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CRUISE REPORT

Ship Name: R/V VEMA

Cruise No: V3404

Departure: 27 May 1977 from Manila, Philippines  
Date Port

Arrival: 24 June 1977 at Darwin Australia  
Date Port

Days at Sea: 28 Days Foreign Port: 4  
No. of days in arrival port

Area of Operation: Philippine Sea

Program Description:

The main purpose of the cruise was a magnetic anomaly survey of the South China Sea and Celebes Sea to determine the age and pattern of spreading

Participants: (All L-DGO unless otherwise specified)

Walter C. Pitman III	Chief Scientist
Charles Gove	Heat flow technician
Van Paisley-Smith	Gravity technician
Nicholas Leiser	Computer technician
Michael Sundvik	Core describer
Herbert Steeves	Airgun technician
Brian Mossman	Electronics technician
Owen O'Neil	Electronics technician
Malakai Banuve	Coring Bosun
Robert Peterson	Electronics technician
Ropate Qali	Core Bosun
Brian Taylor	Student technician

All inquiries regarding cruise should be made to the chief scientist.

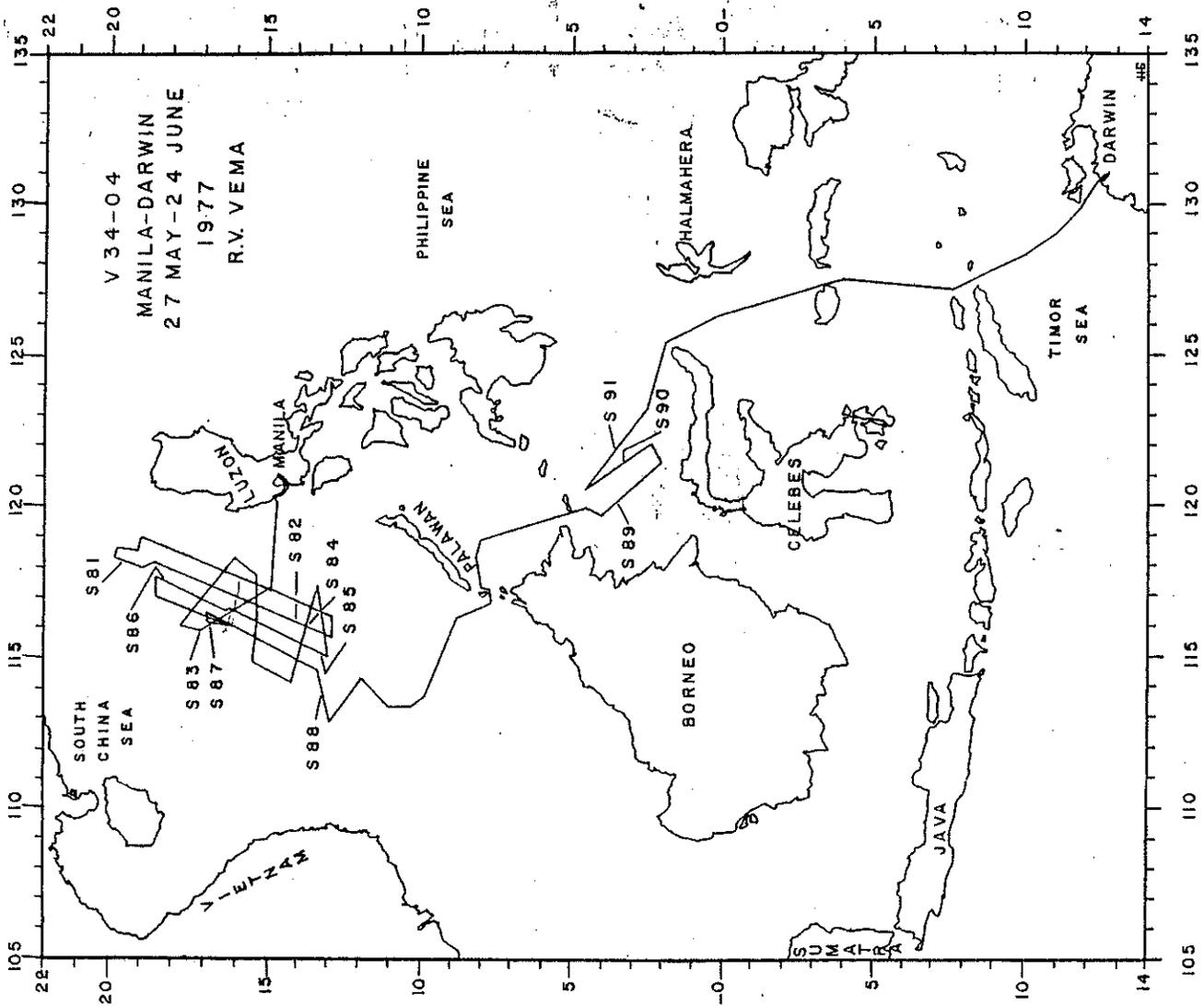
The main purpose of this cruise (see attached track map) was to carry out a detailed geomagnetic survey of the South China Sea to determine the magnetic anomaly patterns, its strike and direction. Also, to make several traverses of the Celebes Sea in order to determine if a sea-floor spreading type magnetic anomaly pattern exists. In addition several traverses and a core station were taken on an erosional feature in the northern part of the South China Sea.

The detailed magnetic survey of the South China Sea showed a distinct magnetic anomaly pattern symptomatic of sea-floor spreading. The anomalies strike approximately ~~west-east~~ <sup>west</sup>-east. A possible axis of symmetry was found at a latitude of about 14° ~~S~~ <sup>N</sup>. The magnetic anomalies have not yet been identified as to age but the depth to basement (>5 km) suggest that they might be early Tertiary or older.

Although magnetic anomalies do exist in the Celebes Sea, their pattern if it exists is not obvious, in addition to which their shape is not distinctly that of sea-floor spreading anomalies.

In addition to the magnetic data, single channel seismic, 12 Kc and 3.5 Kc PDR and gravity data were obtained all along the track.

Walter C. Pitman III



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- S 82 1 JUNE C 30
- S 83 3 JUNE C 31 TG 20A
- S 84 6 JUNE C 32
- S 85 7 JUNE C 33 TG 20B
- S 86 8 JUNE C 34 TG 20
- S 87 10 JUNE C 35 TG 21A
- S 88 11 JUNE C 36 TG 21B
- S 89 16 JUNE C 37 TG 21C
- S 90 17 JUNE C 38 TG 21
- S 91 18 JUNE C 39 TG 22

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