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CRUISE REPORT

Ship Name: VEMA Cruise No: 33-06

Departure: 19 April 1976 from Colombo (Sri Lanka)
Date Port

Arrival: 14 May 1976 at Djibouti (T.F.A.I.)
Date Port

Days at Sea: 26 25 Days Foreign Port: 2 3
No. of days in arrival port

Area of Operation: Western Indian Ocean, Arabian Sea and Gulf of Aden

Program Description: Dredging at the Owen fracture Zone and in spreading centers
and fracture zones of the Gulf of Aden.
Seismic reflection, gravity and magnetic profiling at the
Owen F.Z. and Gulf of Aden
Coring in the Indus Cone and Gulf of Aden

Participants: (All L-DGO unless otherwise specified)

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|------------------|----------------|
| E. Bonatti | C. Sci. |
| P. Haley | Techn. |
| D. Holland | E.T. |
| A. Rock | Computer |
| M. Sundvik | Core Describer |
| V. Paisley-Smith | Gravity |
| J. Powell | Air Gun |

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

CRUISE REPORT - V33-06

General

VEMA cruise V33-06 took place from Colombo to Djibouti, from 19 April to 14 May 1976. The main scientific objectives of this cruise were to obtain rock samples and geophysical data at the Owen Fracture Zone and at the spreading segments and fracture zones of the Gulf of Aden. The western Indian Ocean was crossed westward at about 12°N. Two piston cores were obtained along this transect, consisting of Indus Cone turbidites. Successful dredgings were carried out across the Owen F.Z., near its intersection with the East Sheba Ridge. Serpentinized peridotites, gabbros, basalts, metamorphic rocks and metalliferous deposits were obtained.

The work in the Gulf of Aden consisted of the following aspects: (a) fresh basalts were dredged at several miles along the axial spreading segments of the Gulf of Aden. These samples, together with those obtained during cruise V33-07, will be studied in cooperation with J.G. Schilling. (b) Extensive surveying and dredgings were done at the Alula Fracture Zone. Basalts were obtained together with a wide variety of sedimentary rocks. Evidence of basement uplift at the margins of the fracture zone was obtained. (c) Seismic reflection transects were carried out across the Gulf of Aden, in order to characterize sediment thicknesses and distribution in the basin. (d) Piston cores were collected.

Equipment Status

The ship's routine data collection gear performed satisfactorily except for the magnetometer, whose trace showed an unacceptable noise level. As a result of the efforts of D. Holland, some improvement in the quality of the trace was achieved in the second half of the cruise, but the problem was not completely resolved. The crew and equipment responded well to the round-the-clock type dredging operations, which were attempted for the first time on the VEMA. We made 29 dredging attempts (26 of them successful) with no loss of equipment.

