FIFTH REGIONAL CONGRESS ON GEOLOGY, MINERAL AND ENERGY RESOURCES OF SOUTHEAST ASIA

GEOSEA V PROCEEDINGS

VOLUME II

KUALA LUMPUR MALAYSIA

9-13th APRIL 1984

Editors
G.H. Teh
S. Paramananthan

AUGUST 1986 No. 20
PERSATUAN GEOLOGI MALAYSIA  
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The Society has a membership of about 600 earth scientists interested in Malaysia and other Southeast Asian regions. The membership is worldwide in distribution.

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Foreword

This second volume of the GEOSEA V PROCEEDINGS is published as Bulletin 20 of the Geological Society of Malaysia's Bulletin series.

This volume of the GEOSEA V PROCEEDINGS contains the remaining 41 papers that were presented at the Fifth Regional Congress on Geology, Mineral and Energy Resources of Southeast Asia (GEOSEA V) which was organised by the Geological Society of Malaysia and held from the 9-13 April 1984 at the Federal Hotel, Kuala Lumpur. During the editorial process, 8 papers were rejected.

This second volume turns out to be even more voluminous than Volume I, containing 881 pages, and consists of some of the longer papers and ones that need rewriting or more extensive editing. Furthermore, due to the voluminous nature of this PROCEEDINGS, discussions at the Congress are not included with the papers, however, authors were advised to evaluate and incorporate the major points raised at the Congress in the preparation of their final manuscripts.

The financial support by the members and organisations who contributed to the realisation of this PROCEEDINGS is gratefully appreciated.

In addition the Society records its thanks to the reviewers and proof-readers for their painstaking contributions.

G.H. Teh
Editor
Geological Society of Malaysia
## Glossary

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<th>Abbreviation</th>
<th>English Meaning</th>
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<td>Bt.</td>
<td>hill</td>
</tr>
<tr>
<td>Genting</td>
<td>Gtg.</td>
<td>pass</td>
</tr>
<tr>
<td>Gunung</td>
<td>G.</td>
<td>mountain</td>
</tr>
<tr>
<td>Jalan</td>
<td>Jln.</td>
<td>road, street</td>
</tr>
<tr>
<td>Kampung</td>
<td>Kg.</td>
<td>village</td>
</tr>
<tr>
<td>Kuala</td>
<td>K.</td>
<td>mouth of river</td>
</tr>
<tr>
<td>Permatang</td>
<td>Ptg.</td>
<td>sandy ridge along coast</td>
</tr>
<tr>
<td>Pulau</td>
<td>P.</td>
<td>island</td>
</tr>
<tr>
<td>Sungai</td>
<td>S.</td>
<td>river</td>
</tr>
<tr>
<td>Tanjung</td>
<td>Tg.</td>
<td>cape</td>
</tr>
<tr>
<td>Teluk</td>
<td>T.</td>
<td>bay</td>
</tr>
</tbody>
</table>

- **Barat** — west
- **Barat daya** — southwest
- **Barat laut** — northwest
- **Batu** — stone
- **Bantuan** — rock
- **Besar** — large
- **Kecil** — small
- **Laut** — sea
- **Selat** — strait
- **Selatan** — south
- **Semenanjung** — Peninsula
- **Tasik** — lake
- **Tenggara** — southeast
- **Timur** — east
- **Timur laut** — northeast
- **Utara** — north
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GEOLOGY, MINERAL AND ENERGY RESOURCES
OF SOUTHEAST ASIA

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In collaboration with:
University of Malaya
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THE COMPONENTS:

<table>
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<tr>
<th>Ship</th>
<th>Streamer</th>
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<tbody>
<tr>
<td>Length over all:</td>
<td>SYNTRAC 480 marine digital telemetry system;</td>
</tr>
<tr>
<td>Beam:</td>
<td>2 streamers; each 3000 m</td>
</tr>
<tr>
<td>Draught:</td>
<td>or 1 streamer of 6000 m;</td>
</tr>
<tr>
<td>Tonnage:</td>
<td>40 telemetry units for 480 hydrophone groups;</td>
</tr>
<tr>
<td>Cruising speed:</td>
<td>group length and spacing:</td>
</tr>
<tr>
<td>Bunker capacity, approx.:</td>
<td>6.25 m or 12.50 m or 18.75 m or 25.00 m</td>
</tr>
<tr>
<td>Accommodation:</td>
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<tr>
<th>Navigation</th>
<th>Airguns</th>
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<tr>
<td>GPS and TRANSIT satellite navigation;</td>
<td>2 to 6 chains;</td>
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<tr>
<td>various phase comparison and RANGE-RANGE systems</td>
<td>total chamber volume: 68.34 l (4170 cu. in.)</td>
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<tr>
<td></td>
<td>at 140 bar (2030 psi)</td>
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<th>North Reference</th>
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<td>C. PLATH gyro system</td>
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<tr>
<td>PRAKLA-SEISMOS NAVDATA 3000</td>
<td>3 D graphic control system</td>
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