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CRUISE REPORT

Ship Name: R/V VEMA Cruise No: 36-04  
Departure: Nov. 12, 1979 from Apra, Guam  
Date Port  
Arrival: Nov. 27, 1979 at Hong Kong  
Date Port  
Days at Sea: 15 Days Foreign Port: 4  
(Count day of departure but (number of days in arrival port  
not day of arrival in port) before next leg)

Area of Operation: Philippine Sea & South China Sea

Program Description: The first half of this transit leg concentrated on magnetics across the Parece Vela Basin and profiling the intersection of the Palau-Kyushu Ridge and the Central Basin Fault. Rough seas encountered in the South China Sea limited this half of the program to extending the known magnetic lineation pattern.

Program supported by what contract: TO 210 Scope 0

Participants: (All L-DGO unless otherwise specified)

<u>Name</u>	<u>Title</u>
Brian Taylor	Chief Scientist
Karen Jacobs	E.T.
Charlie Salcedo	E.T.
Paul Woodroffe	E.T.
Steve Hudson	Res. Asst.
Martin Iltzsche	Mech. Tech.
Hector Smith	Mech. Tech.
Dave Medlicot	Comp. Tech.
Brian Ostrowski	Comp. Tech.

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

## V36-04 Description

### (I) EQUIPMENT:

\*No 12kHz PDR: 3.5 kHz okay but recorders need overhaul.

- \* 12 Channel Gravity Recorder out for latter third of leg - problems with original & replacement amplifier.
- \* Gravity meter okay, but lashed down for latter half of leg due rough seas.
- \* Magnetometer system good. Had to refill the bottle & fish mid-leg. Discovered that of the 3 bottles on board, two are cracked. The base plate of one fish is also cracked. Hope to receive toroidal maggie next leg, so as to enable N-S courses at the magnetic equator.
- \* Airguns (22 cu. in. & 2 Bolt guns) worked extremely well, minimal maintenance.
- \* Not happy with eel performance. One is reasonable, other is v. poor - noisy & little response to low frequencies.. E.T.'s unsure what to do!
- \* Only Tectronix computer working. H.P. computer down due to bad memory protect board and possibly other problems. . no digitized grav. or mag.
- \* Did not use M.C.S. system. N.B. M.C.S. U.G.R. (Raytheon) not currently functional.
- \* After-lab Sat. Nav. receiver requires "frequency doubler" to work. The one just sent out is bad.
- \* The Sperry pit-log needs to be isolated from all other A/C circuits.

### (II) SCIENCE

Underway M.G.&G. data were successfully collected between Guam & Luzon. Profiling the Central Basin Fault - Palau Kyushu Ridge intersection using the Bolt air guns went extremely well. Ran big guns for 23 hours at 1500 psi & 5 knots towing speed - no failures.

Profiler records were generally poor owing to high speeds ( $\geq 10$  knots) necessitated by time constraints imposed by Captain Kohler. Did not leave Apra Harbour till 4 PM on 12th (due to public holiday) and arrived Hong Kong afternoon 26th (so as to be "prepared" for dry-docking the next morning - the original ETA being the 27th). i.e. lost 1 day in 15, effective science time.

Personnel & equipment were heavily taxed in the South China Sea. Seas & swells reached Beauford Scale 8. Rolls  $\sim 30^\circ$  common, one roll probably exceeded  $40-45^\circ$ . Seismic profiler data poor due to rough seas (& sometimes the necessary deployment of the 'bad' eel). Gravity system had to be lashed down.

↑ cut

First dredge attempt of seamount at 15-1/2°N was unsuccessful due to sediment cover and opposing winds/currents. Second dredge site not attempted due to heavy seas.

Deployed one sonobuoy. Basement relief prevented refracted arrivals. Good wide angle reflection data. Generally sea state (& basement relief) prevented further deployment.

Magnetics data appear to have helped extend the known magnetic anomaly pattern in the South China Sea. However almost no analysis has been possible, as no computer graphics.

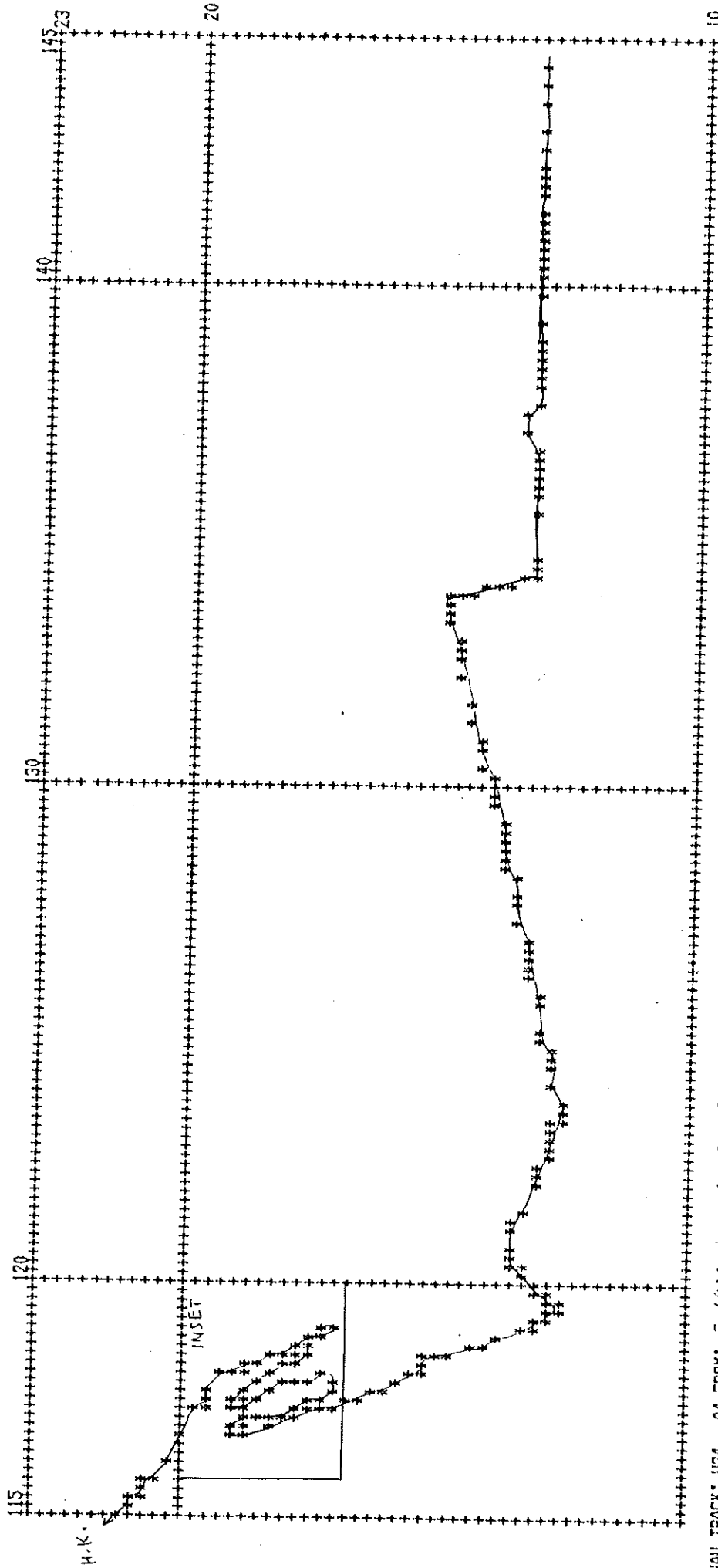
(III) SCIENTIFIC CREW

Very good to work with, quite capable. Woodroffe has gained confidence and now matches Salcedo in ability. All provided excellent support.

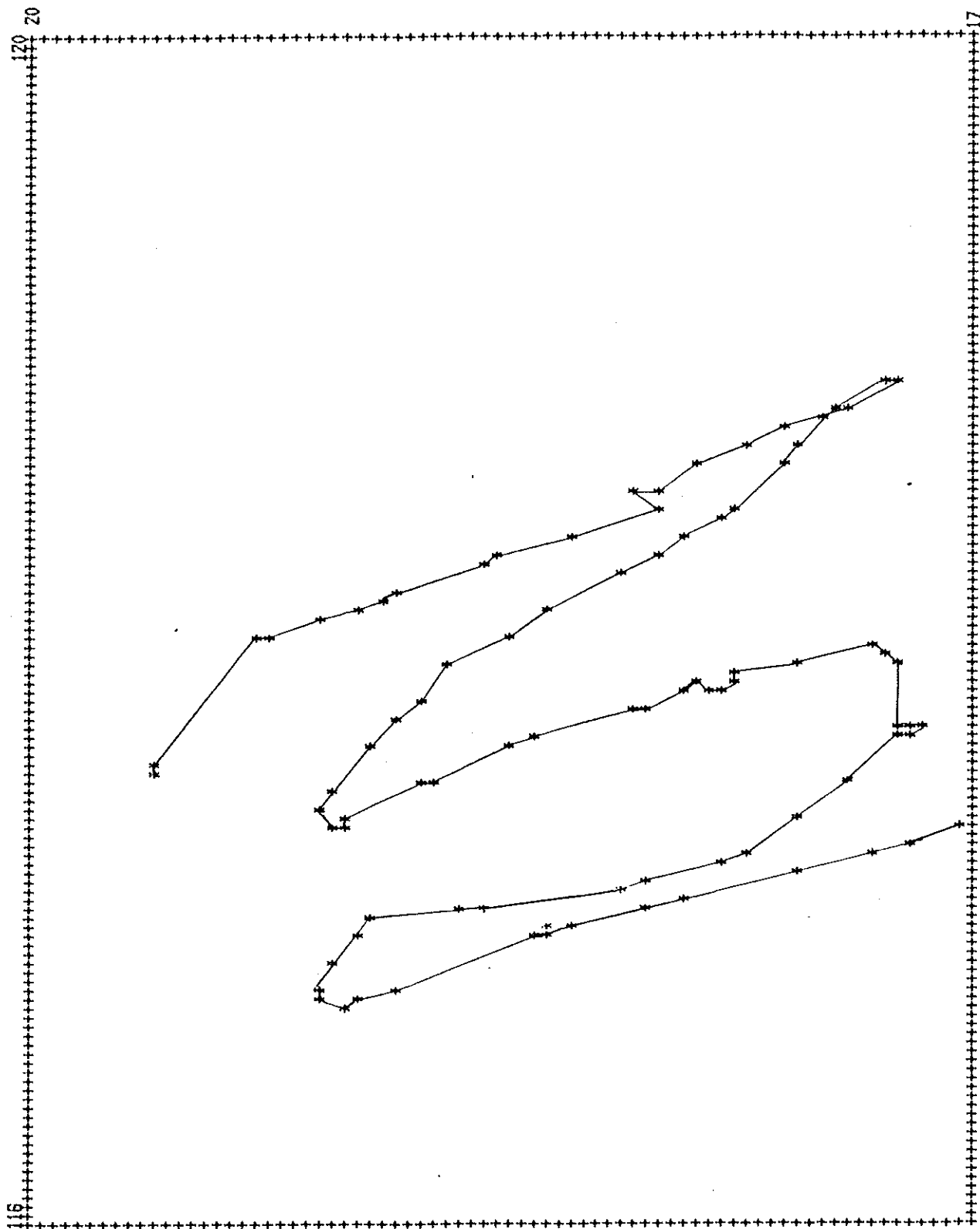
(IV) TRACK CHART

The track chart attached overpage is in two pages owing to the extent of the area traversed.

Brian Taylor



NAV TRACK: 034 - 04 FROM: G/AM to GONG KON 3  
WEST= 115 EAST= 145 AND SOUTH= 23 SCALE=0.333 IN./DEG.



NAV TRACK: V34 - 04 FROM: GUAM TO HONG KONG : INSET  
 WEST= 115 EAST= 120 AND SOUTH= 17 NORTH= 20 SCALE=2 IN./DEG.