	July
A. Hara	Sc. Univ. Tokyo	September
J. Marsh	Marsh and McLennon Pty Ltd	September
R. Fell	CDW Melbourne	September
D. Stapleton	Coffey and Hollingsworth	September
Prof. Tanimote	CSIRO	September
Dr M. Kurzome	CSIRO	September
Dr C. Browitt	IGS, Edinburgh	November

TABLE 4

PORT MORESBY GEOPHYSICAL OBSERVATORY SEISMOGRAPH NETWORK, 19721. STATION DETAILS

Station	Code	Lat (°S)	Long (°E)	Elevation (m)	Foundation
Port Moresby	PMG	09° 24' 33"	147° 09' 14"	67	Eocene cherts
Konedobu	KDB	09° 28' 18"	147° 09' 36"	35	Eocene cherts
(a) Goroka	GKA	06° 03' 30"	145° 23' 30"	1634	Alluvium
Kavieng	KAV	02° 34' 24"	150° 49' 00"	4	Brown soil
Lae Tech	LAT	06° 39' 10"	147° 00' 00"	72	Alluvium
Momote	MOM	02° 04' 28"	147° 24' 41"	10	Coral
(b) Pomio	PNB	05° 31' 30"	151° 30' 30"	3	Coral
Wabag	WAB	05° 29' 41"	143° 43' 42"	2032	Clay
(c) Talasea	TLS	05° 18' 35"	150° 02' 41"	(40)	Volcanic soil
(d) Kobuan	KOA	06° 13' 27"	155° 37' 08"	65	Andesite lava
(e) Panguna	PAA	06° 18' 02"	155° 29' 28"	699	Diorite stock

(a) Until November

(b) Until May

(c) From August

(d) Until November

(e) From December

2. STATION INSTRUMENTS

Station	Seismometer	Component	Ts(s)	Tg(s)	Magnification	Recorder
PMG	WWSSN	Z, N, E	1.0	0.75	25 000 at 1 s	Photo drum
		Z	15.0	100	1 500 at 15 s	Photo drum
		N, E	15.0	100	375 at 15 s	Photo drum
	Willmore	Z	0.7	0.3	30 000	Photo drum
	Wood-Anderson	N, E	0.8	-	2042	Photo drum
	Sprengnether	N, E	15.0	14	-	Photo drum
GKA	Wilson-Lamison	Z	1.0	-	-	Pen drum
KAV	Willmore	Z	0.7	-	-	Pen drum
LAT	Willmore	Z	0.7	0.3; 0.7	-	Photo drum
	Wood-Anderson	E	0.8	-	2042	Photo drum
MOM	Willmore	Z	0.7	0.3	-	Photo drum
	Wood-Anderson	E	0.8	-	2042	Photo drum
PNB	Willmore	Z	1.0	-	-	Pen drum
WAB	Willmore	Z	0.7	1.3	-	Photo drum
	Wood-Anderson	N	0.8	-	2042	Photo drum
KOA (PAA)	Willmore	Z	1.0	-	40 000	Helicorder
TLS	Willmore	Z	0.7	0.3	-	Photo drum
	Wood-Anderson	E	0.8	-	2042	Photo drum

TABLE 5
PAPUA NEW GUINEA ACCELEROGRAPHS, 1972

1. SITE DATA

Place	Operator	Co-ordinates	Elevation	Foundation
Bougainville Panguna (1)	CRA	6.325°S 155.485°E	640 m	Unconsolidated volcanic ash
Bougainville Panguna (2)	CRA	Panguna	-	Consolidated rock - agglomerate
Frieda River A	Carpentaria/ BMR	4.7°S 141.8°E	-	Alluvium
Frieda River B	Carpentaria/ BMR	4.7°S 141.8°E		Hard rock
Lae, Botany	BMR	6.713°S 146.999°E	50 m	Alluvium
Lae, CDW	BMR	6.723°S 146.989°E	25 m	Coarse clastic alluvials
Lae, DCA	BMR	6.731°S 146.986°E	-	Alluvium - near swamp
Lae, P & T	BMR	6.728°S 147.009°E		Consolidated rock overlain by clay
Lae, Bumbu Bridge	Institute of Technology	6.698°S 147.000°E		On concrete pier above 20 m gravel
Lae Institute of Technology	Institute of Technology	6.674°S 146.995°E	58 m	30 m gravel
Musa River A	BMR	9.556°S 148.674°E	406 m	Alluvium

Place	Operator	Co-ordinates	Elevation	Foundation
Musa River B	BMR	9.556°S 148.679°E	112 m	Weathered gabbro
Rabaul Observatory	BMR	4.191°S 152.170°E	184 m	Basalt lava
Rabaul Sulphur Creek	BMR	4.22 °S 152.193°E	-	Unconsolidated volcanic ash
Rabaul Wanliss Street	BMR	4.194°S 152.186°E	25 m	Basalt lava
Ramu, Intake	CDW/BMR	6.232°S 145.975°E	1190 m	Miocene siltstone and greywacke
Ramu, Yonki	CDW/BMR	6.245°S 145.978°E	1250 m	Recent lake sediments
Star Mountains 1 (Base Camp)	Kennecott/ BMR	5.209°S 141.197°E	678 m	Landslide material underlain by siltstone
Star Mountains 2 (Hong Kong)	Kennecott/ BMR	5.207°S 141.137°E	2076 m	Quartz porphyry
Wewak	CDW/BMR	3.590°S 143.687°E	10 m	Weathered coral

PAPUA NEW GUINEA ACCELEROGRAPHS, 1972

2. INSTRUMENT DATA

Type and Block No.	Calibration Data (g/cm)*	Site	Date	Owner	Remarks
M02 39	0.564 0.576 0.372	Bougainville Panguna (1)	1972	CRA	
M02 43	0.549 0.574 0.382	Bougainville Panguna (2)	1972	CRA	
M02 416	0.610 0.602 0.372	Frieda River A	1972	Carpentaria	
M02 453	0.614 0.593 0.400	Frieda River B	1972	Carpentaria	
M02 475	0.559 0.556 0.397	Lae, Botany	1972	CDW	No time marks
M02 1118A	0.560 0.524 0.371	Lae, CDW	1972	BMR	
SMA-I S/N 578	1.82 1.85 1.77	Lae, DCA Musa River A	19.9.72 - 29.11.72 From 6.12.72	CDW	
SMA-I S/N 577	1.90 1.95 1.70	Lae, P & T Musa River B	6.8.72 - 29.11.72 From 7.12.72	CDW	

Type and Block No.	Calibration Data (g/cm)	Site	Date	Owner	Remarks
M02 476	0.509 0.517 0.374	Lae, P & T	From 29.11.72	BMR	Makeshift timing No Z component
M02 249	0.639 0.636 0.418	Lae, Bumbu Bridge	From 17.4.72	Institute of Technology	
M02 79	0.612 0.628 0.412	Institute of Technology	1972	Institute of Technology	
M02 446	0.589 0.638 0.393	Musa River A	4.6.72-6.12.72	BMR	
M02 117	0.627 0.634 0.408	Musa River B	2.6.72-7.12.72	BMR	
M02 1467A	0.611 0.636 0.385	Rabaul Observatory	1972	BMR	
M02 163	N/A	Rabaul Sulphur Creek Wanliss St	To 9.11.72 From 9.11.72	CDW	NS and Z trace position reversed
M02 425	0.614 0.591 0.425	Ramu, Intake Ramu, Yonki	To 21.6.72 From 22.6.72	CDW	
M02 44	0.555 0.566 0.384	Ramu, Yonki Ramu, Intake	To 21.6.72 From 22.6.72	CDW	

Type and Block No.	Calibration Data (g/cm)	Site	Date	Owner	Remarks
M02 1428	0.581 0.604 0.402	Star Mountains 1 (Base Camp)	1972	Kennecott	
M02 1454	0.619 0.615 0.404	Star Mountains 2 (Hong Kong)	1972	Kennecott	
M02 162	0.635 0.652 0.430	Wewak	1972	CDW	

* g stands for the acceleration due to gravity

TABLE 6

PAPUA NEW GUINEA ACCELEROGRAPH TRIGGERINGS, 1972

Mn	Dy	Hr	Min	Sec	Dph(km)	Lat°S	Long°E	M	ML	Accelerograph	Intensity (MM) at Site	Preliminar Max. Acce
01	18	21	55	15.5	033	04.8	145.0	6.5	6.7	Yonki	-	-
01	20	09	29	43	033	06.9	147.2	4.9	4.6	Lae, Botany	-	-
01	"	"	"	"	"	"	"	"	"	Lae, CDW	-	0.012g*
05	05	23	16	27.9	032	04.2	152.7	6.3	6.3	Rabaul Observ.	-	-
07	30	17	40	22.8	044	04.6	152.3	5.8	6.3	Rabaul Observ.	4-5	0.018 g
07	30	20	13	56.1	016	04.6	152.3	6.1	6.6	Rabaul Observ.	5	0.030 g
07	30	20	28	12.0	042	04.8	152.3		5.3	Rabaul Observ.	4-5	0.012 g
08	17	23	44	05.9	010	06.0	152.9	7.1	7.6	Rabaul Observ.	5	0.018 g
09	03	06	31	21.6	045	05.6	151.3	6.0	6.4	Rabaul Observ.	4-5	0.04 g**
09	14	12	46	56.1	048	04.3	153.0		4.9	Rabaul Observ.	4	0.03 g **
09	16	04	15	09.8	004	09.5	148.7	4.9	5.0	Musa A	6	0.17 g
09	"	"	"	"	"	"	"	"	"	Musa B	4	0.04 g
09	26	00	00	07.4	120	04.6	152.2	5.0	5.2	Rabaul Observ.	3-4	0.025 g **
10	28	02	27	10.1	002	07.3	146.7	6.0	5.8	Lae, P & T	4	0.06 g ***
10	30	16	48	09.4	050	06.3	154.8	6.4	6.4	Panguna	6	0.30 g
11	05	20	08	03.2	230	05.4	146.7	5.9	6.2	Lae, CDW	4	0.03 g
11	"	"	"	"	"	"	"	"	"	Lae, Botany	4	0.03 g

* Maximum Z acceleration only

** Film fogged; quoted accelerations are maxima on visible part of film.

*** Record jammed

TABLE 7

NUMBER OF SEISMIC EVENTS RECORDED BY EACH STATION, 1972

	PMG	LAT	WAB	MOM	GKA	KAV	PNB	TLS	KOA	PAA
Jan	507	498	501	192	73	82	35			
Feb	251	313	262	55	0	34	9			
Mar	225	180	101	101	0	28	25			
Apr	323	174	12	76	11	10	51			
May	318	209	150	89	0	4	30			
Jun	166	152	151	44	0	0				
Jul	247	139	221	70	7	16			17	
Aug	414	273	181	80	25	54		112	329	
Sept	449	264	188	88	17	133		127	243	
Oct	370	247	197	68	0	53		174	143	
Nov	357	202	163	98	0	35		255	168	
Dec	429	201	192	126		9		235		135
TOTAL	4056	2852	2319	1087	133	458	150	903	900	135

TABLE 8
EARTHQUAKES FOR WHICH INTENSITY QUESTIONNAIRES
WERE DISTRIBUTED, 1972

MN	DY	HR	MIN	SEC	DPH (km)	LAT (°S)	LONG (°E)	M	ML	MAX MM INTENSITY
01	18	21	55	15.5	033	04.8	145.0	6.5	6.7	7
01	18	22	08	12.9	033	04.7	145.0	6.2	6.7	6
*01	20	09	29	43	033	06.9	147.2	4.9	4.6	5-6
04	28	23	32	10.2	409	05.1	154.2	6.9	7.2	6
05	05	23	16	27.9	032	04.2	152.7	6.3	6.3	7
*05	17	08	15	39	033	09.5	151.5	3.9	4.5	5
07	30	17	40	22.8	044	04.6	152.3	5.8	6.3	7
07	30	20	13	56.1	016	04.6	152.3	6.1	6.6	7
08	17	23	44	05.9	010	06.0	152.9	7.2	7.6	6
09	16	04	15	09.8	004	09.5	148.7	4.9	5.0	6
10	28	02	27	10.1	002	07.3	146.7	6.0	5.8	6
10	30	16	48	09.4	050	06.3	154.8	6.4	6.4	6

Note: * Hypocentre determined by Geophysical Observatory
(No ERL determination).

TABLE 9
EARTHQUAKES IN THE NEW GUINEA/SOLOMON ISLANDS REGION,
1972 (ERL HYPOCENTRES, 15 OR MORE STATIONS USED IN LOCATION)

MN	DY	HR	MIN	SEC	DPH	LAT°S	LONG°E	MB (ERL)	ML	MS	M	No. STNS	PDE
01	01	10	15	48.0	506	04.6	155.2	5.2	6.1		5.6	69	1
	04	08	24	49.1	062	06.4	154.9	4.8	6.3		4.8	24	2
	06	00	30	17.2	160	04.6	151.8	5.9			6.3	83	1
	07	06	25	48.4	033	02.1	139.0	5.9		5.9	6.0	77	1
	07	17	14	37.4	033	01.9	139.1	4.8			4.5	19	3
	08	04	03	18.0	037	03.8	140.0	5.0			4.9	21	3
	12	13	59	56.4	004	07.9	130.4	5.3			5.0	17	2
	18	21	55	15.5	033	04.8	145.0	5.7	6.7	6.6	6.5	67	6
	18	22	08	12.9	033	04.7	145.0	5.5	6.7		6.2	40	6
	18	22	43	13.6	036	04.9	145.0	4.7			4.4	15	8
	19	02	58	47.9	033	04.8	145.0	5.2	5.8		5.4	28	6
	19	03	47	02.6	033	04.8	145.0	5.1	5.7		5.3	43	6
	19	06	32	08.4	020	06.6	153.1	4.7	5.4		4.7	15	8
	19	08	10	23.2	033	04.6	145.2	4.9	5.5		4.9	18	6
	19	15	00	54.2	033	04.7	145.0	5.8	6.6	6.4	6.4	74	6
	20	01	49	23.5	033	04.8	145.1	4.5	5.5		4.5	18	7
	20	05	34	42.7	033	04.6	145.0	4.9	5.2		4.7	15	7
	20	19	44	22.9	036	05.0	145.2	4.6	4.9		4.5	16	8
	20	21	02	26.0	038	05.0	145.2	4.9	5.5		4.9	20	8
	22	18	41	25.5	022	04.6	145.0	5.6	5.6		5.5	28	6
	24	15	16	26.1	006	03.7	152.0	5.3	5.4		5.2	28	9
	29	08	35	51.2	212	05.5	147.0	4.9			4.7	23	6
	29	08	41	48.5	078	07.8	158.3	5.1	5.9		5.3	30	7
	29	20	34	11.8	060	05.4	131.4	5.5			5.6	36	6
02	01	02	37	24.1	039	09.8	160.1	5.4	6.2	5.4	5.6	41	9
	03	08	36	16.6	168	04.6	151.8	5.4	5.5		5.7	61	8
	03	14	26	42.9	069	04.8	152.9	4.8			4.5	20	9
	13	08	42	29.1	023	05.8	153.5		5.1		4.9	19	12
	16	15	29	26.9	045	06.2	151.9	5.2			5.1	33	11
	17	00	39	09.9	040	06.1	151.8	5.5	5.7	4.8	5.2	40	10

MN	DY	HR	MIN	SEC	DPH	LAT°S	LONG°E	MB (ERL)	ML	MS	M	No. STNS	PDE
02	19	07	59	21.3	060	11.2	162.6	5.3	6.4		5.7	48	14
	21	06	32	05.3	088	08.4	158.8	5.0			4.8	15	13
	23	00	13	20.6	074	05.0	153.5	4.6			4.3	17	13
	23	07	41	21.2	438	03.8	154.1	4.8			5.0	37	11
	24	00	29	26.1	046	05.0	45.1	4.9	5.7		5.0	32	11
	26	08	12	01.1	058	05.2	152.7	5.2			5.2	30	13
03	02	03	57	52.1	188	05.6	147.2	4.9	5.3		4.9	24	14
	02	16	45	33.9	056	05.1	145.1	5.1	5.6		5.1	23	14
	06	06	34	17.2	062	11.0	162.4	5.2			5.2	34	16
	08	03	31	12.5	117	06.4	130.1	5.7			5.8	29	16
	08	03	45	25.2	033	03.7	131.4	5.9		5.8	6.0	82	15
	10	02	57	57.6	033	08.1	156.3	4.8			4.5	20	20
	19	00	49	06.5	041	05.6	152.4	5.5			5.6	35	19
	19	05	27	26.8	048	05.4	152.7	4.8	5.4		4.8	21	20
	19	12	36	38.6	098	05.1	151.6	4.9			4.8	26	20
	19	13	07	44.4	060	04.9	153.0	5.0			4.8	17	23
	19	13	19	39.6	049	05.4	152.6	5.0			4.9	28	25
	24	06	36	02.3	080	10.4	161.4	4.8			4.5	17	19
	25	12	15	29.6	041	03.5	150.1	5.5		5.2	6.0	70	18
	26	05	54	27.7	042	05.6	152.5	4.9	5.5		4.9	18	27
	29	16	13	20.3	215	04.1	153.6	5.0	5.4		5.1	50	50
04	30	23	16	03.3	116	06.2	146.3	4.6			4.4	26	21
	31	00	53	44.4	054	05.3	145.3	5.3	5.5		5.2	18	21
	01	13	25	21.2	058	06.0	154.4	4.8	5.3		4.9	17	21
	01	23	19	50.4	030	09.4	158.5	5.3			5.3	29	20
	02	02	41	22.7	202	06.5	155.8	4.9	5.6		4.9	30	20
	03	11	43	19.3	040	04.8	140.8	5.3			5.3	28	21
	06	14	36	01.9	414	05.9	154.4	5.0	5.9		5.3	28	21
	08	10	01	14.3	157	05.0	151.0	5.0	5.2		5.1	41	21
	12	05	15	46.5	035	06.3	152.4	4.9	5.3		4.8	21	24
	16	03	57	04.4	044	06.0	152.9	4.6			4.2	15	27
	17	14	32	06.3	147	06.9	155.0	5.2	6.6		5.3	39	26
	18	03	26	36.8	078	08.1	156.3	4.9			4.1	31	25
	20	03	16	37.3	129	06.3	146.2	5.4			5.4	19	27

MN	DY	HR	MIN	SEC	DPH	LAT°S	LONG°E	MB (ERL)	ML	MS	M	No. STNS	PDE
04	20	11	39	29.6	024	03.1	139.7	4.5			4.0	15	27
	23	21	25	00.5	055	04.9	153.2	4.7	5.3		4.7	20	27
	27	03	21	37.0	137	04.3	152.8	4.6	5.0		4.4	18	32
	28	23	32	10.2	409	05.1	154.2	6.0	7.2		6.9	118	26
	29	23	06	39.0	054	06.5	155.0	5.5	5.7		5.7	61	33
	30	13	39	22.3	018	06.3	152.4	5.0	5.6		5.1	29	33
05	03	20	10	23.9	119	04.7	153.7		5.2		4.8	21	33
	05	23	16	27.9	033	04.2	152.7	5.6	6.3	6.5	6.3	78	32
	07	16	39	41.8	103	04.8	153.8	5.5	6.2		5.6	49	32
	08	06	18	57.8	033	01.1	138.4	5.7			5.9	40	32
	08	16	24	17.3	041	04.7	153.8	5.5	5.0		5.1	27	33
	09	17	44	34.3	110	04.8	153.8	4.9	5.8		4.9	17	32
	10	04	21	09.8	111	04.8	153.8	5.2	5.4		5.0	17	32
	10	05	10	11.7	033	04.2	150.2	5.0	5.3		4.9	16	34
	10	05	48	22.0	033	04.1	150.2	5.5	5.3	5.2	5.3	36	34
	11	08	00	06.3	034	04.0	150.1	5.0	5.5		5.0	25	34
	11	20	49	07.6	039	04.7	134.1	5.2			5.1	25	32
	13	05	57	07.8	069	05.7	151.2	5.1	5.1		4.9	28	33
	23	06	36	56.8	110	04.5	144.0	5.1	5.3		4.9	27	33
	28	01	40	42.3	069	06.0	151.1	5.5	5.6		5.4	30	37
	28	08	27	01.9	033	03.5	134.4	4.4			4.0	16	33
06	04	19	02	59.2	108	04.8	153.8	4.7	5.1		4.5	15	34
	11	18	36	49.3	154	05.5	146.9	5.2	5.8		5.4	40	39
	14	04	51	55.2	083	10.3	161.2	5.4			5.4	36	37
	27	08	17	29.3	064	04.3	152.9	4.9	5.1		4.7	27	38
	29	16	22	07.5	040	09.9	160.1	5.5			5.6	48	41
	30	05	44	48.4	083	05.0	144.6	5.2	5.5		5.3	39	38
07	04	15	32	25.4	063	09.8	159.4	5.0			5.0	31	38
	08	13	08	10.3	105	05.9	148.6	5.0	6.3		5.5	33	39
	11	15	46	12.0	050	06.0	153.0	5.5	5.5		5.5	42	39
	16	00	01	10.8	023	09.9	160.4	5.2			5.2	22	46
	17	06	20	01.0	057	05.8	145.6	4.9			4.7	20	47
	20	19	27	40.3	033	03.4	146.3	5.1			4.9	19	46
	21	12	27	27.5	210	05.6	149.6	5.1	5.1		4.9	28	45
	22	06	03	01.0	052	06.2	149.9	4.9	5.4		4.8	25	47

MN	DY	HR	MIN	SEC	DPH	LAT°S	LONG°E	MB (ERL)	ML	MS	M	No. STNS	PDE
07	23	04	58	24.7	045	05.8	153.0	4.7	4.8		4.4	18	48
	26	16	11	13.1	035	05.6	153.1				4.4	17	49
	29	22	34	33.3	033	03.3	146.5	4.8	5.1	5.3	5.0	25	47
	30	17	40	22.8	044	04.6	152.3	5.3	6.3	5.9	5.8	43	42
	30	20	13	56.1	016	04.6	152.3	5.5	6.6	6.0	6.1	64	45
	30	23	17	19.5	057	05.7	130.5	5.9			6.4	93	44
	31	09	28	44.8	058	06.2	144.5	4.6	5.3		4.7	22	44
08	01	08	44	50.3	198	05.6	147.3	4.8	5.4		4.9	33	42
	01	21	06	39.1	033	03.3	148.7	4.8	5.4		4.8	26	45
	02	06	54	30.8	044	04.6	152.4	5.0	5.4		4.9	17	44
	02	09	42	58.2	059	11.3	161.8	4.8			4.8	25	43
	02	12	55	17.3	042	11.5	162.1	4.7			4.4	17	46
	04	07	17	23.7	033	11.1	162.1	4.4		4.9	4.4	18	44
	04	20	01	37.7	034	11.2	162.1	5.2		6.0	5.8	55	44
	04	20	59	22.9	042	11.5	162.1	4.6			4.2	16	46
	04	21	05	36.4	023	11.2	162.3	4.7			4.3	16	44
	04	22	30	36.3	036	11.1	162.0	5.5		5.8	5.8	40	45
	05	02	34	49.7	030	11.2	162.1	4.8			4.5	16	45
	05	05	31	32.4	033	11.2	161.9	5.2		6.1	5.6	35	46
	05	06	30	58.8	033	11.2	162.1	5.4		6.0	5.8	45	45
	06	06	51	02.7	021	04.1	131.5	4.7			4.3	17	44
	06	07	14	46.6	056	11.1	162.0	5.9		6.5	6.5	63	43
	06	10	15	40.4	067	11.2	162.0	5.1			5.1	33	43
	06	12	08	23.5	061	11.3	162.1	4.7			4.4	17	44
	06	15	17	33.1	049	11.2	162.0	5.2			5.4	39	43
	08	15	59	36.5	073	05.2	151.9	5.0	5.1		4.7	20	45
	08	18	46	01.1	013	11.5	162.1	4.9			4.6	15	48
	10	03	09	39.5	051	10.7	161.3	4.9			4.7	20	45
	11	16	44	16.1	033	03.5	130.9	5.1			5.0	24	48
	13	04	16	30.0	033	11.1	161.5	4.6			4.3	28	48
	13	04	22	28.7	033	11.1	161.6	4.9			4.8	30	49
	13	05	51	33.7	053	10.9	161.4	5.0			4.9	29	49
	13	06	09	07.4	068	10.9	161.2	4.7			4.5	17	49
	14	22	29	27.6	044	06.3	144.4	5.6	5.8	5.5	5.6	56	49

MN	DY	HR	MIN	SEC	DPH	LAT°S	LONG°E	MB (ERL)	ML	MS	M	No. STNS	PDE
08	15	17	15	51.3	079	10.1	161.4	5.1			5.1	30	51
	16	23	40	29.0	033	02.5	138.9	5.3			5.3	24	51
	17	23	44	05.9	010	06.0	152.9	6.4	7.6	7.0	7.2	108	49
	18	00	02	20.8	048	05.9	153.0	5.3			5.3	21	51
	18	00	23	48.2	008	06.0	152.6	6.0			6.3	47	49
	18	01	12	02.5	035	06.0	152.8	5.6			5.8	33	49
	18	01	51	00.1	018	06.1	153.0	4.8			4.5	18	49
	18	05	12	39.0	021	06.3	152.6	4.9			4.5	17	49
	18	07	20	48.8	025	06.2	152.7	4.9			4.7	21	49
	18	07	53	54.4	033	06.2	152.8	4.7			4.4	18	52
	18	08	25	37.8	022	06.1	152.5	5.1			5.0	23	49
	18	10	19	32.2	009	06.2	152.6	5.1	5.1		4.8	18	49
	18	11	20	38.4	015	06.2	152.9	4.6			4.3	15	49
	19	03	39	04.2	015	06.2	153.2	5.0	5.2		4.8	23	50
	19	16	06	14.9	033	05.2	134.1	6.1			5.6	22	51
	21	08	47	05.4	035	05.8	153.0	5.3	5.5		5.3	42	49
	21	09	35	04.3	029	06.1	153.1	4.7	5.4		4.8	15	49
	22	09	50	50.0	015	06.1	153.0	5.2	5.0		5.2	24	48
	22	12	24	26.8	038	07.2	154.8	4.9			4.6	16	54
	22	15	04	32.4	026	06.2	152.6	4.7	4.9		4.4	15	48
	23	14	00	53.1	045	06.8	154.7	4.8			4.5	18	49
	25	10	57	07.5	048	10.7	161.1	5.0			4.9	27	49
	25	22	10	23.4	033	06.1	152.6	5.1	5.2		4.9	15	53
	26	04	39	15.2	033	03.1	136.0	5.3			5.3	33	51
	28	10	31	19.6	009	06.2	152.7	4.6	4.8		4.3	17	49
	28	19	04	32.7	034	06.3	153.0	5.0	5.4		4.9	17	52
	29	00	47	15.8	034	06.1	152.7	5.1	4.9		4.8	17	49
	29	05	52	50.7	020	06.0	152.6	4.8	4.7		4.5	16	50
	29	08	01	19.3	022	06.1	152.9	4.9	4.7		4.5	15	50
	30	00	38	57.3	045	06.6	154.9	5.0			5.2	18	52
	30	10	23	57.8	027	06.1	152.3	5.3	5.3		5.3	36	49
	30	10	29	51.1	013	03.5	144.9	5.6	6.5	6.4	6.2	56	50
	30	13	02	46.2	037	06.2	152.3	4.7	5.1		4.5	18	49
	30	13	20	41.2	024	06.1	152.3	4.9	5.1		4.6	19	49

MN	DY	HR	MIN	SEC	DPH	LAT°S	LONG°E	MB (ERL)	ML	MS	M	No. STNS	PDE
08	30	16	28	20.7	032	06.2	152.2	5.1	5.1		4.9	24	49
09	03	00	17	43.1	033	06.1	152.8	5.0	5.2		4.9	32	51
	03	01	54	13.0	033	06.2	152.8	4.7			4.5	23	51
	03	06	31	21.6	045	05.6	151.3	5.4	6.4	6.2	6.0	53	50
	03	07	55	59.1	049	05.6	151.2	5.2	6.0	5.9	5.7	45	50
	03	08	10	21.9	053	05.6	151.2	4.7	5.3		4.4	19	50
	03	08	52	11.1	032	05.6	151.2	4.7	6.1		5.0	24	50
	03	09	25	54.8	033	05.6	151.3	4.5	5.2		4.5	18	53
	03	11	55	45.2	033	05.5	151.1	4.5	5.2		4.5	20	52
	03	16	04	40.1	048	06.0	152.8	5.3	5.4		5.1	39	50
	04	19	58	36.9	053	06.0	152.4	5.5	5.6		5.4	38	50
	06	19	41	25.6	033	02.6	139.3	5.4			5.4	33	52
	07	20	00	26.9	051	06.4	148.4	5.3	6.0		5.5	36	52
	08	11	07	43.0	022	03.2	146.9	5.0	5.3		4.9	18	52
	09	06	50	33.3	039	06.7	155.1	4.9			4.7	20	53
	11	02	46	38.9	033	03.3	149.4	4.8			4.7	25	60
	11	08	33	21.9	004	03.2	150.2	4.8			4.7	24	52
	11	10	36	56.9	033	03.6	149.8	5.2	5.1	5.2	5.1	66	62
	11	11	17	21.5	017	03.5	149.9	5.5			5.6	43	52
	11	13	35	48.5	033	03.2	130.8	5.5		6.0	5.9	87	58
	11	16	31	47.1	033	03.6	150.0	5.2			5.2	38	58
	11	17	24	57.1	033	03.7	149.9	5.3		5.2	5.3	44	62
	13	08	08	41.4	033	06.2	152.5	4.8	4.9		4.5	15	60
	13	18	28	05.1	033	03.0	150.3	4.8			4.5	15	63
	15	07	38	50.5	014	09.8	152.0	5.0		4.8	4.8	22	60
	16	04	15	09.8	004	09.5	148.7	5.3	5.0		4.9	21	54
	16	12	11	26.6	056	10.6	161.2	5.5			5.6	50	54
	16	12	48	15.2	020	10.7	161.5	4.8		5.4	5.0	28	57
	16	15	53	18.3	052	10.6	161.2	5.4			5.5	35	54
	17	03	30	12.0	060	10.7	161.3	5.1			5.1	33	54
	17	12	18	02.5	084	10.2	161.2	4.9			4.6	17	57
	18	08	57	10.1	026	10.9	161.4	5.0			4.9	29	57
	19	15	08	19.1	202	05.7	148.1	5.4	5.9		5.5	67	54
	23	03	11	37.5	048	05.5	152.4	5.0			4.8	19	55
	23	15	14	17.0	052	05.6	152.4	4.7			4.4	16	56

MN	DY	HR	MIN	SEC	DPH	LAT°S	LONG°E	MB (ERL)	ML	MS	M	No. STNS	PDE
09	23	20	52	22.8	045	05.6	152.2	47			4.4	15	56
	24	20	09	35.6	033	06.3	131.2	6.1		6.9	6.8	51	56
	24	22	39	15.1	033	06.2	131.2	5.5			5.5	29	56
	24	23	20	14.6	033	06.4	131.2	5.5			5.6	31	58
	24	23	59	04.8	033	06.3	131.1	5.8			5.6	23	56
	25	06	29	06.3	033	06.4	131.1	5.6			5.6	19	56
	26	00	00	07.4	120	04.6	152.2	5.0	5.2		5.0	30	56
	26	02	20	17.3	033	07.3	130.4	4.9			4.6	17	56
10	06	16	35	10.9	061	06.1	149.9	5.4	5.6		6.4	31	57
	06	16	42	54.3	059	06.1	149.8	5.5	6.0		5.7	36	57
	07	08	14	31.2	055	03.3	136.0	4.6			4.2	15	58
	07	12	34	56.4	086	04.5	153.1	5.2			5.2	31	58
	11	22	31	00.6	131	07.5	155.0	4.8			4.5	19	65
	13	05	48	49.3	066	05.3	152.5	4.9	5.3		4.8	24	61
	13	20	47	30.6	032	05.5	152.6	5.0	5.3		4.9	32	61
	14	06	36	45.3	051	07.4	156.2	4.8			4.6	21	62
	17	00	47	37.6	027	06.1	153.1	5.3	5.1		5.1	26	60
	19	18	43	21.8	051	06.3	154.4	5.0			4.9	21	64
	22	17	51	04.5	166	05.4	146.6	4.8			4.9	28	62
	27	07	37	49.4	053	03.0	139.4	5.1			5.0	23	62
	27	10	05	44.3	017	07.3	146.9	5.0	5.3		5.0	39	67
	28	02	27	10.1	002	07.3	146.7	5.9	5.8	6.0	6.0	72	63
	28	04	51	55.8	095	05.9	154.5	5.2	5.9		5.4	29	62
	30	16	48	09.4	050	06.3	154.8	5.8	6.4	6.2	6.4	68	63
11	01	00	23	21.9	041	06.6	154.4	5.0			4.9	16	64
	01	21	22	15.4	039	06.3	144.5	5.4	5.7	4.9	5.3	53	65
	02	22	28	30.2	033	09.6	151.6	4.7			4.6	15	67
	03	03	21	03.8	069	04.7	153.5	4.3	5.5		4.7	25	66
	04	09	47	19.9	085	04.8	144.6	5.6	6.2		6.0	77	65
	05	20	08	03.2	230	05.4	146.7	5.5	6.2		5.9	71	65
	15	08	24	06.0	033	07.4	130.5	5.2			5.0	24	66
	15	13	04	18.0	453	04.2	154.4	4.7	5.6		4.9	34	66
	21	03	59	08.5	034	06.5	154.3	5.4	5.8	6.4	6.0	54	68

MN	DY	HR	MIN	SEC	DPH	LAT°S	LONG°E	MB (ERL)	ML	MS	M	No. STNS	PDE
11	21	17	16	36.0	043	06.6	154.3	5.1	5.2		5.3	46	71
	22	02	13	04.6	176	08.5	158.5	5.3			5.4	48	71
	27	23	38	35.3	044	00.8	147.5	5.1	5.0		4.9	29	71
	28	08	47	54.7	033	05.9	153.4	4.4			4.3	26	75
	30	11	50	32.1	123	06.1	146.8				4.0	15	71
	30	19	47	38.8	085	09.8	159.4	5.2	5.5		5.1	44	71
	30	22	31	56.0	054	05.2	153.7	4.9			4.6	31	74
12	04	17	40	18.6	063	06.6	155.0	4.9			4.5	20	71
	04	17	51	22.4	033	01.5	136.7	6.0		5.8	6.0	83	71
	05	02	46	20.7	033	01.6	136.6	5.4		5.4	5.2	43	73
	05	21	59	54.3	033	01.5	136.7	5.5		5.5	5.3	57	72
	05	22	08	28.9	033	01.7	136.6	5.3			5.0	17	73
	05	22	31	46.1	033	01.5	136.5	5.3			5.2	33	71
	06	00	31	33.0	033	04.0	141.6	5.3			4.9	15	72
	06	01	43	24.8	033	03.0	139.1	5.4		6.0	5.8	65	72
	06	02	25	40.2	033	01.5	136.5	4.9			4.7	17	73
	06	11	42	48.4	090	05.5	154.0	4.8			4.7	36	71
	07	06	58	46.5	033	01.6	136.4	5.1			4.9	16	72
	07	11	41	24.1	020	02.9	139.1	5.6		5.8	5.8	56	71
	11	00	15	51.5	033	01.5	136.6	5.1		5.0	5.0	40	74
	11	01	13	25.8	033	01.6	136.7	5.0			4.9	35	72
	11	01	52	24.8	035	09.4	144.9	4.8	5.3		4.8	16	74
	11	02	55	11.6	065	06.3	149.2	4.4	5.2		4.3	17	71
	16	11	30	18.6	079	07.0	155.8	5.8			6.0	50	70
	17	18	00	50.2	044	05.5	153.2	5.5	5.4	5.1	5.2	54	77
	18	15	48	22.7	012	07.0	154.2	4.6			4.1	15	82
	19	00	12	11.7	064	06.2	148.9	5.0	5.6		5.0	47	72
	20	08	03	30.6	033	04.7	140.0	5.4			5.0	25	73
	22	23	38	36.3	131	05.9	148.7	5.6			5.0	18	73
	23	11	58	31.5	050	07.1	155.4	4.5			4.4	15	73
	27	03	56	10.4	117	10.2	161.2	4.6			4.5	16	74
	27	07	30	34.6	028	02.5	138.7	5.4			5.0	23	74
	27	09	59	57.2	016	02.3	138.9	5.1			5.0	27	74

MN	DY	HR	MIN	SEC	DPH	LAT°S	LONG°E	MB (ERL)	ML	MS	M	No. STNS	PDE
12	29	08	47	07.1	064	04.9	152.4	5.5	5.4		5.2	42	73
	29	12	19	19.7	158	05.6	148.7	5.0	5.5		4.9	22	73
	29	19	48	59.5	033	03.6	135.3	5.3			4.9	17	79
	30	02	44	49.8	057	04.9	145.3	4.4			4.0	17	74
	31	19	53	40.7	033	03.2	134.4	5.1			4.9	24	80

MB(ERL) Body-wave magnitude published by ERL

ML Richter magnitude derived from Papua New Guinea stations

MS Surface-wave magnitude obtained from teleseismic station bulletins and ERL

M Weighted unified magnitude on the surface-wave scale.

TABLE 10

PRELIMINARY MAGNETOMETER CORRECTIONS

1972	QHM 187	QHM 188	QHM 189	Decl. 580339 (mins)	BMZ 68
	nT	nT	nT		nT
Jan	-115	0	-76	0	0
Feb	-115	0	-76	0	0
Mar	-115	0	-76	0	0
Apr	-116	0	-77	0	0
May	-116	-1	-77	0	0
Jun	-116	-1	-77	0	0
Jul	-116	-2	-77	0	0
Aug	-116	-2	-77	0	0
Sep	-116	-2	-77	0	0
Oct	-117	-3	-78	0	0
Nov	-117	-3	-78	0	0
Dec	-117	-3	-78	0	0

TABLE 11
MAGNETOGRAPH PARAMETERS, 1972

Component		Date	Scale value	<u>RMS</u> Scale value	<u>deviation</u> Baseline value
Normal run (15 mm/hr)	D	1972	0.445	0.002	0.11
	H	1972	2.75	0.01	1.6
	Z	Jan 01	2.90	0.04	1.2
		May 01	2.95		
		Jun 01	3.00		
		Dec 01	2.90		

The H scale value is So; 'a' factor = 0.003

D values in minutes and minutes per mm

H and Z values in nT and nT per mm

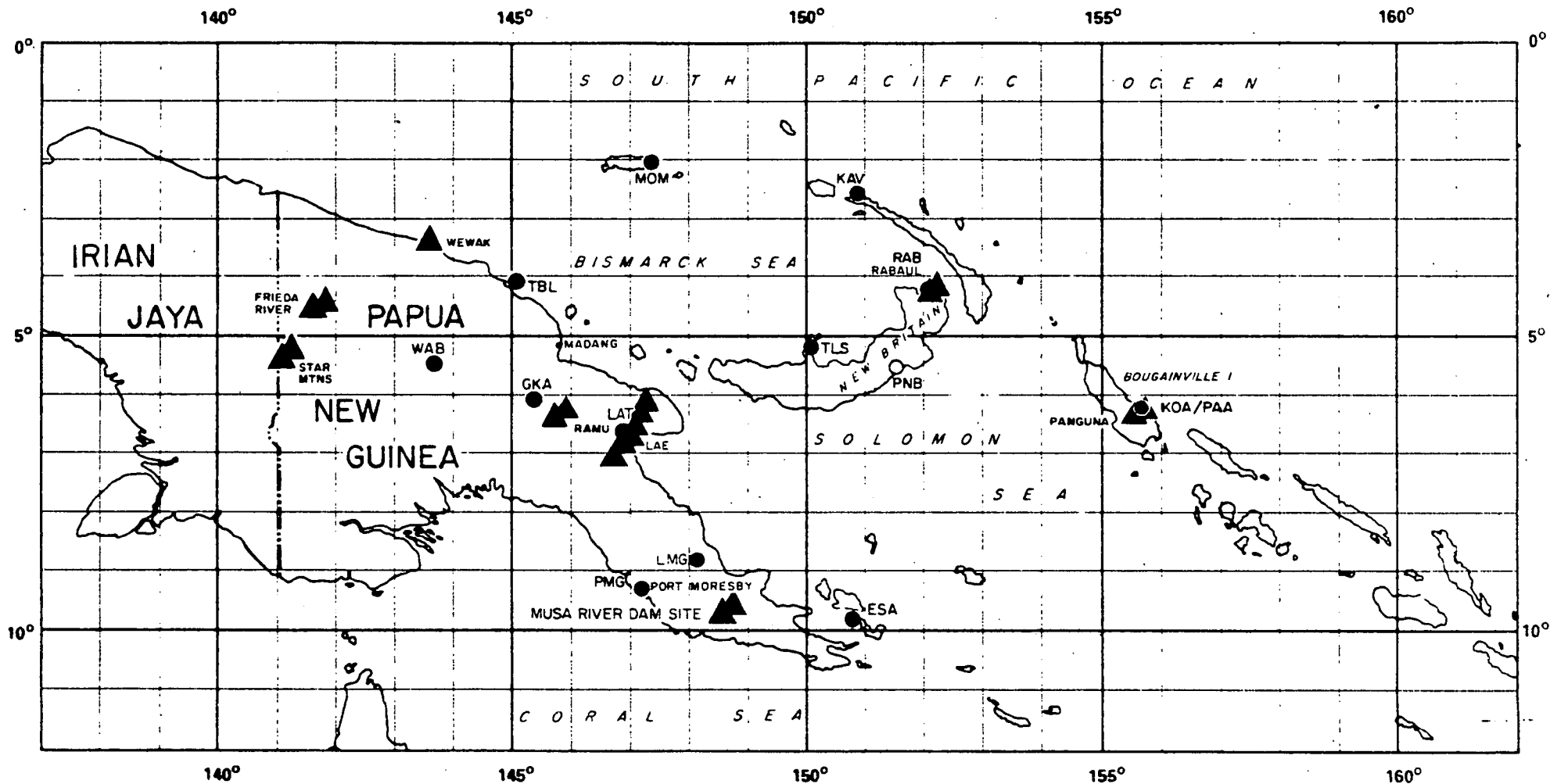
TABLE 12
PRELIMINARY MONTHLY MEAN MAGNETIC VALUES
AND K-INDEXES

1972	D (E)	H nT	Z nT	F nT	K
Jan	06°14.2'	36 164	-23 212	42 972	1.91
Feb	14.7	161	213	970	1.84
Mar	14.6	162	211	970	1.94
Apr	14.9	163	213	972	2.02
May	14.7	159	219	972	1.72
Jun	14.8	156	222	971	1.92
Jul	14.9	148	226	967	1.74
Aug	15.1	137	235	962	2.25
Sep	15.5	142	232	965	2.02
Oct	15.0	139	238	966	2.00
Nov	14.9	136	244	966	2.06
Dec	06 15.1	149	244	977	1.89
Annual Mean	06 14.9	36 151	-23 226	42 969	1.94

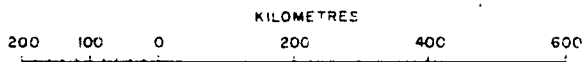
TABLE 13
GEOMAGNETIC MEAN ANNUAL VALUES

Year	D	I	H	X	Y	Z	F	Notes
1961	06° 03.4'	-32° 07.6'	36 427 nT	36 224 nT	3843 nT	-22 874 nT	43 013 nT	1B
1962	05.1	11.0	402	197	859	909	011	1B
1963	06.3	14.1	379	173	869	940	008	2B
1964	07.5	16.7	359	151	879	966	005	2B
1965	08.9	19.7	339	130	892	998	005	2B
1966	09.9	23.8	315	105	900	-23 043	009	2B
1967	10.5	26.2	284	073	903	059	42 991	2B
1968	11.4	30.2	256	045	909	100	990	2B
1969	12.3	33.8	233	021	916	139	991	2B
1970	13.1	36.6	200	35 987	921	160	975	2C
1971	14.0	39.3	178	964	928	187	971	2C
1972	14.9	43.2	151	936	935	226	969	2C
Mean Annual Change	+ 1.05	- 3.24	-25.1	-26.2	+8.4	-32.0	-4.0	

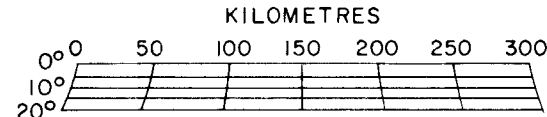
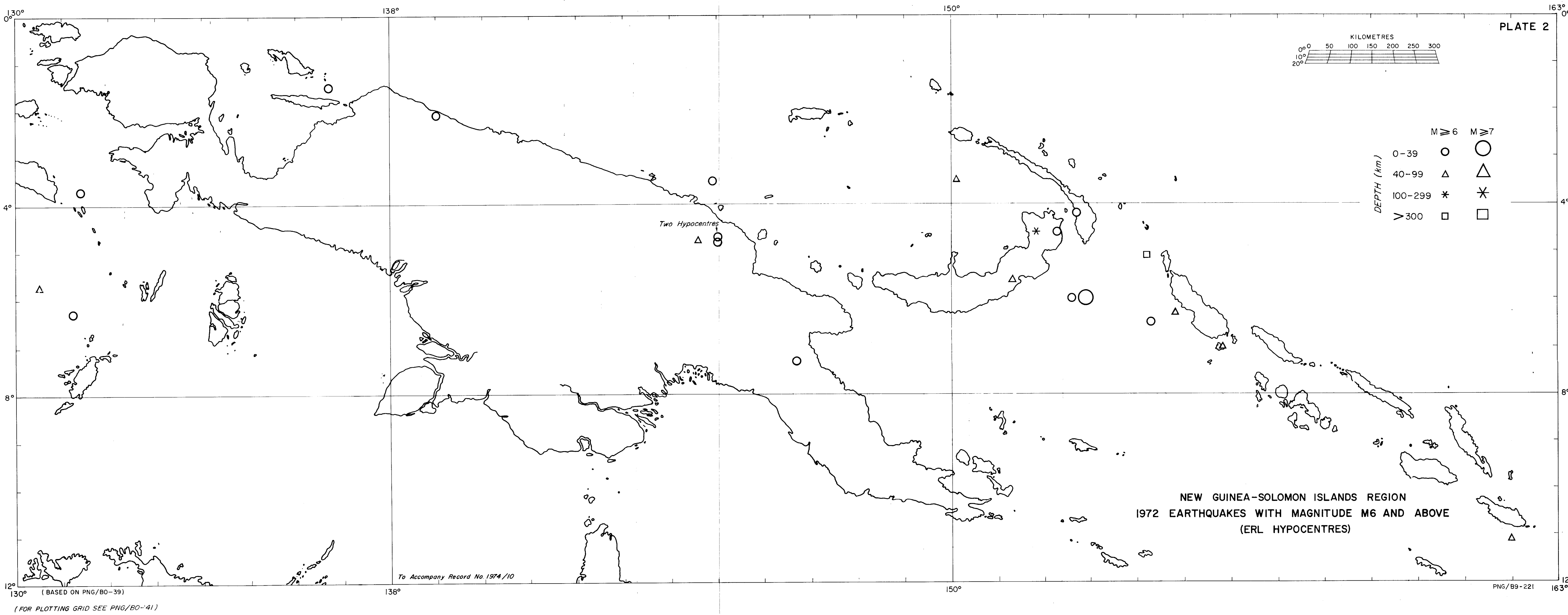
NOTES 1 Final Value B mean hourly value based on 5 IQ days
2 Preliminary Value C mean of daily value based on 10 Q days



PAPUA NEW GUINEA SEISMOGRAPH AND
ACCELEROGRAPH POSITIONS, 1972



- TEMPORARY SEISMOGRAPH
- PERMANENT SEISMOGRAPH
- ▲ ACCELEROGRAPH



DEPTH (km)	M ≥ 6		M ≥ 7	
0-39	○		○	
40-99	△		△	
100-299	*		*	
>300	□		□	

NEW GUINEA-SOLOMON ISLANDS REGION
1972 EARTHQUAKES WITH MAGNITUDE M6 AND ABOVE
(ERL HYPOCENTRES)

To Accompany Record No. 1974/10

(BASED ON PNG/BO-39)
(FOR PLOTTING GRID SEE PNG/BO-41)

PNG/B9-221