

PERSATUAN GEOLOGI MALAYSIA

WARTA GEOLOGI

NEWSLETTER OF THE GEOLOGICAL SOCIETY OF MALAYSIA



GEOLOGICAL
SOCIETY OF
MALAYSIA

KANDUNGAN (Contents)

CATATAN GEOLOGI (Geological Notes)

- | | |
|---|----|
| T.T. Khoo: An <i>in-situ</i> occurrence of tourmaline-corundum rock at Menglembu, Kinta Valley, Perak | 33 |
|---|----|

PERTEMUAN PERSATUAN (Meetings of the Society)

- | | |
|--|----|
| Tan Boon Kong: Laboratory tests for soils in landfill liners | 37 |
| Per-Erik Olsson: Advanced geophysical technique for site investigation | 38 |
| Salman Bloch: Predrill assessment/prediction of sandstone porosity and permeability in frontier and mature areas | 39 |
| Malam Geologis Muda V (Young Geologist Nite V) | 40 |
| Annual General Meeting and Annual Dinner 2002 — Report | 41 |
| Minutes of the 35th Annual General Meeting (2000/2001) | 43 |
| Laporan Presiden Tahunan 2001–2002 (President's Report) | 46 |
| Secretary's Report | 47 |
| Editor's Report | 53 |
| Honorary Treasurer's Report | 54 |
| Auditors' Report | 59 |
| Council for 2002/2003 | 62 |

BERITA-BERITA PERSATUAN (News of the Society)

- | | |
|---|----|
| Keahlian (Membership) 63 | |
| Pertukaran Alamat (Change of Address) | 63 |
| Current Address Wanted | 64 |
| Pertambahan Baru Perpustakaan (New Library Additions) | 64 |
| Photographic Competition 2001 Results | 64 |

BERITA-BERITA LAIN (Other News)

- | | |
|--|----|
| Landslides, Slope Stability & the Safety of Infra-structures | 65 |
| Risk Management for Oil & Gas Conference | 70 |
| 5th International Symposium on Andean Geodynamics | 71 |
| Modelling Reality, The Reality of Modelling Tectonics and Exploration
Geophysics versus Analogue and Numerical Models | 72 |
| Kalendar (Calendar) | 74 |
| Buku-Buku Baru (New Books) | 78 |
| CD-Roms | 80 |

Jilid 28
No. 2

Volume 28
No. 2

Mar–Apr
2002

DIKELUARKAN DWIBULANAN
ISSUED BIMONTHLY

PERSATUAN GEOLOGI MALAYSIA

Geological Society of Malaysia

Majlis (Council) 2001/02

Presiden (President)	:	Abdul Ghani Rafek
Naib Presiden (Vice-President)	:	Mohd. Shafeea Leman
Setiausaha (Secretary)	:	Ahmad Tajuddin Ibrahim
Penolong Setiausaha (Asst. Secretary)	:	Ismail Yusoff
Bendahari (Treasurer)	:	Lee Chai Peng
Pengarang (Editor)	:	Teh Guan Hoe
Presiden Yang Dahulu (Immediate Past President)	:	Ibrahim Komoo

Ahli-Ahli Majlis (Councillors)

2001-2003

Tan Boon Kong
Liew Kit Kong
Abdul Rasid Jaapar
Wan Fuad Wan Hassan

2001-2002

Abdul Rahim Samsudin
Azmi Yakzan
Chow Weng Sum
Nik Ramli

Jawatankuasa Kecil Pengarang (Editorial Subcommittee)

Teh Guan Hoe (Pengerusi/Chairman)

Fan Ah Kwai

Ng Tham Fatt

J.J. Pereira

Lembaga Penasihat Pengarang (Editorial Advisory Board)

Aw Peck Chin	C.A. Foss	Mazlan Madon	Tan Boon Kong
Azhar Hj. Hussin	N.S. Haile	Ian Metcalfe	Tan Teong Hing
K.R. Chakraborty	C.S. Hutchison	S. Paramanathan	Teoh Lay Hock
Choo Mun Keong	Lee Chai Peng	Senathi Rajah	Wan Hasiah Abd.
Chu Leng Heng	Leong Lap Sau	P.H. Stauffer	Yeap Cheng Hock

About the Society

The Society was founded in 1967 with the aim of promoting the advancement of earth sciences particularly in Malaysia and the Southeast Asian region.

The Society has a membership of about 600 earth scientists interested in Malaysia and other Southeast Asian regions. The membership is worldwide in distribution.

Published by the Geological Society of Malaysia,
Department of Geology, University of Malaya, 50603 Kuala Lumpur.
Tel: 603-7957 7036 Fax: 603-7956 3900 E-mail: geologi@po.jaring.my

Printed by Art Printing Works Sdn. Bhd., 29 Jalan Riong, 59100 Kuala Lumpur.

CATATAN GEOLOGI

Geological Notes

An *in-situ* occurrence of tourmaline-corundum rock at Menglembu, Kinta Valley, Perak

T.T. KHOO
17 Orange St.
Eastwood 2122, Australia

Abstract: An *in-situ* occurrence of tourmaline-corundum rock was discovered in the Yu Wan Hing Tin Mine, Menglembu. The rock is interlayered with marble-phyllite and striking east-west. The contact of the rock with the marble-phyllite shows evidence of the selective replacement of the phyllite by the tourmaline-corundum rock leaving the unconsumed marble as slivers or fragments within the tourmaline-corundum rock. It is interpreted that the tourmaline-corundum rock is derived from the phyllite and not from other parental rocks like bauxite as suggested in some studies.

INTRODUCTION

The tourmaline-corundum rock (Scrivenor, 1910, 1913, 1928, 1931; Scrivenor and Jones, 1919; Willbourn, 1931) occurring in the Kinta Valley, Perak is a lithological oddity usually with ovoid or spherical corundum bodies in a groundmass of dark tourmaline. It is rarely found elsewhere in the world. In the Kinta Valley, pebbles and boulders of the rock are found in the alluvium but exposures of the rock are quite rare and seldom reported. The opus on the geology of the Kinta Valley by Ingham and Bradford (1960) listed 18 *in-situ* occurrences in the Geological Survey records. In the review on the Kinta Tinfield by Senathi Rajah (1979) and the section on the tourmaline-corundum rock of Hutchison (1973) no new *in-situ* occurrences have been included other than the earlier mentioned occurrences.

In-situ occurrences where the rock is exposed in isolation from the adjacent rocks such as the occurrence at the Khong Heng Mine, Papan, illustrated in Ingham and Bradford (1960) are no better than boulders for the purpose of determining the field relations and assisting in the interpretation of the origin of the rock. According to Scrivenor (1910), Willbourn (1931),

Ingham and Bradford (1960) and Senathi Rajah (1979), *in-situ* outcrops of the rock are always associated with schists and indeed the sketches of occurrences of the rock enclosed within schistose pelitic rocks in Scrivenor (1931) and Willbourn (1931) are most instructive in providing important leads for unravelling the nature of the rock. The purpose of this note is to report on the accidental discovery of an *in-situ* occurrence of the tourmaline-corundum rock in the Yu Wan Hing Tin Mine (GR 671830) when I was out collecting carbonate rocks in the Kinta Valley in September 1968 and a month later another visit was made to study the outcrop in greater detail.

THE OUTCROP

Yu Wan Hing was a gravel pump mine with a rather thin alluvial cover of less than 10 m over bedrock. At that time the mine was a hive of activity and piles of blasted rocks were stacked on the surface above the mine pit which was at least 150 m E-W and 300 m N-S. Among the piles of rocks were chunks of freshly fragmented tourmaline-corundum rock in addition to marble and boulders of vein quartz and other rock types. The rubble piles were

evidently brought up from the mine pit and the tourmaline-corundum rock was probably blasted from outcrops to facilitate mining activities.

The bedrock in the mine is dominantly a white marble with dark parallel streaks and bands of pelitic phyllite. On the eastern side of the mine pit 3 linear outcrops of the tourmaline-corundum rock occur probably forming a continuous band some 36 m in length and striking E-W with a moderate dip (Fig. 1). Except for the middle outcrop which stands alone the other two outcrops are enclosed within the marble-phyllite sequence. The marble-phyllite sequence also has an E-W strike and both above and below the band of tourmaline corundum rocks are thicker, disjointed outcrops wholly of the dark phyllite exposed with an E-W strike. The tourmaline-corundum band is evidently concordant with the marble-phyllite sequence (Fig. 1).

The tourmaline-corundum band tapers at both ends and is of variable thickness, 1.3 m at the thickest portion. The band appears to

be somewhat deformed to become boudins with the dark phyllitic streaks seen to be deformed and wrapping the parts which have become boudins. The tourmaline-corundum band is directly in contact with the marble unlike in reported *in-situ* occurrences where the tourmaline-corundum rock is encased in pelitic schist interbedded with marble as shown in illustrations in Scrivenor (1931) and Willbourn (1931). Scrivenor (1910) noted that nowhere can be traced any tourmaline-corundum rock interbedded with limestone and this observation is only now, almost a century later, no longer valid.

The grain size of the tourmaline-corundum rock shows a coarsening from the edges toward the middle of the band. Patchily distributed but not at the contact with the marble are lenses up to 30 cm in length which are richer in corundum. At one spot at the contact with the marble are narrow parallel bands up to 2.5 cm in length which are rich in columnar corundum crystals whose c-axes are oriented parallel to each other and to the contact.

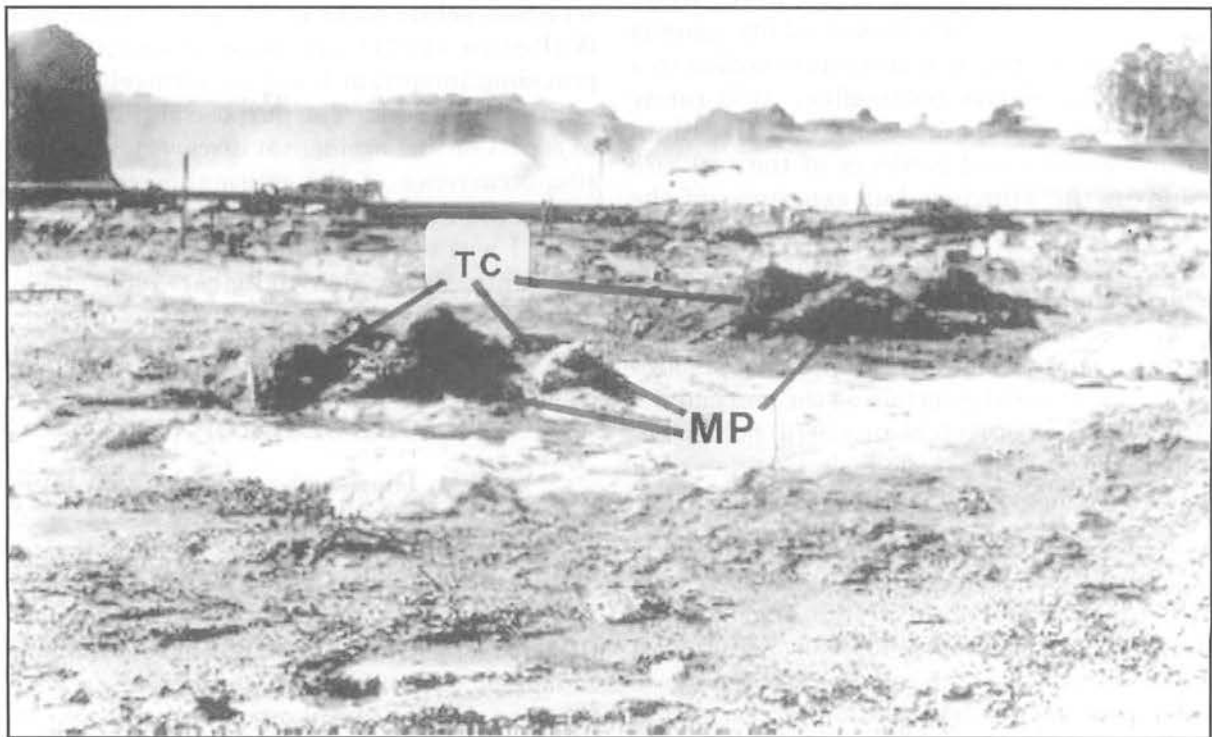


Figure 1. *In-situ* tourmaline-corundum rock in contact with marble-phyllite striking east-west in the Yu Wan Hing Mine, Menglembu. Picture shows active mining activities in background. TC, tourmaline-corundum rock; MP, marble-phyllite.

Angular fragments and slivers of the adjacent marble are present in the tourmaline-corundum rock (Fig. 2). The slivers are at a few places oriented parallel to each other and to the contact with the marble (Fig. 3). The origin of the parallel marble slivers in the tourmaline-corundum rock is clear from the contact at the lower part of the outcrop shown in Figure 3. At the lower part of Figure 3 it can be seen that the tourmaline-corundum rock had selectively replaced parallel bands of the phyllite in the marble crossing from one band to an adjacent band via fractures or joints in the marble. In this way the phyllite was consumed leaving the marble as slivers or slabs which are presently arranged parallel to each other and to the contact.

Just before Christmas 1969, during the Discussion Meeting of the Geological Society of Malaysia in Ipoh, another visit was made to the mine with several colleagues. Unfortunately, by then the mine had stopped operating and the mine pit was totally infilled by tailings. On the infilled mine pit was a heap of rocks including the tourmaline-corundum rock standing like a Scottish cairn marking the spot where the enigma was interred.

DISCUSSION

From the field evidence I have no doubt that the tourmaline-corundum rock is derived from the phyllite interlayered with the marble. This same interpretation can also be made from the instructive outcrops shown in Scrivenor (1931) where several bodies of the tourmaline-corundum rock occurring are encased in schists and one of the bodies occur along a fault and in Willbourn (1931) the tourmaline-corundum rock is totally encased in the middle of a phyllite band within marble. Suggestions invoking origins from radiolarian or oolitic sediments and also bauxitic parental material (Scrivenor, 1910, 1913, 1931; Scrivenor and Jones, 1919; Hutchison, 1973; Senathi Rajah, 1979) are approaching the problem by placing emphasis on the textures and composition of the tourmaline-corundum rocks. Any plausible model for the origin of the tourmaline-corundum rock must first and foremost be in agreement with the field occurrence and next able to explain the composition and texture of the rock. In agreement with Willbourn (1931) I interpret the rocks to be metamorphic derived from the phyllite. In another communication I shall

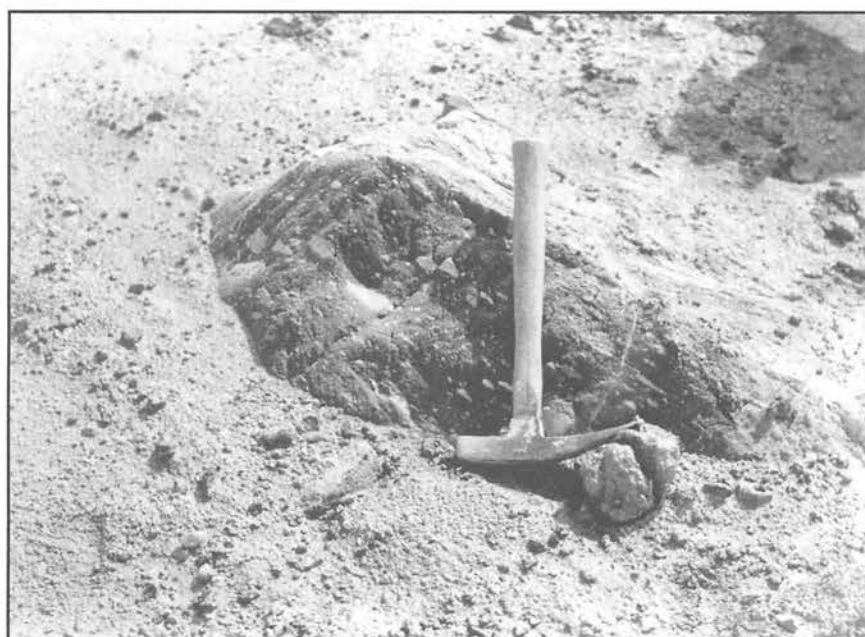


Figure 2. Outcrop of tourmaline-corundum rock (the middle outcrop mentioned in the text) containing fragments of marble. Yu Wan Hing Tin Mine, Menglembu.



Figure 3. Outcrop of tourmaline-corundum rock (dark) between marble-phyllite (white). On right hand side of the picture, the tourmaline-corundum rock band is truncated by a minor fault. Note the slivers of the adjacent marble in the tourmaline-corundum rock. The slivers are oriented parallel to each other and to the contact with the marble-phyllite.

propose a model involving open system metamorphism for the origin of the enigmatic rock.

ACKNOWLEDGEMENTS

About 34 years ago the late Ken Hosking convinced me to make this report which I agreed but am only now able to fulfil. I am grateful to him for his infectious encouragement and enthusiasm in the search for truth and knowledge. I am thankful to Aw Peck Chin formerly of the Geological Survey of Malaysia for providing copies of references on the tourmaline-corundum rocks including some of considerable rarity. This note was completed with the assistance of staff and facilities of the Department of Geology, University of Malaya.

REFERENCES

- HUTCHISON, C.S., 1973. Metamorphism. In: Gobbett, D.J. and Hutchison, C.S. (Eds.), *Geology of the Malay Peninsula*. Chapter 9, 253–303, Wiley.
- INGHAM, F.T. AND BRADFORD, E.F., 1960. *The geology and mineral resources of the Kinta Valley*. Geological Survey of Malaya, Memoir 9, 347p.
- SCRIVENOR, J.B., 1910. The tourmaline-corundum rocks of Kinta (Federated Malay States). *Quat. J. Geol. Soc.*, 66, 435–449.
- SCRIVENOR, J.B., 1913. *The geology and mining industry of the Kinta District, Perak, Federated Malay States*. FMS Govt Printing Office, Kuala Lumpur, 90p.
- SCRIVENOR, J.B., 1928. *Geology of Malayan ore deposits*. Macmillan, London, 216p.
- SCRIVENOR, J.B., 1931. *The geology of Malaya*. Macmillan, London, 217p.
- SCRIVENOR, J.B., AND JONES, W.R., 1919. *Geology of South Perak, North Selangor and the Dindings*. FMS Govt Press, Kuala Lumpur, 196p.
- SENATHI RAJAH, S., 1979. The Kinta Tinfield, Malaysia. *Bull. Geol. Soc. Malaysia*, 11, 111–136.
- WILLBOURN, E.S., 1931. The occurrence *in situ* of corundum-bearing rocks in British Malaya. *De Mijninggenieur*, No. 10, 170–176.

Manuscript received 5 March 2002

PERTEMUAN PERSATUAN Meetings of the Society

Ceramah Teknik (Technical Talk)

Laboratory tests for soils in landfill liners

TAN BOON KONG

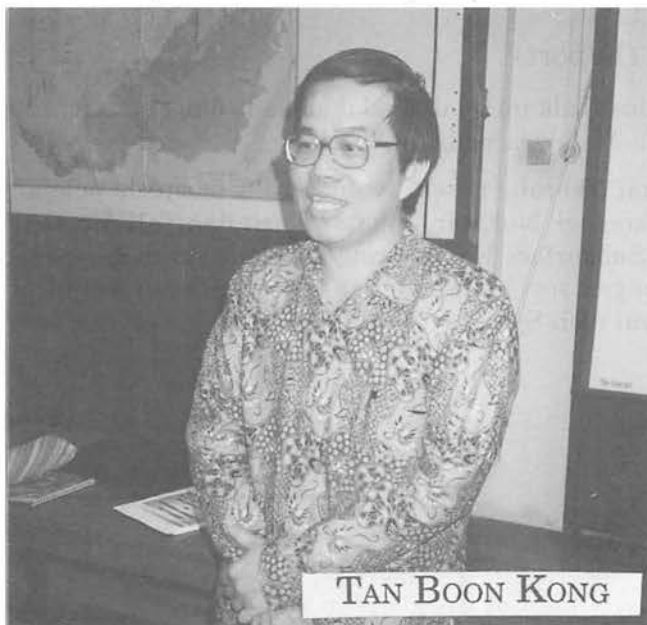
Laporan (Report)

Assoc. Prof. Tan Boon Kong, Chairman of GSM Working Group on Engineering Geology/Hydrogeology, gave the above talk on 31st January 2002 at the Geology Department, University of Malaya at 5.30 pm to an audience of 30.

Assoc. Prof. Tan began his talk by illustrating the sanitary landfill method which is widely accepted as the method for the proper disposal of municipal solid wastes. One of the key components of the sanitary landfill method is the engineered clay liner which underlies the waste pile and helps to impede or retard the migration of leachate emanating from the waste pile. The suitability of a proposed candidate clay soil for use in the engineered clay liner must be properly assessed prior to its usage, and this assessment is normally done through a series of laboratory tests conducted on samples of the candidate soil.

He then dealt in detail the types of laboratory tests applied to soils to determine their suitability for use in landfill clay liners. The tests include the classical tests on the physical properties of the soil (classification, compaction, permeability, etc.), the chemical properties of the soil (cation exchange capacity, specific surface area, pore fluids chemistry, etc.), clay mineralogy, and special tests for assessing the adsorption capability of the soil such as the batch equilibrium test (BET) and the leaching column test. Next he discussed details of the test set-ups, and some actual examples of test results were presented.

He concluded by stressing that there is indeed a real need for conducting such laboratory tests in the landfill liners practice in Malaysia which hitherto has NOT done much in this respect.



G.H. Teh

TAN BOON KONG



THE AUDIENCE AT TAN'S TALK



GSM

Advanced geophysical technique for site investigation

PER-ERIK OLSSON

Laporan (Report)

Technical Talk ini telah diadakan pada 6hb Februari 2002 di Bangunan Geologi, Universiti Kebangsaan Malaysia pada 10.30 am.

Seramai 50 orang peserta yang terdiri daripada pelajar prasiswazah dan siswazah UKM, Institut Teknologi, Nuklear, Jabatan Parit dan Tali Air, GAP Engineering Consultant, Cadent Sdn. Bhd., Subsurface Engineering dan Pensyarah daripada UKM dan UM telah hadir Majlis bermula dengan sesi minuman dan diikuti dengan technical talk dan disudahi dengan Lunch yang dibiayai oleh Syarikat WinPower.

Pengerusi Kumpulan Kerja Geofizik
21.4.2002

GSM

Predrill assessment/prediction of sandstone porosity and permeability in frontier and mature areas

SALMAN BLOCH

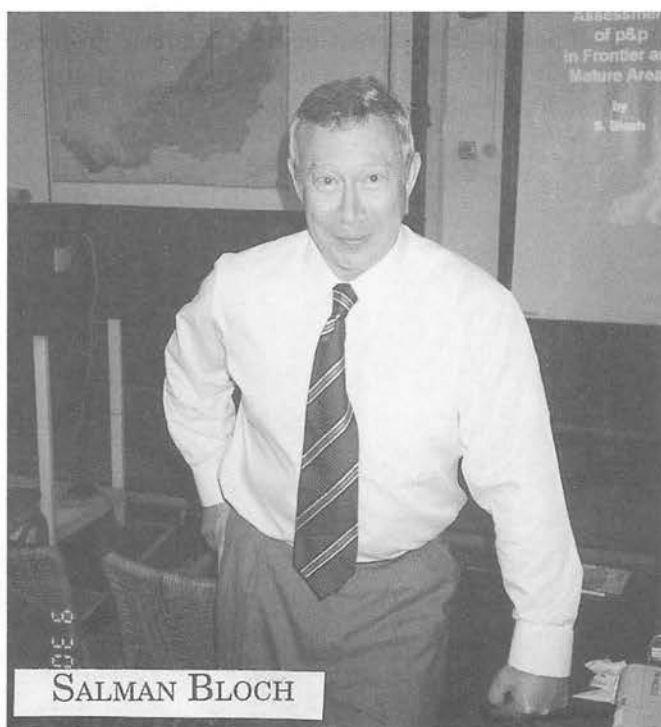
Laporan (Report)

Salman Bloch of Texaco Upstream Technology, Houston, TX, USA, gave the above talk on Monday 4th March 2002 at 3.00 pm at the Geology Department, University of Malaya. The speaker is a Distinguished AAPG lecturer. The talk was organised by the Society's Petroleum Geology Working Group.

Abstrak (Abstract)

Lateral and vertical distribution patterns of porosity and permeability in sandstones are generally controlled by a limited number of geologic variables (lithology, temperature history and effective overburden pressure history). Empirical evidence indicates a high degree of correlation between porosity/permeability and the cumulative effect of these variables. Importantly, the variables (input data) often can be estimated prior to drilling with reasonable confidence.

The choice of the predictive techniques utilized in a given project depends on the availability of empirical data in the area of interest. However, regardless of the amount of data available, the most effective approach involves use of multiple predictive techniques. Comparative analysis of results obtained through the utilization of different approaches is helpful in reducing the amount of uncertainty. Porosity prediction techniques include porosity-depth curves, porosity-vitrinite reflectance algorithms, multiple regression analysis, experimental results, and empirically-based diagenetic "models". Permeability predictions utilize permeability-porosity regressions, multiple regression analysis, and the relationship between present-day permeability and the initial (depositional) permeability in sandstones not affected by a heavy diagenetic imprint. The presentation includes numerous case studies of predrill reservoir quality prediction in sandstones with a wide range of lithology, diagenetic alteration, burial/temperature history, and age.



GSM

Malam Geologis Muda V (Young Geologist Nite V)

26th March 2002

**Department of Geology
University of Malaya**

Engineering geology of Pos Slim-Cameron Highlands highway

TAJUL ANUAR JAMALUDIN (University of Malaya)

Some understandings in EIA study

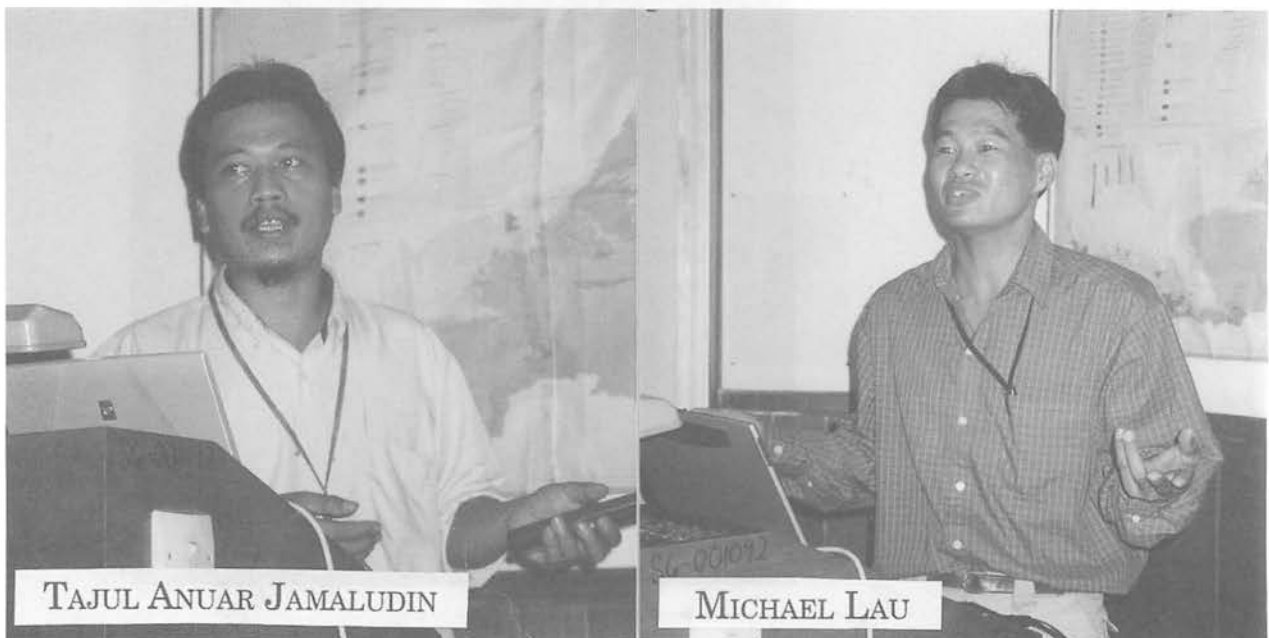
MICHAEL LAU (Perunding Utama)

Laporan (Report)

The Malam was scheduled for 4 speakers. Unfortunately, only 2 speakers turned up, so additional time was given to the 2 speakers for their presentations (titles as above).

Dr. Tajul gave a comprehensive talk on the engineering geology of the Pos Slim-Cameron Highway currently under construction. In addition to basic geologic settings along the highway alignment, he also touched on slope failures and some remedial works.

Mr. Lau presented various aspects of works related to EIA for proposed engineering projects, and the role of the geologist in EIA. Some interesting case studies were included in his presentation, of particular interest being a highrise project in Penang where the buildings were completed without first taking care of the rock slopes at the perimeter of the project site — so, no CF, and how to remedy the problem?



TAJUL ANUAR JAMALUDIN

MICHAEL LAU

On behalf of the Organisers, I thank the speakers for taking time to prepare and present their talks. I also personally congratulate them for “documenting” some interesting local case studies on Engineering Geology/Environmental Geology in Malaysia. Syabas!

Tan Boon Kong
Chairman
Working Group on
Engineering Geology/Hydrogeology
18th May, 2002

GSM

Annual General Meeting and Annual Dinner 2002 — Report

The Annual General Meeting 2002 was held on Friday 26th April 2002 at 6.00 pm at Meranti Room, Hotel Eastin, Petaling Jaya. It was attended by 28 members.

The President, Abdul Ghani Rafek, chaired the meeting, while Abdul Rahim Samsudin took the minutes since the Secretary and Assistant Secretary were late.

Highlights of the AGM include:

- to avoid overlapping, the Secretary should report on activities while the President should focus on important issues of the Society.
- a letter will be sent to the Head of Geology Department, University of Malaya requesting for better accessibility of members to the Klompe Library.
- the Secretary should include a bar chart showing changes in memberships for the last 3 years in future reports.
- the Editor should bring up-to-date all publications in 6 months' time.
- the Treasurer should check on the interest for the Young Geologist's Award Fund.
- the Society should not put its money in advance with the printer.
- the details of the honorarium paid should be spelt out.
- the elections should be handled by a senior member strictly following the constitution.

The AGM, which generated a lot of interest, was only adjourned at 8.30 pm.

As it was already late, a large number of family members and invited guests had already started with their earlier rounds of the buffet dinner at the Swez Brasserie Coffee House of the Eastin Hotel when members attending the AGM came out to join them.

Winners of the Society's Photographic Competition 2001 were presented their respective cheques by the President.

G.H. Teh

Annual General Meeting & Annual Dinner 2002



Minutes of the 35th Annual General Meeting (2000/2001)

Minutes of the 35th Annual General Meeting held at the Eastin Hotel, Petaling Jaya at 6.30 pm on the 27th, April 2001.

Present:

Abdul Ghani Rafek (Chairman)	Abdul Rahim Samsudin
Nik Ramli Nik Hassan (Secretary)	Chow Weng Sum
Tan Boon Kong	Mohd Shafeea Leman
Liew Kit Kong	Abd Hanan Ahmad Nadzri
Lee Chai Peng	Robert Tate
Ng Chak Ngoon	M Naser Husin
C.S. Hutchison	S. Paramanathan
Choo Mun Keong	Abdul Hadi Abd Rahman
Azman Abdul Ghani	Ismail Yusoff
Sia Hock Kiang	Denis Tan
Anyi Ngau	Abd Rasid Jaapar
Arul Mani Shanthi	Ng Ping Ping
Gan Lay Chin	Tajul Anuar Jamaluddin

1. Confirmation of the minutes of the previous AGM (2000)

The minutes of the 34th AGM were passed on the proposal of S. Paramanathan and seconded by Tan Boon Kong without any correction or amendment.

2. Matters Arising

There was no matter arising.

3. President's Report

The president congratulated Dr. J.J. Pereira, the organising chairperson of the Annual Geological Conference 2000 and her committee for its success. It was the first time a proceeding was produced and distributed at the conference containing 63 papers. He also thanked Mr. Yusof Johari and his committee for the successful organisation of the Annual Petroleum Geology 2000 Conference. He reported the setting of a new working group, the Young Geologist Working Group. He requested for suggestion to arrest the decline in memberships despite the increased number of activities held.

Finally he expressed gratitude to all companies, agencies and individuals for their generous sponsorships, donations and support given.

Several members suggested the following possible reasons for the decline in the memberships of the Society:

- i. Contents of publications not interesting/poor/not relevant to many geologists.
- ii. Gross delay in publications.
- iii. Not getting enough benefit from becoming a member especially those living out of Klang Valley.

Mr. Denis Tan suggested that the Council set up a task force (or sub-committee) to look into the declining memberships issue and recommend to the Council measures to be taken to improve the situation.

The President's Report was passed on the proposal of Mr. Tan Boon Kong and seconded by Mr. M. Naser Husin.

4. Secretary's Report

The Secretary's Report was presented by Dr. Nik Ramli Nik Hassan on behalf of Dr. Ahmad Tajuddin Ibrahim who was on a fieldwork.

He reported the resignation of three Councillors during the session. Two members were co-opted as Councillors. The Council met almost every month (11 meeting).

He reported a big drop in the total membership of the Society to 409 from the previous year's total of 468.

The Committee on the Promotion of Geoscience to the Public organised public lectures and exhibition at the Sekolah Alam Shah, Kuala Lumpur and Maktab Rendah Science MARA, Taiping. Besides the two major Conferences mentioned in the President's report, the Society organised a total of 2 seminars, 2 forums, one fieldtrip and 16 technical talks during the session. A photographic competition was also held.

The Secretary's Report was passed on the proposal of Mr. Tan Boon Kong and seconded by Mr. Choo Mun Keong.

5. Editor's Report

The Editor was absent and his report was presented by Dr. Nik Ramli Nik Hassan.

He reported the publications were being delayed because of computer hard disc problem. The delay publications should be coming out by end of June 2001.

The meeting decided to give the Editor two months to clear the backlog of the year 2000 editions of the publications, failing which the Editor should defer work on all the delayed pre-2001 publications. He should then concentrate on producing the year 2001 publications and bring the 2001 publications to date.

On the issue of contents of the publications, members prefer them to have better contents regardless of the number of articles (i.e. quality rather than quantity).

The Editor's Report was passed on the proposal of Dr. S. Paramanathan and seconded by Mr. Abd Rasid Jaapar.

6. Treasurer's and Honorary Auditor's Report

The Treasurer reported an increase in the nett current asset from the previous RM573,959.11 to RM630,171.03 with the prepaid printing cost of RM100,000.00 with Art Printing still unused. For the session the Society recorded an excess of income over expenditure of RM53,011.92.

A member requested for detailed financial breakdown pertaining to the activities of Working Groups. The Treasurer replied that such breakdown can be obtained directly from him if required. The Society will only publish/present annual financial reports.

The Treasurer's Report was passed on the proposal of Mr. Sia Hock Kiang and seconded by Dr. Abdul Rahim Samsudin.

7. Election of Honorary Auditor 2001/2002

The meeting re-elected Mr. Lee Siew Fatt of S.F. Lee & Co., on the proposal of Dr. Lee Chai Peng and seconded by Dr. S. Paramanathan as the Honorary Auditor for the 2001/2002 session.

8. Resolutions

1) Society's Building

The idea of spending money to construct another floor at the top level of the Geology Department, University of Malaya for the Society was not acceptable in the view of the Council as the Society will not have the ownership over the strata. In addition, no response was obtained from the university authority over the idea.

Mr. Sia Hock Kiang raised the issue of his difficulty in getting favourable treatment from the Geology Department, University of Malaya in using the library. There was therefore a suggestion that the Society should think of purchasing a shop lot to house the Society as property prices are coming down. The Council have shelved this idea due to the declining memberships and a limit to the Society's fund.

On the proposal from Mr. Choo Mun Keong and seconded by Robert Tate the meeting agreed not construct the said floor but asked the Council to keep other options open.

2) Society's Webpage

The proposal was presented by Mr. Abdul Rasid Jaapar. The members questioned the ability of the Society to maintain such a site. In view of the commitment required to set up and maintain such a site, on the proposal from Mr. Sia Hock Kiang and seconded by Ms. Gan Lay Chin it was decided to put such plans on hold.

9. Other Matter

There was no other matter brought for discussion.

10. Announcement of New Council (2001/2002)

President	:	Abdul Ghani Rafek (<i>UKM</i>)
Vice-President	:	Mohd. Shafeea Leman (<i>UKM</i>)
Secretary	:	Ahmad Tajuddin Ibrahim (<i>UM</i>)
Assistant Secretary	:	Ismail Yusoff (<i>UM</i>)
Treasurer	:	Lee Chai Peng (<i>UM</i>)
Editor	:	Teh Guan Hoe (<i>UM</i>)
Councillors (2-years)	:	Tan Boon Kong (<i>UKM</i>) Liew Kit Kong (<i>PETRONAS Carigali</i>) Abdul Rasid Jaapar (<i>Consultant</i>) Wan Fuad Wan Hassan (<i>UKM</i>)
Councillors (1-year)	:	Abdul Rahim Samsudin (<i>UKM</i>) Azmi Yakzan (<i>PRSS</i>) Chow Weng Sum (<i>JMG</i>) Vacant
Immediate Past President	:	Ibrahim Komoo (<i>UKM</i>)

The meeting was adjourned at 8.30 pm.

Laporan Presiden Tahun 2001–2002 (President's Report Year 2001–2002)

Tuan-tuan dan puan-puan,
Assalamualaikum dan salam sejahtera,

Usaha Persatuan Geologi Malaysia untuk melaksanakan kegiatan-kegiatan bagi mempertingkatkan fahaman geologi di kalangan ahli dan memajukan ilmu geologi, sesuai dengan objektif persatuan, dapat dilakukan dengan jayanya bagi tempoh 2001–2002. Saya ingin mengambil kesempatan ini untuk merakamkan penghargaan persatuan kepada semua pihak yang telah memainkan peranan dalam menjayakan kegiatan-kegiatan persatuan.

Seperti juga pada tahun-tahun yang lepas, dua persidangan utama anjuran persatuan, iaitu Persidangan Tahunan Geologi 2001 dan Persidangan Geologi Petroleum 2001 merupakan kemuncak kegiatan persatuan pada tahun lepas. Sebanyak 48 kertas kerja dibentangkan pada Persidangan Tahunan Geologi 2001 yang diadakan di Pulau Pangkor, Perak pada 2–3 Jun 2001. Semua kertas kerja ini dimuatkan dalam prosiding persidangan yang diedarkan pada semua peserta semasa persidangan tersebut. Syabas diucapkan kepada Prof. Madya Dr. Mohd. Shafeea Leman, pengerusi persidangan dan jawatankuasa beliau atas kejayaan ini. Kuala Lumpur menjadi tuan rumah bagi Persidangan Geologi Petroleum 2001 yang diadakan pada 19–20 September 2001. Sebanyak 33 kertas kerja dibentangkan dan diedarkan kepada semua peserta dalam bentuk abstrak dan abstrak panjang. Tahniah diucapkan kepada pengerusi persidangan, En. Nordin Ramli dan jawatankuasa beliau atas kejayaan menganjurkan persidangan tersebut.

Pada tahun lepas, sebanyak tiga seminar, satu forum, satu kuliah umum dengan pameran geosains dan 15 ceramah teknik dapat dianjurkan oleh persatuan. Penyediaan prosiding yang mengandungi kertas kerja penuh bagi seminar-seminar dan forum mencerminkan komitmen kumpulan kerja dan ahli yang terlibat dalam kegiatan-kegiatan ini. Sambutan ahli persatuan bagi kebanyakan kegiatan ini juga sangat memuaskan. Satu peraduan fotografi juga diadakan pada tahun lepas. Persatuan mengucapkan terima kasih dan merakamkan penghargaan kepada semua pengerusi kumpulan kerja dan setiausaha persatuan yang telah berkerja keras untuk menjayakan semua kegiatan ini.

Kemerosotan keahlian persatuan dapat dibendung pada tahun lepas. Keahlian persatuan dapat ditambahkan sedikit pada 429 berbanding dengan 409 pada tahun sebelumnya. Usaha untuk mengekalkan dan menambah keahlian akan diteruskan.

Secara keseluruhan, Persatuan Geologi Malaysia berada dalam keadaan yang baik. Beberapa kegiatan yang telah disertai ramai ahli persatuan merupakan petanda baik bagi perkembangan persatuan. Pada kesempatan ini saya bagi pihak persatuan mengucapkan terima kasih dan merakamkan penghargaan kepada semua ahli atas pengelibatan dan sokongan tuan-tuan dan puan-puan dalam menjayakan kegiatan persatuan.

Sekian terima kasih.

Dr. Abdul Ghani Rafek
Presiden
Persatuan Geologi Malaysia
April 2002

Secretary's Report

1. The Council

Members of the Council of the Geological Society of Malaysia for the period 28th April 2001 to the 26th April 2002 are as follows:

President	:	Abd. Ghani Rafek (<i>UKM</i>)
Vice-President	:	Mohd Shafeea Leman (<i>UKM</i>)
Secretary	:	Ahmad Tajuddin Ibrahim (<i>UM</i>)
Assistant Secretary	:	Ismail Yusoff (<i>UM</i>)
Treasurer	:	Lee Chai Peng (<i>UM</i>)
Editor	:	Teh Guan Hoe (<i>UM</i>)
Councillors (2-years)	:	Tan Boon Kong (<i>UKM</i>) Liew Kit Kong (<i>PETRONAS Carigali</i>) Abd Rasid Jaapar (<i>Soils & Foundations Sdn. Bhd.</i>) Wan Fuad W Hassan (<i>UKM</i>)
Councillors (1-year)	:	Abdul Rahim Samsudin (<i>UKM</i>) Azmi Yakzan (<i>PRSS</i>) Chow Weng Sum (<i>JMG</i>) Nik Ramli Nik Hassan (<i>Foradex</i>)
Immediate Past President	:	Ibrahim Komoo (<i>UKM</i>)

2. Council Meetings

Council Meetings were held almost monthly throughout the 2001/2002 session. A total of 10 Council Meetings have been held. Attendances of Council Members at these meetings are satisfactory as shown in Appendix 1. Dr. Nik Ramli Nik Hassan was co-opted into the Council to fill up the vacancy for the 1-year councillor.

3. Memberships

The total memberships of the Society as at 31st December 2001 is at 429, showing a very small increase over the previous year's total of 409. The bulk of this increase (18) is from local memberships.

4. Society Activities

The Annual Geological Conference 2001 was successfully held at the Pan Pacific Resort, Pangkor Island, Perak on the 2–3 June 2001. The Organising Committee was chaired by Dr. Mohd Shafeea Leman and the Conference was officiated by an Exco of the Perak State Government representing the YAB Menteri Besar of Perak. A total of 140 participants attended the Conference where 48 papers were presented. This Conference received a total of RM17,000.00 donations with the main donors being the YAB Menteri Besar of Perak, Malaysia Mining Corporation, Esso Production (M) Inc. and Specific Resources Sdn Bhd.

The Annual Petroleum Geology Conference and Exhibition 2001 was held at the Mutiara Hotel, Kuala Lumpur on the 19-20 September 2001. It was officiated by Dato' Lim Haw

Kuang, Chairman of Shell Malaysia. Mr. Nordin Ramli chaired the organizing committee. A total of 24 oral papers and 10 poster papers were presented. 13 companies took part in the exhibition. As usual this Conference was well supported by the petroleum and the related service companies.

The Working Group for the Promotion of Geoscience to the Public also organized a public lecture and a small exhibition for the Southern Zone at the Maktab Rendah Sains MARA, Jasin Malacca on the 13 April 2002 for Secondary Schools from Malacca, Negeri Sembilan as well as from the districts of Northwest Johore. About 700 students and teachers from a total of 30 schools attended the occasion. This event was assisted by the students from the Kelab Geologi Universiti Kebangsaan Malaysia and University of Malaya.

The Society with the cooperation of the various Working Groups, organizations and individuals were able to organize a total of 3 seminars, 1 forum, 15 technical talks and a photographic competition.

5. Publications

The Council regret that the scheduled annual Bulletins and the *Warta Geologi* (Newsletter) have not been coming out on schedule for a number of years now. However the Society published and distributed the Proceeding of the Annual Conference 2001 during this session.

The sales of the publication were better than the previous year. Bulletins 5, 8 and 16 are almost depleted. The Society has already produced the *Geology of the Borneo Island* by Robert Tate in CD form. A Map of Borneo prepared by Mr. Robert Tate was also published. The field guide for Langkawi Island which is in an illustrative brochure form prepared by Dr. C.P. Lee is already with the printer. A calendar for 2002 containing photographs from the past photographic competitions was also printed and distributed to all members. The remaining stock and sales made during the session is as shown in Appendix 4. The Society still continued to maintain a publication exchange with the various professional bodies and libraries from various parts of the world.

6. Acknowledgements

The Society is indeed very much indebted to the generous sponsorships and cooperation received either in kind or otherwise from the many companies, organizations, professional societies, government departments, universities, institutions and individuals. We would like to record our special appreciation to the Head of the Department of Geology, University of Malaya, Kuala Lumpur where the Society is housed and where most of our activities were held. Our thanks also goes especially to all the academic and general staff of the Department of Geology, University of Malaya and the Geology Programme, Universiti Kebangsaan Malaysia, without their support most of the Society activities would not be possible. To all others involved, the Society would like to record our sincere appreciation and would hope for their continued support to help us continue to promote geoscience.

Appendix 1 Attendance of Council Members at Council Meetings

No.	Name	22/5	19/6	17/7	14/8	25/9	30/10	3/1	5/2	5/3	9/4
1	Abdul Ghani Rafek	X	X	X	X	X	X	X	X	X	O
2	Mohd Shafeea Leman	X	X	O	X	X	X	X	X	X	X
3	Ahmad Tajuddin Ibrahim	X	X	X	X	O	X	X	X	X	X
4	Ismail Yusoff	X	X	O	X	X	X	X	X	O	X
5	Lee Chai Peng	X	X	X	X	X	X	X	X	O	X
6	Teh Guan Hoe	X	X	X	X	X	X	X	X	X	X
7	Wan Fuad W Hassan	X	X	O	X	X	X	X	X	X	X
8	Abd Rasid Jaapar	X	O	X	X	X	X	O	X	X	X
9	Liew Kit Kong	X	O	O	O	O	X	X	O	O	O
10	Tan Boon Kong	X	X	X	X	X	X	X	X	X	X
11	Abdul Rahim Samsudin	O	X	O	X	X	X	X	O	X	O
12	Azmi Yakzan	O	O	O	O	O	O	O	O	O	O
13	Chow Weng Sum	X	X	O	X	X	X	O	X	X	X
14	Nik Ramli Nik Hassan	O	X	O	O	X	O	O	X	X	X
15	Ibrahim Komoo	O	O	O	O	O	O	O	O	O	O

Appendix 2 Memberships for 2001

Country	Full	Life	Institutional	Student	Associate	Honorary	Total
Australia	2	11	1	2			16
Brunei	1	1		1			3
Canada		2					2
Europe	3	8	1			1	13
Hong Kong	1						1
Indonesia	2	5					7
Japan	1	1			1		3
Middle East		3					3
Philippines		1					1
Singapore	3	3	1		1		8
Thailand	2	2					4
USA	8	6					14
Malaysia	137	107	8	99	9	3	354
TOTAL	160	150	11	93	11	4	429

Appendix 3

Society Activities 2001/2002

No.	Date	Event/Speaker/Venue
1.	16 May 2001	Technical Talk 1: <i>Malam Jurutera II</i> at the Department of Geology, University of Malaya, Kuala Lumpur.
2.	2-3 June 2001	Conference 1: <i>Annual Geological Conference 2001</i> at the Pan Pacific Resort, Pulau Pangkor, Perak.
3.	18 June 2001	Technical Talk 2: <i>Three Gorges Dam, China</i> by Dr. Lee Chai Peng at the Department of Geology, University of Malaya, Kuala Lumpur.
4.	10 July 2001	Technical Talk 3: <i>Malam S.I.</i> at the Department of Geology, University of Malaya, Kuala Lumpur.
5.	14 July 2001	Seminar 1: <i>Kemajuan Terkini Kaedah Geofizik Kejuruteraan</i> at the Bangunan Geologi, Universiti Kebangsaan Malaysia, Bangi sponsored by Winpower.
6.	8 August 2001	Technical Talk 4: <i>Creation-Evolution Debate: Latest Developments</i> by Dr. Robert Newman, Interdisciplinary Biblical Research Institute, Philadelphia, USA at the Department of Geology, University of Malaya, Kuala Lumpur co-organised with Jabatan Sains & Teknologi UM, Pusat Dialog Peradaban UM and Graduates Christian Fellowship Malaysia.
7.	15 August 2001	Technical Talk 5: <i>Comparative Studies of the Lower Cretaceous Woburn Sands Outcrops (UK) and the Modern and Subsurface Field Analogues for Heterolithic Tidal Sandstones Reservoir Characterisation</i> by Mr. Shuji Yoshida, University of Wyoming USA at the Department of Geology, University of Malaya, Kuala Lumpur.
8.	25 August 2001	Technical Talk 6: <i>Saturday Morning Technical Talks on Young Geologists' Work Experiences</i> at the Department of Geology, University of Malaya, Kuala Lumpur.
9.	14 September 2001	Technical Talk 7: <i>Diamonds</i> by Mr. Lau Yin Leong, GINN-M Corporation Sdn Bhd at the Department of Geology, University of Malaya, Kuala Lumpur.
10.	19-20 September 2001	Conference 2: <i>Petroleum Geology Conference & Exhibition 2001</i> at the Mutiara Hotel, Kuala Lumpur.
11.	24 September 2001	Technical Talk 8: <i>Petroleum Exploration Highlights in the Sedimentary Basins of Libya</i> by Prof. Omar S. Hammuda, Al-Fateh University, Libya at the Department of Geology, University of Malaya, Kuala Lumpur.
12.	1 October 2001	Technical Talk 9: <i>Formation Evaluation While Drilling: Mud Pulse Telemetry, Logging While Drilling and Geosteering</i> by Mr. Alain Boitel, Schlumberger WTA (M) Sdn Bhd at the Department of Geology, University of Malaya, Kuala Lumpur.

Appendix 3 (cont'd)

Society Activities 2001/2002

No.	Date	Event/Speaker/Venue
13.	17 October 2001	Technical Talk 10: <i>Disastrous Shallow Landslide of Granite and Ignimbrite in Japan</i> by Prof. Masahiro Chigira, Kyoto University, Japan at the Department of Geology, University of Malaya, Kuala Lumpur.
14.	23 October 2001	Forum 1: <i>GSM-IEM Forum: Engineering Geology & Geotechnics of Slopes</i> co-organised with Institution of Engineers Malaysia at the Department of Geology, University of Malaya, Kuala Lumpur.
15.	29 October 2001	Technical Talk 11: <i>Thinking "Out of the Box": The Role of the Geologists in Meeting Future Energy Demand</i> by Ms. Robbie Gries, President AAPG at the Department of Geology, University of Malaya, Kuala Lumpur.
16.	10 November 2001	Seminar 2: <i>Seminar On Engineering Geology: Case Histories, assessment & Report Writing</i> co-organised with Institute of Geology Malaysia at the Department of Geology, University of Malaya, Kuala Lumpur.
17.	26 January 2002	Seminar 3: "GSM Postgraduate Seminar" at the Bangunan Geologi, Universiti Kebangsaan Malaysia, Bangi.
18.	31 January 2002	Technical Talk 12: <i>Laboratory Tests for Soils in Landfill Liners</i> by Mr. B.K. Tan at the Department of Geology, University of Malaya, Kuala Lumpur.
19.	6 February 2002	Technical Talk 13: <i>Advanced Geophysical Technique for Site Investigation</i> by Mr. Per-Erik Olsson, ABEM Sweden at the Bangunan Geologi, Universiti Kebangsaan Malaysia, Bangi.
20.	4 March 2002	Technical Talk 14: <i>Predrill Assessment / Prediction of Sandstone Porosity and Permeability in Frontier and Mature Areas</i> by Dr. Salman Bloch (Distinguished AAPG Lecturer), Texaco Upstream Technology, Houston USA at the Department of Geology, University of Malaya, Kuala Lumpur.
21.	26 March 2002	Technical Talk 15: 'Malam Geologis Muda V' at the Department of Geology, University of Malaya, Kuala Lumpur.
22.	30 March 2002	Photographic Competition 2001
23.	13 April 2002	Public Lecture and Exhibition 1: Lecture and exhibition promoting geoscience to the public for the Southern Zone at the Maktab Rendah Sains Mara, Jasin, Malacca.

Appendix 4 Stock of Publications

BULLETIN NO./PUBLICATION	SALES 2001	STOCK REMAINING
2	3	244
3	7	240
4	2	110
5	3	18
6	10	453
7	3	283
8	4	4
11	8	38
13	3	84
16	7	19
17	7	77
18	5	62
19	12	608
20	15	449
21	3	234
22	7	290
23	8	288
24	8	459
25	3	246
26	10	280
27	10	157
28	5	163
29	7	156
30	1	235
31	6	172
32	2	209
33	5	321
34	6	127
35	3	135
36	7	164
37	6	417
41	5	83
Abstracts (Bulletin 6)	0	4
Stratigraphic Correlation	6	221
Rocks and Minerals Poster	14	336
Geological Evolution of SEA (CSH)	11	386
Malaysian Stratigraphic Guide	7	766
Annual Conference 2000 Proceedings	227	179
Annual Conference 2001 Proceedings	433	364
CD Geology of Borneo Island	72	928

* inclusive of free copies to members.

Editor's Report 2001/2002

After experiencing a hard disk crash that required re-input and re-formatting, the voluminous, much-awaited GEOSEA '98 Proceedings is now available. Being 712 pages thick, it is the thickest single bulletin thus far. We now fully handle the graphics for our publications, that includes scanning and retouching. From now onwards a CD version of our publications is available for those interested in electronic publications.

The latest *Warta Geologi*, Vol. 28 No. 1, Jan-Feb 2002 is also available.

Work now is concentrated on bringing out the rest of the Bulletins and *Warta Geologi*, which are all formatted and in the final proof stage.

Throughout the year, the Editorial Subcommittee was kept busy bringing out the following:

- (1) the Annual Geological Conference 2001 Proceedings (held at Pulau Pangkor, 2–3 June 2001)
- (2) the Petroleum Geology Conference & Exhibition 2001 Programme and Abstracts (held on 19–20 September 2001)
- (3) "The Geology of Borneo" CD by Robert Tate
- (4) The ever popular and sought after GSM Calendar 2002
- (5) The "Geology of Langkawi" brochure by Lee Chai Peng (with the printers)
- (6) The Geology of Borneo Map by Robert Tate (with the printers)
- (7) Notices for the Annual Geological Conference 2002, Petroleum Geology Conference & Exhibition 2002 and others.

The GSM Photographic Competition 2001 attracted 29 entries. Photographs from the competition are selected for our calendars.

I am grateful to the strong and dedicated support of members of the Editorial Subcommittee, particularly A.K. Fan and T.F. Ng, who have worked tirelessly through the crash to get the Society's publications back on stream. In addition, the prompt and dedicated contributions of our reviewers of papers are greatly appreciated.

I am also very grateful to the general membership for their foresight in returning the Editor for another term in order to bring the Society's publications up-to-date as well as preserve the standard of our publications.

G.H. Teh
Editor

Honorary Treasurer's Report 2001

The society's nett current asset has increased from RM630,171.30 to RM694,891.62 in 2001. The drop in income from RM 117,421.76 to RM 73,514.58 is due to the apparent drop in donations for the Petroleum Geology Conference in 2001 of which RM67,666.34 was the donations for PGC 2000 which had come in by Dec. 2000 and RM24,356.26 was the donations for the same PGC that came in after Dec. 2000.

The drop in expenditure for 2001 compared to 2000 is from RM 64,409.92 in 2000 to RM 52,797.85 in 2001 is mainly caused by the closing of the Annual Geological Conference 2000 account of RM14,230.53 while the ongoing Annual Geological Conference 2001 account of RM 14,808.69 has not been closed yet and is reflected under Current Assets in the Balance Sheet.

The prepaid printing RM100,000.00 has been returned to the society last year and RM34,000.00 was paid for printing Ann.Geo.Conf. 2000 Proceedings and RM27,200.00 was paid for printing Ann.Geo. Conf. 2001 Proceedings leaving RM38,800.00 under Printing and stationery: Bulletin under Accumulated Fund in the Balance Sheet.

Our fixed assets have increased from RM44,132.45 to RM55,918.30 with the purchase of a LCD projector and notebook.

The excess of income over expenditure for 2001 is RM20,716.73.

We would like to express our thanks to all our generous donors whose contributions have kept the society going and also to our Hon. Auditor, Mr. Lee Sia Fatt for auditing the society's accounts.

Lee Chai Peng
Hon. Treasurer

Notes on accounts

1. Our fixed deposits totalling RM495,734.99 are in Standard Chartered Bank (RM157,811.23), Public Bank (RM172,062.38) and Mayban Finance (RM165,861.38).
2. The items of fixed assets (purchase price in brackets) of the society are:- LCD Projector and computer (RM17,999.00), Macintosh computer and printer (RM 14,450), two earlier Mackintosh computers (RM15,200 and RM26,089), notebook (RM4,900), printer (RM3,303), scanner (RM5,900), photocopy machine (RM3,300).

Your Ultimate Strategic Partner



LEO EF TEM



Leica Imaging Stations



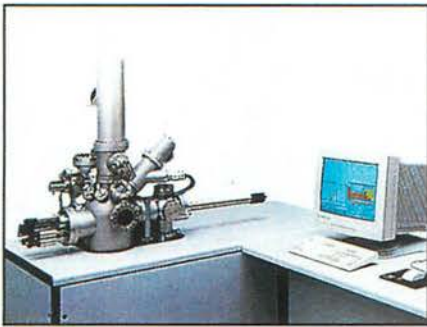
LEO FE SEM



LEO VP SEM



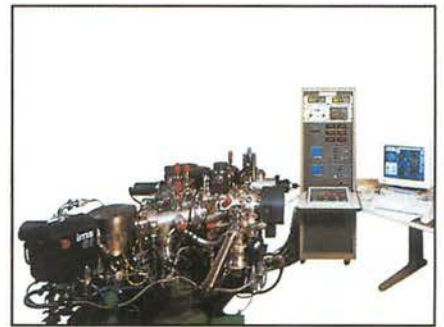
Jenoptik IR Camera


















Cameca TOF SIMS



Cameca EPMA



Cameca Magnetic Sector SIMS

-  Research Optical Microscopy
-  High Frequency Scanning Acoustic Microscopy (SAM)
-  Infrared Thermography
-  Contactless Shaft Measurement System
-  Confocal Laser Scanning Microscopy (CLSM)
-  Scanning Electron Microscopy (SEM, VP SEM, FE SEM)
-  Energy Filtered Transmission Electron Microscopy (EF TEM)
-  X-Ray Microanalysis System (EDX, WDX)
-  Focused Ion Beam System (FIB)
-  Optical Defect Inspection and Review Stations (DRT)
-  Secondary Ion Mass Spectrometry (SIMS)
-  Electron Probe Microanalysis (EPMA)
-  Vacuum Technology (Pumps, Leak Detectors, Components)
-  Cytogenetic and Material Workstations
-  Imaging Processing and Analysis (IA)

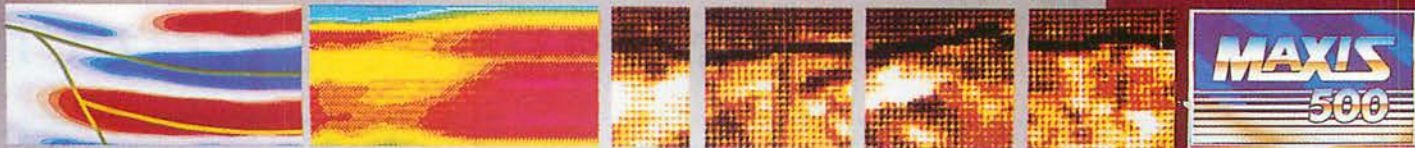


HI - TECH INSTRUMENTS SDN BHD (388534-U)

Head Office : 9A, Jalan USJ 11/3, 47620 UEP Subang Jaya, Selangor Darul Ehsan, Malaysia.
Tel : 603-737 0980 Fax : 603-737 0950 Home page: <http://www.htiweb.com>

Penang Branch : 29, Lorong Helang Dua, Desa Permai Indah, 11900 Pulau Pinang, Malaysia.
Tel : 604-659 9152/153 Fax : 604-659 9154

E-mail : sales@htimail.com.my service@htimail.com.my



Schlumberger's New Fullbore Formation MicroImager Doubles Your Coverage With Core-Like Clarity

The FMI* fullbore electrical imaging tool makes evaluation of complex reservoirs simpler and quicker than ever before. Its 192 microelectrical sensors give you twice the coverage of previous tools and improved spatial resolution, to 0.2 inches.

The fullbore images enable direct structural analysis and characterization of sedimentary bodies even in extremely complex sequences. The fine detail provided by FMI images allows determination of paleocurrents and rock anisotropy, including the recognition of permeability barriers and paths. And determination of net-to-gross ratio in thin bed sand/shale sequences is automatic.

Understanding the internal structure of the rock can confirm hypotheses regarding its geological evolution and can provide valuable clues to geologists and engineers regarding local porosity and permeability changes. This is possible with the enhanced textural analysis from the new high-resolution sensors, as well as detailed evaluation of fracture networks and other secondary porosity.

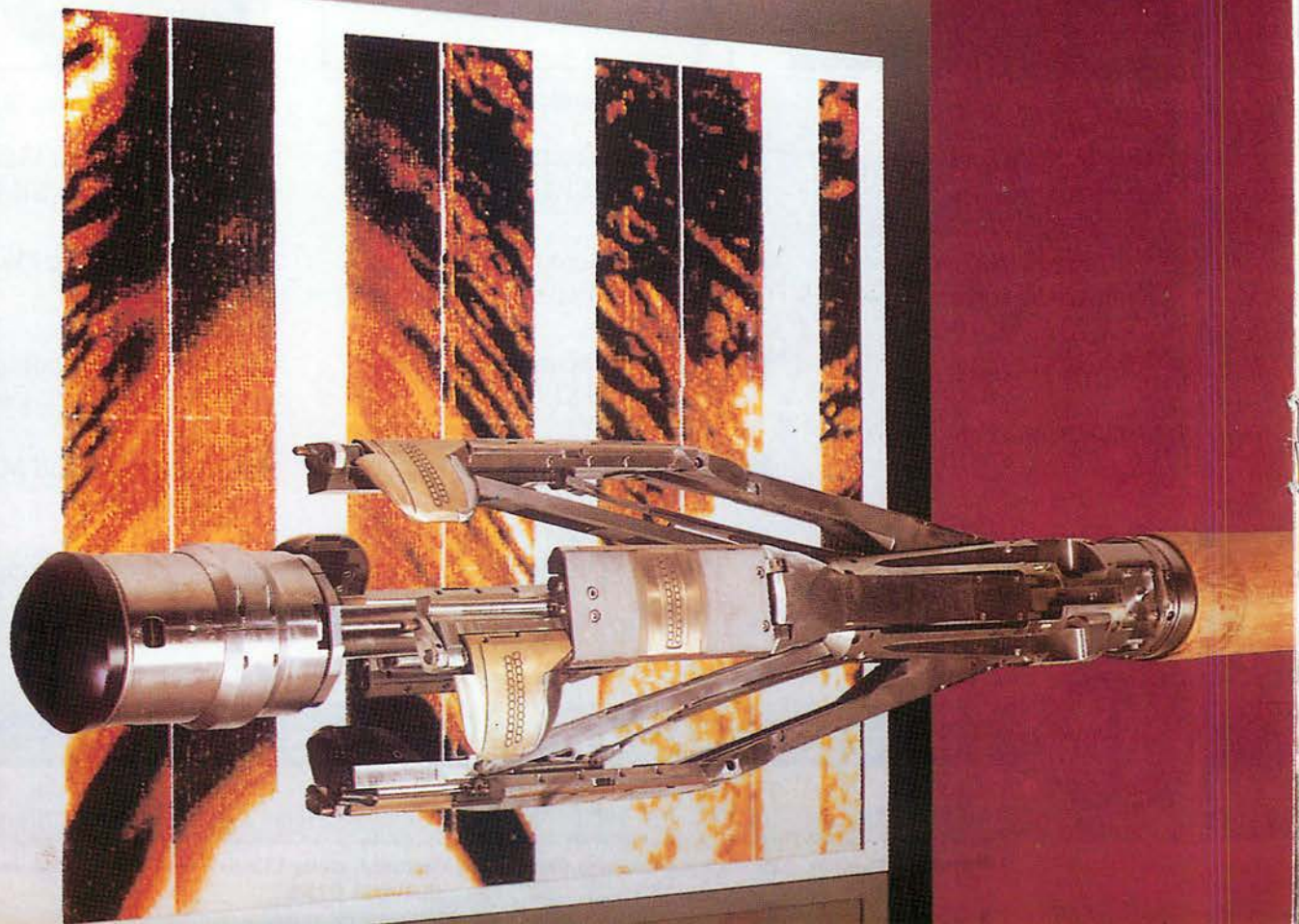
Ask to see an example of the new FMI log. You'll be looking at the clearest, most complete picture of the rock available today.

Schlumberger (Malaysia) Sdn Bhd., 7th & 8th Floor, Rohas Perkasa
No. 8, Jalan Perak, 50450 Kuala Lumpur.
Tel: (03) 2667788. Fax: (03) 2667800.

Schlumberger

Value is the difference.

* Mark of Schlumberger—the FMI tool is a MAXIS 500* tool





The Schlumberger Ultrasonic Borehole Imager Detects Openhole Problems and Fractures, Even in Oil-Base Muds.

Accurate, high-resolution, acoustic measurements by the UBI* Ultrasonic Borehole Imager let you examine an openhole for stability problems, deformation and fractures when nonconductive, oil-base muds prevent resistivity measurements. On the same trip, the UBI rotating transducer can check for corrosion and mechanical wear of the internal surface of the casing as the tool is pulled out of the hole.

No other borehole measurement gives you the thin-bed resolution you get with the UBI tool. The images, cross-section plots and pseudo-3D "spiral" plots generated from UBI measurements also reveal keyseats, breakouts, shear sliding and shale alteration to help you avoid the added drilling costs that result from stuck pipe and lost time or equipment. In addition, you get horizontal stress information for mechanical properties evaluations to predict breakouts and perforation stability in unconsolidated sands.

Talk to your Schlumberger representative about detecting openhole problems and fractures acoustically, even in oil-base muds. What UBI images show you could save you time, expense or possibly your well.

Schlumberger (Malaysia) Sdn Bhd., 7th & 8th Floor, Rohas Perkasa No. 8, Jalan Perak, 50450 Kuala Lumpur.
Tel: (03) 2667788. Fax: (03) 2667800.

Schlumberger

Value is the difference.

Mark of Schlumberger—the UBI tool is a MAXIS 500 tool



VERITAS IS MAKING A
DEEP IMPACT...



... WITH **PRE-STACK
DEPTH MIGRATION**

**VERITAS' NEW MENTOR ALGORITHM FOR
VELOCITY MODEL BUILDING**



VERITAS
Geophysical Integrity

www.veritas.dgc.com

Brisbane

Tel: +61 7 3858 1800

Fax: +61 7 3858 1888

Malaysia

Tel: +60 3 382 1100

Fax: +60 3 382 1122

Singapore

Tel: +65 258 1221

Fax: +65 258 0989

Jakarta

Tel: +62 21 252 2240

Fax: +62 21 252 2245

**Auditors' Report to the Members of
Persatuan Geologi Malaysia
(Geological Society of Malaysia)**

We have audited the financial statements in accordance with approved auditing standards.

In our opinion, the financial statements give a true and fair view of the state of affairs of the Society as at 31st December 2001 and of its income and expenditure and receipts and payments for the year ended on that date.

Signed

S.F. LEE & CO.

(AF: 0670)

Public Accountants

5-3, Udarama Complex

Jalan 1/64A, Off Jalan Ipoh

50350 Kuala Lumpur

Signed

LEE SIEW FATT

(1179/9/00J)

Public Accountant

Kuala Lumpur

Date: 22 April 2002

PERSATUAN GEOLOGI MALAYSIA
(Geological Society of Malaysia)

Statement of Income and Expenditure for the Year Ended 31st December 2001

Dear Members,

I have great pleasure in presenting my report on the Income and Expenditure Statement for our Society for the year ended 31st December 2001.

INCOME	2001	2000
	RM	RM
Entrance fees	390.00	500.00
Interest on fixed deposits	27,524.77	23,101.35
Subscriptions	15,690.21	13,653.69
Sales of publications	2,016.57	2,588.62
Petroleum Geology Conference 2000	24,356.26	67,666.34
Xerox	171.99	1,434.68
Annual Geological Conference 2000	2,704.78	8,050.00
Printing & Stationery	-	60.00
Bank charges	-	349.08
CD	660.00	-
Souvenirs	-	18.00
Total income	73,514.58	117,421.76
LESS: EXPENDITURE		
Audit fee	500.00	500.00
Annual dinner	2,126.11	1,360.40
Annual Conference	-	14,230.53
Bank charges	190.17	-
Honorarium	17,914.00	10,570.00
Postage	3,697.44	2,120.57
Geoscience Promotion	-	3,880.40
Printing and Stationery:		
— Miscellaneous	8,346.20	12,977.60
— Warta Geologi	19.80	6,160.00
Refreshments	1,461.80	1,252.00
Working groups	747.60	2,118.42
Photo competition	2,600.00	-
Langkawi project	68.00	-
Professional fee	250.00	-
Sundry expenses	2,735.70	922.70
Speakers' account	2,853.68	2,145.48
Subscription: Professional bodies	200.00	-
Souvenirs	871.00	-
Telephone	771.05	738.71
Telefax	1,232.15	564.42
Depreciation on plant and equipment	6,210.00	4,900.11
Total expenditure	52,794.70	64,441.34
SURPLUS/DEFICIT FOR THE YEAR:	20,719.88	52,980.42

PERSATUAN GEOLOGI MALAYSIA
(Geological Society of Malaysia)

Balance Sheet As At 31st December 2001

	2001 RM	2000 RM
PLANT AND EQUIPMENT	55,889.95	44,100.95
CURRENT ASSETS		
Sundry deposit and prepayment	76,970.52	43,509.80
Fixed deposits with licensed banks	495,734.99	495,734.99
Cash and bank balances	66,267.81	46,793.79
	638,973.32	586,038.58
NETT CURRENT ASSETS	638,973.32	586,038.58
	694,863.27	630,139.53
FINANCED BY:		
ACCUMULATED FUND		
Balance brought forward	623,796.70	570,816.28
Surplus/Deficit for the year	20,719.88	52,980.42
	644,516.58	623,796.70
Young Geoscientist Award	3,142.83	3,142.83
Printing and stationery: Bulletin	38,800.00	-
Student loan	15.36	-
Evaluation Formation Working Group	8,388.50	3,200.00
	694,863.27	630,139.53

Council for 2002/2003

President	:	Abd. Ghani Rafek (UKM)
Vice-President	:	Mohd Shafeea Leman (UKM)
Secretary	:	Ahmad Tajuddin Ibrahim (UM)
Assistant Secretary	:	Ismail Yusoff (UM)
Treasurer	:	Lee Chai Peng (UM)
Editor	:	Teh Guan Hoe (UM)
Councillors (2-year)	:	Abdul Rahim Samsudin (UKM) Chow Weng Sum (JMG) Nik Ramli Nik Hassan (Foradex) Ibrahim Abdullah (UKM)
Councillors (1-years)	:	Tan Boon Kong (UKM) Liew Kit Kong (PETRONAS Carigali) Abd Rasid Jaapar (Consultant) Wan Fuad W Hassan (UKM)
Immediate Past President	:	Ibrahim Komoo (UKM)

BERITA-BERITA PERSATUAN News of the Society

KEAHLIAN (Membership)

The following applications for membership were approved:

Full Members

- | | |
|---|---|
| 1. Marinus Corstane
Environ Consulting Services (M) Sdn. Bhd.,
A307 Phileo Damansara 2, 15 Jalan 16/11
off Jalan Damansara, 46350 Petaling Jaya. | 2. Zamzuri Zakaria
No. 3, BK 4/1B, Bandar Kinrara, 47100
Puchong. |
|---|---|

Student Members

- | | |
|---|--|
| 1. Tarek Abubaker Othman
Jabatan Geologi, Universiti Malaya, 50603
Kuala Lumpur. | 4. Tunku Mohd Nasri Tunku Makmur
Nizamuddin
Jabatan Geologi, Universiti Malaya, 50603
Kuala Lumpur. |
| 2. S. Norizan Yaacob
Program Geologi, Fakulti Sains dan
Sumber Alam, UKM Bangi. | 5. Nur Azah binti Zulkifly
Jabatan Geologi, Universiti Malaya, 50603
Kuala Lumpur. |
| 3. Norhasfiza bt. Zainal
Program Geologi, Fakulti Sains dan
Sumber Alam, UKM Bangi. | |

GSM

PETUKARAN ALAMAT (Change of Address)

The following members have informed the Society of their new addresses:

- | | |
|--|--|
| 1. Andrew J.K. Chan
Sarawak Shell Berhad, Locked Bag No. 1,
98009 Miri, Sarawak. | 3. Anyi Ngau
Shell Asia-Pacific Evaluation Services, 200,
North Diary Ashford, Houston, Texas
77079, United State of America. |
| 2. H.D. Tjia
No. 13 Jalan P8 B/3, 62250 Putrajaya. | |

GSM

PERTAMBAHAN BAHARU PERPUSTAKAAN (New Library Additions)

The Society has received the following publications:

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. AAPG Bulletin vol. 85 no. 12, 2001, vol. 86, no. 1 & 2, 2002. 2. Geological Survey of Japan, vol. 52, nos. 6/7, 2001. 3. CCOP Technical Bulletin, vol. 30, 2001. 4. AAPG Explorer, Jan & Feb 2002. 5. Geoscience Journal, vol. 5, no. 4, 2001. 6. TIN International, vol. 74, no. 10, 2002. 7. Biostratigraphy of the Mikulino interglacial sediments in New Russia: the petrozavodsk site & a literature review by L. Ikonen & I. Ekman, 2001. 8. Berliner geowissenschaftliche Abhandlungen, Reihe A, Band 203 (1999); Band 206–208 (2000); Band 209–210 (2001). 9. AAPG Explorer, March 2002. | <ol style="list-style-type: none"> 10. Statistics on mining industry, 1999 & 2000. 11. AAPG Bulletin, vol. 86, no. 3, 2002. 12. Scripta Geologica, special issue no. 3 (1999); no. 122 (2001), no. 123 (2002). 13. Geological Survey of Japan, Bulletin, vol. 52, nos. 8 & 9, 2001. 14. Acta Geoscientia Sinica, vol. 23, no. 1 (2002); vol. 22, nos. 5 & 6 (2001). 15. Journal of Shijiazhuang, University of Economics, vol. 24, nos. 4–6, 2001. 16. Geoscience, vol. 15, no. 4, 2001. 17. Earth Science Frontiers, vol. 8, nos. 3 & 4 (2001). 18. National Science Museum, Bull. vol. 27, nos. 3 & 4 (2001). 19. USGS Prof. Paper 2001: nos. 1643. |
|---|---|

GSM

PHOTOGRAPHIC COMPETITION 2001 RESULTS

An encouraging total of 29 entries were received (from the initial 12 when the earlier closing date was enforced). The quality of photographs was satisfactory. The 3 judges on 16 April 2002 agreed on the following prize winners:

1st Prize	(RM1,000)	—	Othman Ali Mahmud
2nd Prize	(RM500)	—	Leong Chun Hong
3rd Prize	(RM300)	—	Lee Chai Peng

Consolation Prize (RM100 each):

1. Yong Kock Hui	2. Leong Chun Hong
3. Lee Chai Peng	4. Meor Hakif
5. Goh Seng Hong	

G.H. Teh
Organiser

BERITA-BERITA LAIN

Other News

3rd International Conference on Landslides, Slope Stability & The Safety of Infra-Structures

11-12 July, 2002

Hotel New Otani, Singapore

in conjunction with the Conference,

a Pre-Conference One-Day **WORKSHOP** on
"Landslide Causes and Landslide Remediation"

10 July 2002, Hotel New Otani, Singapore

Organised by:

- **CI-Premier Conference Organisation, Singapore**

Landslides are frequently responsible for considerable losses of both money and lives, and the severity of the landslide problem worsens with increased urban development and change in land use. A wealth of experience has been accumulated in recent years in understanding, recognition and treatment of landslide hazards but our knowledge is still fragmentary. Particular area requiring attention concerns the selection and design of appropriate, cost-effective remedial measures, which in turn require a clear understanding of the conditions and processes that caused the landslide.

Given this understanding it is not surprising that landslides are rapidly becoming the focus of major scientific research, engineering study and practices, and land-use policy throughout the world. Thus, it is a time to look forward and to reflect on the past.

The 3rd International Conference on Landslides, Slope Stability & the Safety of Infrastructures is intending to provoke a reflection of our past, and at the same time initiate visions of the future. Case histories are an important part of the journey on which we have travelled. Our progress into the future will depend partly on research and innovation.

Most of the conference papers provide a good balance between geotechnical, geological and geoenvironmental theoretical and practical aspects of landslide investigation and control. After reviewing the abstracts and manuscripts of more than 100 papers from some 39 countries, a total of 60 papers has been accepted for presentation at the conference and publication in the proceedings volume (which carries an ISBN reference). They have been grouped under the following main themes:

1. Geological investigation of landslides
2. Observational methods and monitoring
3. Shear strength parameters and their measurement
4. Limit equilibrium slope stability analysis
5. Deformation slope stability analysis
6. Back analysis of slope failures
7. Landslide risk and hazard zonation
8. Effects of rainfall and groundwater
9. Effects of seismicity
10. Landslide stabilization and remedial measures
11. Case studies

The aim of the Conference is to provide an opportunity for engineers and scientists working in the field of slope instability and remediation

to meet and to present new ideas, achievements and experiences. It will serve as a meeting place for the development of closer links among researchers and practitioners.

CONFERENCE SCHEDULE

10 July, Wednesday, 2002

1630 – 1830: Conference early registration, Somerset Maugham Room, Level 6, Hotel New Otani, 177A River Valley Road, Singapore (Tel: Billy Yeo at 6338-3333 and Ms Peggy Teo at 6733-2922).

1830 – 1930: Conference welcome cocktail for speakers, committee and invited guests.

11 July, Thursday, 2002

0800 – 0900: Conference registration at Ballroom Foyer, Level 6, Hotel New Otani, Singapore

0900 – 1730: Conference Opening Session, keynote lectures, special & general sessions (with AM & PM refreshments & lunch)

1900 – 2200: Conference Dinner (registration fee includes dinner invitation)

12 July, Friday 2002

0900 – 1730: Conference continues, with keynote lectures, special & general sessions (with AM & PM refreshments & lunch)

0730: Adjournment of Conference

The conference is privileged to have received the following keynote papers:

Keynote Papers

- A.S. Al-Homoud, American University of Sharjah, UAE
 - ◇ *Evaluating soil shear strengths from back analysis of cut slope and landslide failures*
- H. Brandl, Technical University of Wien, Austria
 - ◇ *Infrastructure projects in Landslide-prone areas*
- R. Chowdhury, University of Wollongong, Australia
 - ◇ *Title to be advised*
- H.A. Faisal, University of Malaya, Malaysia
 - ◇ *Title to be advised*

- K.T. Law, Carleton University, Canada
 - ◇ *Recompacted loose fill slopes — performance and issues*
- Mihail Popescu, Illinois Institute of Technology, USA
 - ◇ *Landslide causal factors and remediation options*

Special Sessions

5 Special Sessions on the following topics would be incorporated into the Conference programme:

- ◆ “Shear Strength Parameters”
chaired by A. Al-Homoud, UAE
- ◆ “Prediction of Time of failure”
chaired by A. Federico, Italy
- ◆ “Back Analysis of slope failures”
chaired by V.R. Schaefer, USA
- ◆ “Deformation of slopes”
chaired by K. Ugai, Japan
- ◆ “Limit Equilibrium”
chaired by T. Yamagami, Japan

Technical Papers

The conference had attracted more than 100 abstracts from 30 countries, and a selection of these are as follows:-

- S. Akbulut, Turkey
 - ◇ *Hydraulic conductivity of sand-clay mixtures*
 - ◇ *Improving of shear strength of natural clay liners from clay deposits NE Turkey*
- D.D. Akhmedov, Tajikistan
 - ◇ *The strengthening of slopes prone to landslides made of loess collapsible soil*
- A.S. Al-Homoud, United Arab Emirates
 - ◇ *Probabilistic seismic stability and induced displacement of earth slopes under short term conditions*
 - ◇ *Probabilistic three dimensional slope stability analysis of embankments founded on soft clays*
 - ◇ *Effect of Mineralogical composition on engineering behaviour of weak clayey beds causing foundation failures*
 - ◇ *Correlation between shear strength parameters and simple soil indices of problematic soils causing landslides along major highways in Jordan*
 - ◇ *Effect of plasticity and compaction condition on strength of compacted soil materials*
 - ◇ *Evaluating soil shear strengths from back analysis of cut slope and landslide failures*

- G. Amatruda, Italy
 - ◇ *Fracture mechanics approach to the numerical simulation of a rock fall*
- H. Arman, Turkey
 - ◇ *Application of ground improvement methods in Adapazari City after August 17, 1999 Mamara Earthquake in Turkey*
- O. Arzikulova, Uzbekistan
 - ◇ *Waves in stratified media with curvilinear boundaries caused by seismic processes*
- A.D. Barley, United Kingdom
 - ◇ *Stabilisation of a deep cut-slope by use of shotcrete, soil-nails and multiple anchors*
- H. Bendadouche, Algeria
 - ◇ *Confortement by a fill of foot*
 - ◇ *Risks of landslide: monitoring and prevention*
- G. Bhattacharya, India
 - ◇ *Search algorithm for minimum reliability index of earth slopes*
- S. Bomont, France
 - ◇ *Two sliding zone dealing with siphon drains solution*
- R. Brown, Australia
 - ◇ *Protection and repair of roads in mountainous terrain*
- F. Cai, Japan
 - ◇ *Comparisons between limit equilibrium method and finite element method of slope stability analysis*
 - ◇ *Some aspects of finite element analysis of rainfall effects on slope stability*
- Y.M. Cheng, Hong Kong SAR
 - ◇ *Use of optimization method in slope stability analysis*
- J. Chu, Singapore
 - ◇ *Interpretation of granular slope failure: drained or undrained*
- C.M. Corcoran, Hong Kong SAR
 - ◇ *The use of automated continuous piezometer data in slope stability analyses in Hong Kong*
- D. Dey, Bhutan
 - ◇ *An approach model on landslide ecology in correlation to vegetation dynamics and pattern: observations from slide prone areas of eastern Himalayas*
- J.S. Fang, Taiwan
 - ◇ *Stabilisation and monitoring of a cut slope in weathered sandstone*
- K. Farooq, Japan
 - ◇ *Mechanism of rain-induced failure in sandy slope based on field stress path*
- A. Federico, Italy
 - ◇ *The prediction of the time to slope failure — state of the art*
- X. Feng, China
 - ◇ *A research on the surveying plan to slope-slide and rock-collapse in Three Gorges Reservoir Region of Yangtze River*
- S. Firat, Turkey
 - ◇ *FOS convergence investigation in using Gauss Quadrature instead of method of slices*
 - ◇ *Landslides of Hacimercan and its stabilisation by using piles — a case study*
- T. Fukuzono, Japan
 - ◇ *Deformation and fracture mechanism of a slope by heavy rainfall*
- K. Gavin, Ireland
 - ◇ *Slope stability failure in glacial till at Oola Bank*
- M.H. Ghobadi, Iran
 - ◇ *The relationship between durability and lithology in rock slopes instability assessment (case study)*
- Z. Gunduz, turkey
 - ◇ *Indexes of compression and recompression of high plasticity clays under isotropic stress*
- B. Han, China
 - ◇ *Studies on cut slope stability caused by variation of groundwater level*
- M. Hashemi, Iran
 - ◇ *The engineering geology investigation along the Khadangestan Water Conveyancy Tunnel, Central Iran*
 - ◇ *An investigation on slope stability for a part of Khadangestan Water Conveyancy Tunnel, Central Iran*
- Y.A. Hegazy, USA
 - ◇ *Measured versus estimated anchor pull-out resistance in soil & rock*
- C.W. Hsieh, Taiwan
 - ◇ *The effect of load plate rigidity on the frictional behaviour at sand/geomembrane interfaces*
- C.L. Hsu, Taiwan
 - ◇ *The influence of reservoir storage water level exchange on slope stability problem*
- O.G. Ingles, Australia
 - ◇ *The effect of dredging on the stability of riverbank levees*
- M. Jao, USA
 - ◇ *Effect of slope on strip footing behaviour*
- S. Jaritngam, Thailand
 - ◇ *Neural networks: a tool for the slope stability analysis*

- W.D. Jiang, China
 - ◇ Remediation and monitoring in the number 2 tailing dam of Dexing copper mine, China
- J.C. Jiang, Japan
 - ◇ Back analysis of strength parameters from slope failure along a weak layer
 - ◇ Search for critical slip surface based on three-dimensional Spencer method
- I. Jworchan, Australia
 - ◇ Triaxial Testing of residual soil
- D.P. Katale, Zimbabwe
 - ◇ Artificial neural network in the analysis of slope stability
- M. Khandelwal, India
 - ◇ A numerical approach to prediction of stability of a compound slope
 - ◇ A computational approach to analyse stability of natural compound slope of Uttarkashi Region, India
- H. Kimura, Japan
 - ◇ A new displacement-based design method for a new remedy of rope nets and rock bolts to stabilise natural slopes
- S.A.S. Kulathilaka, Sri Lanka
 - ◇ Development of analytical and physical models to study the effectiveness of soil nailing technique for the stabilisation of slopes in Sri Lanka
 - ◇ Dependence of the probabilistic evaluation of slopes stability on the deterministic model
- S.R. Lee, South Korea
 - ◇ Estimation of unsaturated shear strength by a hyperbolic formulation
- S. Lenart, Slovenia
 - ◇ Seismic analysis of the Stoze Landslide
- H.D. Liu, China
 - ◇ New method for forecasting occurrence of slope failure
- T.H. Low, Malaysia
 - ◇ Slope movement related distresses in housing project
- J.N. Mandal, India
 - ◇ Safer approach to limit state design of reinforced slopes considering uniform distribution
- S. Mohammadi, Iran
 - ◇ Adaptive shear band slope stability analysis
- H. Nagatani, Japan
 - ◇ Centrifuge static inclination model test on seismic stability of embankment slopes
- E. Nama, United Kingdom
 - ◇ Climate impact on slope failure on Mount Cameroon, Cameroon — cause or trigger
- T. Nishimura, Japan
 - ◇ Causes of landslides on the slopes of Mount Cameroon, Cameroon, West Africa
- H. Omar, Malaysia
 - ◇ Attempt on cone penetration test for an unsaturated silty soil in laboratory
- H. Omar, Malaysia
 - ◇ Geological factors contributing to slope failure — Pos Selim Highway case study
- R.P. Orense, Japan
 - ◇ Laboratory experiments on model sandy slopes subjected to rainwater infiltration
- T. Papaliangas, Greece
 - ◇ Analysis and stabilisation measures of a cut slope in schist
- S. Qazi, Bhutan
 - ◇ Study of natural disaster due to landslide in Bhutan Himalaya and impact on biodiversity and economy
- E.S. Rao, India
 - ◇ Landslide control with special reference to Himalayan Region
- S. Roostaeei, Iran
 - ◇ Analysis of the role of gully erosion in slope instability of the northern slopes of Arasbaran mountains — Iran
- Y.F. Ruan, China
 - ◇ The application of gray system in the prediction of landslide and deformation
- P.D. Sabale, India
 - ◇ Landsliding in Ane-Malshej Ghat section in Deccan Trap Basalt of Maharashtra, India
- S. Saha, India
 - ◇ Numerical simulation of stability analysis of slopes
- B.S. Sarraf, Iran
 - ◇ A research on slope instability in Seyedlar, Iran
- C. Scavia, Italy
 - ◇ Prediction of a rock avalanche run-out through numerical modelling
- V. Schaefer, USA
 - ◇ Back analysis of slopes in Pierre Shale
- A. Shirley, Australia
 - ◇ Building in areas of landslips, subsidence and rockfall
- M.T. Simbuwa, Zambia
 - ◇ Investigation into an approaching face in till
- T.N. Singh, India
 - ◇ Landslide hazard and risk assessment using

fuzzy

- M. Subic-Abd Rahman, Malaysia
 - ◊ *Slope stabilisation by bio-technical net*
- H.W. Sun, Hong Kong SAR
 - ◊ *Failures of sheeting joints in Hong Kong*
 - ◊ *Observations from some recent case histories of fill slope failures in Hong Kong*
- P. Thongthiengdee, Thailand
 - ◊ *Slope failure along Chumpae-Lomsak Highway, Thailand*
- B. Tiwari, Japan
 - ◊ *Mechanism of shear zone formation and its effect in residual shear strength*
- D.P. Tripathy, India
 - ◊ *Slope stability analysis in open cast mines*
- G.R. Tuladhar, Japan
 - ◊ *Impact in residual shear strength due to the inappropriate sampling location during the stability analysis of landslides*
- K. Ugai, Japan
 - ◊ *Three-dimensional finite element analysis of landslide prevention piles*
- B. Whiteley, Australia
 - ◊ *Application of advanced geophysical technologies to subsurface investigation of landslides and unstable slopes*
- A.K. Wickramasooriya, Sri Lanka
 - ◊ *GIS applications for landslides inventory and hazard zonation mapping in Sri Lanka*
- T. Yamagami, Japan
 - ◊ *A limit equilibrium stability analysis of slopes with two rows of stabilising walls*
 - ◊ *LEM-based progressive failure analysis technique and its application to slopes with nails*
- T. Yamamoto, Japan
 - ◊ *Slope disasters induced by the 2001 Geiyo Earthquakes*
- M.S. Yucemen, Turkey
 - ◊ *Seismic safety of earth slopes: a random field model*

CONFERENCE SECRETARIAT:

CI-PREMIER PTE LTD
 150 Orchard Road #07-14
 Orchard Plaza
 Singapore 238841
 Tel: (065) 6733-2922
 Fax: (065) 6235-3530
 E-mail: cipremie@singnet.com.sg
 Web: <http://www.cipremier.com>

Pre-Conference Workshop on 'Landslide Causes to Landslide Remediation'

10 July, 2002 (Wednesday)

WORKSHOP SCHEDULE

- 0800 – 0900: Registration for Workshop, Hotel New Otani, 177A River Valley Road, Singapore (Tel: Mr. Billy Yeo at 6338-3333 or Ms Peggy Teo at 6733-2922)
- 0900 – 0905: Welcome Remarks
- 0905 – 1010: Lecture 1
- 1010 – 1040: Refreshment
- 1040 – 1145: Lecture 2
- 1145 – 1230: Guest Lecture
- 1230 – 1400: Lunch
- 1400 – 1510: Lecture 3
- 1510 – 1630: Discussion — Q & A
 (Participants are invited to send (to the Secretariat) questions or problems even before the Workshop so that Prof. Popescu may have some time to develop better answers to the questions)
- 1630: Closing Remarks
 Afternoon refreshments
 Adjournment

The topics of the lectures would cover:

- Preparatory and triggering causal factors
- Relationship between causation and remediation in coping with landslides
- Remedial measures: modification of geometry, drainage, retaining structures and internal reinforcement

FEEES

- Registration fee (conference only) S\$720.00
- Registration fee (workshop only) S\$375.00
- Registration fees S\$1,000.00
 (conference & workshop)
- Conference dinner (guest) S\$60.00
- Conference reception (guest) S\$50.00

The full conference fee includes an invitation to conference dinner. All fees should be made payable to **CI-PREMIER PTE LTD**.

RISK MANAGEMENT FOR OIL & GAS CONFERENCE

August 27–29, 2002

Mandarin Oriental, Kuala Lumpur, Malaysia

Over the recent years, there have been a number of major changes in the Asian oil & gas industry that has changed the landscape of the sector. As a result, companies are increasingly adopting a market-driven approach to ensure investment risks, market risks, and contract risks are managed and mitigated. Risk management has become part of corporate top development strategies.

Whatever your company size, factors such as price volatility, political uncertainty, competitive business situation, and regulatory environment will influence your decision-making. How will an effective risk assessment management strategy impact on your projects and business activities in the region? In increasingly uncertain times, implementing effective risk management strategy and portfolio optimization techniques will help you make the right investment and expansion decision.

The conference will provide you with the opportunity to uncover how to:

- Manage Corporate risk for oil & gas enterprises
- Develop a framework to assess and manage risk based on risk management standards
- Understand contract risks for JV investment for oil and gas projects
- Integrate risk management into corporate development strategy
- Use knowledge management to reduce corporate risk
- Manage prices risk for oil & gas
- Use real options and its application into oil and gas sector

DRAFT PROGRAMME

- Applying the risk management standard to develop a framework to assess and manage risks
- Spreading the risk and increasing the reward through a portfolio approach
- Integrated risk management: from concept to a strategic management process
- Identifying key risks: what your company needs to analyze and manage?
- Understanding and managing exploration

and development risk

- Understanding real options and their role within decision making
- Managing risk in oil & gas sectors
- Raising capital and structuring your projects
- Managing offshore oil & gas projects risk — the role of a sound insurance programme
- Enterprise-wide risk management
- Methods of allocating risk
- Contract risk management for oil & gas industry
- Information technologies for support of enterprise risk management
- How to integrate risk management into your operational plan
- Building risk management architecture: from concept for reality
- Using knowledge management to manage risk
- Overview of Asian oil & gas market

POST CONFERENCE WORKSHOP ON 29 AUGUST 2002

- A. Decision & risk analysis
- B. Using information system to support risk management

FEES

- Two day conference only

Discount Price	US\$1,179
Normal Price	US\$1,279
- Two day conference + one workshop

Discount Price	US\$1,579
Normal Price	US\$1,679
- Two day conference + two workshops

Discount Price	US\$1,979
Normal price	S\$2,079
- Each Workshop

Normal price	US\$449
--------------	---------

FOR ENQUIRIES:

IQPC Worldwide Pte. Ltd.

Conf Code: IA514 (quoting AA)

Please return to:

Tel: (65) 6325 6330 or Fax: (65) 6224 2515 or
e-mail: enquire@iqpc.com.sg

5th International Symposium on Andean Geodynamics

Université P. Sabatier Toulouse France,
16-18 Sept., 2002



The Fifth International Symposium on Andean Geodynamics — ISAG 02 will be held in Toulouse, France, on September 16 to 18, 2002. It is convened by the Institut de Recherche pour le Développement - IRD (Paris, France) and the Paul Sabatier University of Toulouse.

Objectives: Following the earlier ISAG-meetings held in Grenoble, Oxford, St. Malo and Göttingen, the 5th ISAG will provide a new opportunity for geoscientists from all fields to present and discuss recent results on the Andes from Venezuela to Southern Chile. Contributions are sought from earth scientists interested in processes related to Andean genesis and geodynamics and their economic and social implications. We specially encourage contributions addressing (1) the chronological constraints and sedimentary, climatic and environmental record of Andean uplift, and (2) interactions between deformations, relief creation, climate, sedimentation and lithospheric processes.

Abstracts: All abstracts must be in English.

Registration fees: Euros 140 (\$US150, £95), until March 1st 2002; Euros 190 (\$US190, £120) after this date. Student: Euros 70 (\$US75, £45).

Informations for contributors: The 5th ISAG will be joined with the 3rd Meeting on Stratigraphy and Paleontology of South America. Informations regarding the 3 days pre-symposium and one day post-symposium field trips will be provided in the 2nd circular.

Correspondence and enquiries:

*ISAG, IRD, LMTG, 38 Rue des 36 Ponts,
31000 Toulouse, France.*
Patrice Baby, Gérard Hérial, Alain Lavenue
e-mail: ISAG@cict.fr



Eni — AGIP, EAGE-SEG Italian Section,
Vrije Universiteit Amsterdam,
University of Parma, University Roma TRE

**Modelling Reality,
The Reality of Modelling
Tectonics and Exploration
Geophysics
versus
Analogue and Numerical
Models**

San Donato Milanese (Italy)

2-4 October 2002

FIRST CIRCULAR

WHY?

Modelling, both analogue and numerical, is acquiring an increasingly important role in Academy as well as in Industry. Detailed and powerful predictions are required to efficiently guide research, both applied and basic. With progressing techniques and increasing computing power, models become more sophisticated and, thereby, crucially dependent on the quality of their input data and on the way natural processes are described. Such knowledge comes from the observation of natural settings. 3-D seismics, for instance, is providing completely new insights.

Exciting developments are taking place in these fields with new ideas being developed as to relations between tectonics and erosion/

sedimentation, thermal evolution of continental rifts, stress fields and fractures and many others. To present the most recent progresses in these fields, discuss outstanding issues and trace avenues for future developments we launch the REALMOD international conference

**Modelling Reality,
the Reality of Modelling:
Tectonics and Exploration Geophysics
versus
Analogue and Numerical Models**

to be held in San Donato Milanese (Milano, Italy) from 2 to 4 October, 2002.

WHY SAN DONATO MILANESE?

San Donato Milanese is the headquarters of Eni-AGIP. By choosing its premises, we underline the value of a strong connection between Industry and Academy. San Donato Milanese is very close and well connected to Milano.

THE MEETING

REALMOD strives for the strongest possible integration between realities (REAL) and models (MOD). To achieve this goal we have identified geological settings and topics of strong interest both for Academia and Industry. These areas, although not exclusive can be ideal platforms for REAL and MOD to meet.

■ Passive continental margins

- Imaging and understanding processes in the (soft) sedimentary cover such as diapirism and gravitational tectonics.
e.g. Gulf of Mexico, Niger delta, W-Africa, Nile delta, Brasil
- The thermal and mechanical evolution of rifted margins: Volcanic margins, transitions. Atlantic-type and back-arc passive margins.
e.g. Norway/Greenland, W-Africa, Iberia, Mediterranean

■ From fold-and-thrust belts to forelands

- Construction and destruction of orogenic wedges. Climate tectonics interactions, fluids in thrust belts.

e.g. Alps, Apennines, Zagros Mts., Pakistan, Andes

- Foredeep basins: how well do they follow model predictions?
e.g. Adriatic foredeeps, Arabian platform foreland

■ **Fracturing and faulting of rocks**

- Detecting and modelling Fracture networks in the field and in the subsurface

On these topics we encourage the participation of geoscientists from all disciplines. Oral and poster contributions are welcome which integrate REAL and MOD components helping to improve imaging and understanding mentioned settings/processes. A number of invited speakers will summarize last developments in the field and help identifying weak points and bottle necks. Poster session will be the ideal place to continue discussions. REAL and MOD will directly confront each other during a round table entitled: *How good are the models?*

Registration fees will be kept as low as possible to make participation of a large number of specialists possible. Special attention will be given to students who will profit from favourable fees.

In conjunction with REALMOD we will organize two field trips to observe and discuss reality and modelling of (1) Mesozoic continental rifting in the Southern Alps, and (2) Tertiary to Quaternary contraction in the Apennine.

To ensure the widest possible dissemination of results all participants will be invited to present **extended abstracts** of their contributions, which, following a standard review process, will be published in a special issue of an **international journal**.

For further information, do not hesitate to contact

G. Bertotti

Dept. of Tectonics/Structural Geology
Vrije Universiteit Amsterdam
De Boelelaan 1085
1081HV Amsterdam (NL)
bert@geo.vu.nl

E. Costa

Dip. di Scienze della Terra
Parco Area delle Scienze, 157/A
43100 Parma (IT)
costae@ipruniv.cce.unipr.it
<http://www.eageseg.org/realmod>
or by e-mail to: eageseg@ogs.trieste.it

KALENDAR (CALENDAR)

2002

May 5-10

INTERNATIONAL SYMPOSIUM ON THE INTERACTIONS BETWEEN SEDIMENTS AND WATER, Banff, Alberta, Canada. (Contact: Dr. Ellen Petticrew, University of Northern British Columbia, 3333 University Way, Prince George, BC Canada, V2N 4Z9; Tel: +1 250 960 6645; Fax: +1 250 960 5538; E-mail: iasws@unbc.ca)

May 6-8

ENVIROSOFT 2002 (Ninth International Conference on Development and Application of Computer Techniques to Environmental Studies), Berger, Norway. (Contact: Lucy Southcott, Conference Secretariat, Envirosoft 2002, Wessex Institute of Technology, Ashurst Lodge, Ashurst, Southampton SO40 7AA, UK. Tel: +44 (0) 238 029 3223; Fax: +44 (0) 238 029 2853; E-mail: lsouthcott@wessex.ac.uk; Website: <http://www.wessex.ac.uk/conferences/2002/env02/>)

May 12-14

OCCURRENCE AND MECHANISMS OF FLOWS IN NATURAL SLOPES AND EARTH FILLS — IW-FLOW2002, Naples, Italy. (Contact: Website: <http://www.unina2.it/flows2002>)

May 20-23

INTERNATIONAL CONFERENCE ON INSTABILITY, Ventnor, Isle of Wight, UK. (Contact: Robin G. McInnes, Centre for the Coastal Environment. Fax: 44 1983 855859; E-mail: conference@iwight.gov.uk)

May 20-24

THE SIXTH INTERNATIONAL SYMPOSIUM ON THE GEOCHEMISTRY OF THE EARTH'S SURFACE (GES-6), Honolulu, Hawaii, USA. Sponsors: The School of Ocean & Earth Science & Technology of the University of Hawaii, and The International Association of Geochemistry and Cosmochemistry (IAGC)

May 26-31

12TH INTERNATIONAL SOIL CONSERVATION, Beijing, China. (Contact: Website: <http://www.geotechnique.org>)

May 27-30

EUROPEAN ASSOCIATION OF GEOSCIENTISTS AND ENGINEERS (63rd Conference & Technical Exhibition), Florence, Italy. (Contact: Website: <http://www.eage.nl/>)

May 29-31

GREEN PROCESSING 2002, "International Conference on the Sustainable Processing of Minerals", Cairns, Australia. (Contact: Miriam Way, AusIMM, P.O. Box 660, Carlton South, Victoria, Australia 3053. Tel: +61 3 96623166; Fax: +61 3 96623662; E-mail: conference@ausimm.com.au; Website: www.ausimm.com)

June 2-5

43RD WELL LOGGING SYMPOSIUM, Oiso, Japan. (Contact: Ms. Shizu Kobayashi, Schlumberger K.K. Tel: 81 42 759-2115; Fax: 81 42 759-4270; E-mail: kobayssi@fuchinobe.skf.com)

June 3-7

ZEOLITE 2002, Aristotle University, Thessaloniki, Greece. (Contact: Website: <http://www.chem.auth.gr/activities/zeo2002/>)

June 17-20

CALIBRATION AND RELIABILITY IN GROUND WATER MODELLING, Prague, Czech. (Contact: ModelCARE'2002, Opletalova, 22, AZ-110 00 Prague 1, Czech Republic. Tel: 420 2 8400 1444; Fax: 420 2 8400 1448; E-mail: modelcare2002@guarant.cz; Website: <http://www.guarant.cz/ModelCARE2002>)

June 18-20

RECYCLING AND WASTE TREATMENT IN MINERAL AND METAL PROCESSING, Lulea, Sweden. (Contact: E-mail: caisa.samuelsson@km.luth.se)

June 19-21

RISK ANALYSIS 2002 (Third International Conference on Computer Simulation in Risk Analysis and Hazard Mitigation), Sintra,

Portugal. (Contact: Conference Secretariat, RISK02, Wessex Institute of Technology, Ashurst Lodge, Ashurst, Southampton, SO40 7AA, UK. Tel: 44 (0) 238 029 3223; Fax: 44 (0) 238 029 2853; E-mail: rgreen@wessex.ac.uk; Website: <http://www.wessex.ac.uk/conferences/2002/risk02/>)

June 30 - July 5

16TH AUSTRALIAN GEOLOGICAL CONVENTION, Geoscience 2002: Expanding Horizons, Adelaide Convention Centre, Adelaide South Australia. (Contact: the Organising Committee, 16th Australian Geological Convention, c/o The Secretary GSA (SA Division), P.O. Box 295, Kent Town, SA 5071. E-mail: info@16thagc.gsa.org.au; Website: www.16thagc.gsa.org.au)

July 6-10

FIRST INTERNATIONAL PALAEOONTOLOGICAL CONGRESS, Sydney, Australia. (Contact: Jophn A. Talent, MUCEP, Earth and Palaeontological Sciences, Macquarie University, NSW 2109, Australia. Fax: 61 2 9850 6053; E-mail: IPC2002@mq.edu.au; Website: www.es.mq.edu.au/mucep)

July 7-12

16TH INTERNATIONAL SEDIMENTOLOGICAL CONGRESS, Auckland Park, Gauteng, South Africa. (Contact: Bruce Cairncross, Department of Geology, Rand Africans University, P.O. Box 524, Auckland Park, 2006, South Africa. Tel: +27 11 489 23 13; Fax: +27 11 489 23 09; E-mail: bc@na.rau.ac.za; Website: <http://general.rau.ac.za/geology/announcement.htm>)

July 9-12

GEOLOGY OF THE DEVONIAN SYSTEM, Syktyvkar, Russia. (Contact: Website: <http://sds.uta.edu/ras-update/russian-academy-of-sciences.htm>)

July 21-25

9TH INTERNATIONAL PLATINUM SYMPOSIUM, Billings, Montana, USA. Sponsored by IGCP 427/SEG/SGA. (Contact: Website: <http://www.platinumsymposium.org/>)

July 22-26

THIRD INTERNATIONAL CONFERENCE ON WATER RESOURCES AND ENVIRONMENT RESEARCH (ICWRER),

Water quantity & quality aspects in modeling and management of ecosystems, Dresden, Germany. (Contact: Conference Secretariat ICWRER 2002, Institute of Hydrology and Meteorology, Dresden University of Technology, Wuerzburger Str. 46, 01187 Dresden, Germany. Tel: + 49-351-463 3931; Fax: + 49-351-463 7162; E-mail: icwrer2002@mailbox.tu-dresden.de; Website: www.tu-dresden.de/fghhihm/hydrologie.html)

July 22-26

11TH QUADRENNIAL IAGOD SYMPOSIUM AND GEOCONGRESS 2002, Windhoek, Namibia. (Contact: Website: <http://www.geoconference2002.com/>)

August 11-15

4TH INTERNATIONAL CONGRESS ON ENVIRONMENTAL GEOTECHNICS, Rio de Janeiro, Brazil. (Contact: Tel: +55 21 290-1730; Fax: +55 21 280-9545; E-mail: 4iceg@pec.coppe.ufrj.br; Website: www.4iceg.ufrj.br)

August 25-30

GONDWANA 11: CORRELATIONS AND CONNECTIONS, Gateway Antarctica, University of Canterbury, Christchurch, New Zealand. (Contact: Tel: +64-3-364 2136; Fax: +64-3-364 2197; E-mail: s.hawtin@anta.canterbury.ac.nz or gateway@anta.canterbury.ac.nz; Website: www.anta.canterbury.ac.nz)

September 1-5

17TH WORLD PETROLEUM CONGRESS, Rio de Janeiro, Brazil. (Contact: Brasoc — Brazillian Organizing Committee, Tel: +55 21 2282 2002; Fax: +55 21 2282 2005; E-mail: brasoc@wpc2002.com; Website: www.wpc2002.com)

September 1-6

MINERALOGY FOR THE NEW MILLENNIUM, Edinburgh, Scotland. (Contact: E-mail: info@minersoc.org; Website: www.minersoc.org/IMA2002)

September 12-22

6TH INTERNATIONAL SYMPOSIUM ON THE JURASSIC SYSTEM, Palermo, Sicily, Italy. (Contact: Dr. Luca Martire, Fax: 39 011 541755; E-mail: martire@dst.unito.it)

September 15-19

INTERNATIONAL CONFERENCE ON URANIUM MINING AND HYDROGEOLOGY, Freiberg, Germany. (Contact: E-mail: umh@geo.tu-freiberg.de; Website: www.geo.tu-freiberg.de/umh)

September 16-20

INTERNATIONAL ASSOCIATION OF ENGINEERING GEOLOGY AND THE ENVIRONMENT (IAEG), "Engineering Geology for Developing Countries" (9th International Congress), Durban, South Africa. (Contact: South African Institute for Engineering and Environmental Geologists, P.O. Box 2812, Pretoria, 0001, South Africa. E-mail: saieg@hotmail.com; Website: home.geoscience.org.za/saieg/2002.htm)

September 22-27

SOCIETY OF EXPLORATION GEOPHYSICISTS (72nd Annual Meeting and International Exposition), Las Vegas, Nevada, USA. (Contact: SEG Business Office, Tel: +1-918 497 5500; Fax: +1-918 497 5557; Website: seg.org/)

September 24-28

URANIUM DEPOSITS: FROM THEIR GENESIS OF THEIR ENVIRONMENT IMPACTS, Prague, Czech. (Contact: Bohdan Kribek, Czech Geological Survey, 152000 Prague 5. Tel: 422 51085 518; Fax: 422 5817 390; E-mail: kribek@cgu.cz)

October 15-19

INTERNATIONAL WORKSHOP ON INTEGRATED WATER RESOURCE MANAGEMENT. Organised by the US Bureau of Reclamation, Denver, Colorado, U.S.A. (Contact: International Affairs Team, D-1520, US Bureau of Reclamation, P.O. Box 25007, Denver, CO 80225, U.S.A. Tel: +1 303 445 2127; Fax: +1 303 445 6322; E-mail: lprincipe@do.usbr.gov; Website: http://www.usbr.gov/)

October 21-25

INTERNATIONAL ASSOCIATION OF HYDROGEOLOGISTS, "Groundwater and Human Development" (32nd International Congress), Mar del Plata, Argentina. (Contact: Dr. Emilia Bocanegra, Centro de Geología de Costas y del Cuaternario, Facultad de Ciencias

Exactas y Naturales, Universidad Nacional de Mar del Plata, Casilla de Correo 722, 7600 Mar del Plata, Argentina; Tel: +54 223 475 4060; Fax: +54 223 475 3150; E-mail: ebocaneg@mdp.edu.ar)

October 27-30

GEOLOGICAL SOCIETY OF AMERICA (Annual Meeting), Denver, Colorado, USA. (Contact: Meeting Dept., P.O. Box 9140, Boulder, CO 80301-9140, USA. Tel: 1 303 447 2020; Fax: 1 303 447 1133; E-mail: meetings@geosociety.org; Website: www.geosociety.org/meetings/index.htm)

November 20-23

ROLE OF NATURAL RESOURCES AND ENVIRONMENT FOR SUSTAINABLE DEVELOPMENT IN SOUTH AND SOUTHEAST ASIA, Dhaka, Bangladesh. (Contact: Ms. Afia Akhtar, Convenor, NESDA & Vice President, AGID, Director, Geological Survey of Bangladesh, 153 Pioneer Road, Segunbagicha, Dhaka 1000, Bangladesh. Tel: 880-2-418545 (O), 9337559, 9350412 (H); E-mail: afia@agni.com or mnhasan@agni.com; or Mr. Nehal Uddin, Member Secretary, NESDA, Deputy Director, Geological Survey of Bangladesh, 153 Pioneer Road, Segunbagicha, Dhaka 1000, Bangladesh. Tel: 880-2-9348318; E-mail: nehalu@btb.net.bd)

2003

SIXTH INTERNATIONAL SYMPOSIUM ON ENVIRONMENTAL GEOCHEMISTRY, Edinburgh, Scotland. (Contact: John Farmer, Dept. of Chemistry, The University of Edinburgh, Joseph Black Building, Kings Buildings, West Mains Road, Edinburgh EH9 3JJ Scotland. Tel: 0131-650-1000; Fax: 0131-650-4757; E-mail: J.G.farmer@ed.ac.uk)

March 27-30

NATIONAL EARTH SCIENCE TEACHERS ASSOCIATION (Annual Meeting), Philadelphia, Pennsylvania, USA. (Contact: NESTA, 2000 Florida Ave., N.W., Washington, D.C. 20009, USA. Tel: +1-202 462 6910; Fax: +1-202 328 0566; E-mail: fireton@kosmos.agu.org)

May

INTERNATIONAL SYMPOSIUM ON KARST AND HARD ROCK FORMATIONS, Esfahan, Iran. (Contact: Dr. A. Afrasiabian, National Karst Study and Research Center, P.O. Box 15875-3584, Tehran, Iran. Tel: +98 21 7520474; Fax: +98 21 7533186)

June 15-17

7TH ICOBTE — INTERNATIONAL CONFERENCE ON BIOGEOCHEMISTRY OF TRACE ELEMENTS, Uppsala, Sweden. (Contact: George R. Gobran. Fax: 46 (18) 67 34 30; E-mail: George.Gobran@eom.slu.se or ICOBTE7@slu.se; Website: <http://www.eom.slu.se>)

June 16-18

5TH INTERNATIONAL CONFERENCE ON THE ANALYSIS OF GEOLOGICAL AND ENVIRONMENTAL MATERIALS, Rovaniemi, Finland. (Contact: Website: <http://www.gsf.fi/geoanalysis2003>)

August 18-21

9TH INTERNATIONAL SYMPOSIUM ON THE ORDOVICIAN SYSTEM, 7TH INTERNATIONAL GRAPTOLITE, AND FIELD MEETING OF THE SUBCOMMISSION ON SILURIAN STRATIGRAPHY, San Juan City, Argentina. (Contact: ISOS: Guillermo L. Albanesi. E-mail: galbanesi@arnet.com.ar or Matilde S. Beresi. E-mail: mberesi@labocricyt.edu.ar; IGC-SSS field meeting: Gladys Ortega. E-mail: gortega@arnet.com.ar or Guillermo F. Aceñolaza. E-mail: acecha@unt.edu.ar)

September 15-18

INDUSTRIAL MINERALS AND BUILDING STONES — IMBS 2003, Istanbul, Turkey. (Contact: Erdogan Yüzer, Maden fakültesi, Ayazaga Kampüsü, 80626 Maslak/Istanbul, Turkey. Tel/Fax: 90 212 285 61 46; E-mail: yuzer@itu.edu.tr)

September 22-26

1ST INTERNATIONAL CONFERENCE — GROUNDWATER IN GEOLOGICAL ENGINEERING, Ljubljana, Slovenia. (Contact: Slovene Committee of IAH, Andrej Juren,

Kebetova 24, SI-1000 Ljubljana, Slovenia. E-mail: andrej.juren@siol.net or Nadja Zalar, E-mail: nadja.zalar@siol.net; Website: <http://www.iah.org>)

September 28 – October 3

SOCIETY OF EXPLORATION GEOPHYSICISTS (73rd Annual Meeting and International Exposition), Dallas, Texas, USA. (Contact: SEG Business Office, Tel: +1-918 497 5500; Fax: +1-918 497 5500; Fax: +1-918 497 5557; Website: seg.org/)

November 2-5

GEOLOGICAL SOCIETY OF AMERICA (Annual Meeting), Seattle, Washington, USA. (Contact: GSA Meetings Dept., P.O. Box 9140, Boulder, CO 80301-9140, USA. Tel: +1 303 447 2020; Fax: +1 303 447 1133; E-mail: meetings@geosociety.org; Website: <http://www.geosociety.org/meeting/index.htm>)

2004**March 27 – April 4**

NATIONAL EARTH SCIENCE TEACHERS ASSOCIATION (Annual Meeting), Atlanta, Georgia, USA. (Contact: NESTA, 2000 Florida Ave., N.W., Washington, D.C. 20009, USA. Tel: +1-202 462 69 10; Fax: +1-202 328 0566; E-mail: fireton@kosmos.agu.org)

August

32ND INTERNATIONAL GEOLOGICAL CONGRESS, Florence, Italy. Congress theme: "The Renaissance of Geology: From the Mediterranean area toward a global Geological Renaissance-Geology, Natural Hazards, and Cultural Heritage". (Contact: E-mail: 32igc@32igc.org; Website: <http://www.32igc.org/>)

October 10-15

SOCIETY OF EXPLORATION GEOPHYSICISTS (74th Annual Meeting and International Exposition), Denver, Colorado, USA. (Contact: Debbi Hyer, 8801 S. Yale, Tulsa, OK 74137, USA. Tel: (+1-918) 497 5500; E-mail: dhyer@seg.org; Website: meeting.seg.org)

BUKU-BUKU BARU (NEW BOOKS)

- *A SHORT COURSE IN GEOTECHNICAL SITE INVESTIGATION*, by Noel Simons *et al.* Thomas Telford, 2001. 250pp., hardback, GBP45.00, ISBN 0727729489.
- *ANALYSIS OF SEDIMENTARY SUCCESSIONS — A field manual*, by Ajit Bhattacharyya and Chandan Chakraborty. A.A. Balkema, 2000. 24 cm, 420pp., EUR70.00/\$70.00, ISBN 90 5809 209 7 (HC), ISBN 90 5809 227 5 (PB).
- *ANNUAL REVIEW OF EARTH AND PLANETARY SCIENCES*, Volume 29. Annual Reviews, 2001. Hardback. 616pp., ISBN 0-8243-2029-8, ISBN 0084-6597.
- *APPLIED WETLANDS SCIENCE AND TECHNOLOGY* (2nd ed.), by Donald M. Kent. Lewis Publisher, 2001. 472pp., USD79.95, ISBN 156670359X.
- *BACKFILL AND CONTACT GROUTING OF TUNNELS AND SHAFTS*, by Raymond W. Henn. Thomas Telford, 2001. 200pp., GBP35.00, ISBN 0727729837.
- *BRACHIOPODS: PAST AND PRESENT* (Systematics Association Special Volume No. 63), by Howard Brunton and Robin Cocks. Taylor & Francis, 2001. 496pp., GBP80.00, ISBN 0748409211.
- *CARBONATE RESERVOIRS: POROSITY EVOLUTION AND DIAGENESIS IN A SEQUENCE STRATIGRAPHIC FRAMEWORK* (Developments in Sedimentology Vol. 55), by C.H. Moore. Elsevier, 2001. 460pp., NGL350.00, ISBN 0444508384.
- *CHEMICAL CONTAMINANTS IN ESTUARIES AND COASTAL PLUMES*, by G.E. Millward, G.A. Glegg & A.J. Turner. John Wiley & Sons, 2001. 350pp., hardback, USD84.95, ISBN 0471967394.
- *CONTINENTAL REACTIVATION AND REWORKING* (Geological Society Special Publication No. 184), edited by J. Miller *et al.*, Geological Society, 2001. 450pp., GBP95.00, ISBN 1862390800.
- *CRUSTAL HEATFLOW: A GUIDE TO MEASUREMENT AND MODELLING*, by Graeme R. Beardsmore & James P. Cull. Cambridge University Press, 2001. 324pp., hardback, GBP70.00, ISBN 0521792894.
- *DECISION ANALYSIS FOR PETROLEUM EXPLORATION* (2nd ed.), by Paul Newendorp & John Schayler. Planning, 2000. 606pp., hardback, USD64.95.
- *DINOSAURS OF THE AIR: THE EVOLUTION AND LOSS OF FLIGHT IN DINOSAURS AND BIRDS*, by G. Paul. Johns Hopkins University Press, 2001. Hardback, GBP33.50, ISBN 0801867630.
- *DISTURBED SOIL PROPERTIES AND GEOTECHNICAL DESIGN*, by Andrew Schofield. Thomas Telford, 2001. 200pp., hardback, GBP45.00, ISBN 0727729829.
- *DRINKING WATER CHEMISTRY: A LABORATORY MANUAL*, by Barbara A. Hauser. CRC Press, 2001. USD54.95, ISBN 1566704863
- *DYNAMICS OF FLUIDS IN FRACTURED ROCK* (Geophysical Monograph Series, Vol. 122), edited by B. Faybishenko *et al.* American Geophysical Union, 2001. 400pp., hardback, USD65.00, ISBN 0875909809.
- *EARTH'S MATERIALS: MINERALS AND ROCKS*, by Gautarn Sen. Prentice Hall, 2001. 560pp., hardback, GBP30.99, ISBN 0130812951.
- *ENVIRONMENTAL GEOCHEMISTRY OF POTENTIALLY TOXIC METALS*, by F.R. Siegel. Springer, 2001. 200pp., DM107.00, ISBN 3540420304.
- *EXPLORATION AND MINING GEOLOGY, Ancient and modern seafloor volcanogenic massive sulfide deposits*, CIM/ICM, 2001. Guest editors: Peter A. Rona and Zengqian Hou. 395pp., paperback, ISSN 0964-1823.
- *EXPLORATION OF MINERAL DEPOSITS* (Developments in Economic Geology, Vol. 31), by D.V. Rundqvist. Elsevier, 2001. Hardback, USD211.50, ISBN 0444503021.

- *EXPLORING EARTH: An Introduction to Physical Geology* (2nd ed.), by Jon Davidson *et al.* Prentice Hall, 2001. 576pp., paperback, USD73.33, ISBN 0130183725.
- *EXPLORING FOR OIL AND GAS TRAPS* (Treatise of Petroleum Geology, Handbook of Petroleum Geology Series), by Edward A. Beaumont & Norman h. Foster. American Association of Petroleum Geologists, 2000. 1150pp., USD49.00, ISBN 089181602X.
- *FAUNAL AND FLORAL MIGRATION AND EVOLUTION IN SEASIA-AUSTRALASIA*, by Ian Metcalfe *et al.* A.A. Balkema, 2001. 361pp., hardback, NGL262.50, ISBN 9058093492.
- *GIS AND REMOTE SENSING TECHNIQUES IN LAND AND WATER MANAGEMENT*, by A. Van Dijk & M.G. Bos. Kluwer, 2001. 104pp., hardback, USD44.00, ISBN 079236788X.
- *GEOLOGIC DISPOSAL OF RADIOACTIVE WASTE IN PERSPECTIVE*, OECD, 2000. 68pp., FRF131.19, ISBN 9264184252.
- *GEOLOGIC DISPOSAL OF RADIOACTIVE WASTE: REVIEW OF DEVELOPMENTS IN THE LAST DECADE* (Radioactive Waste Management), by NEA. OECD, 2000. 108pp., FRF203.34, ISBN 9264171940.
- *GEOLOGICAL AND BIOLOGICAL EFFECTS OF IMPACT EVENTS* (Impact Studies), edited by E. Buffetaut & C. Koeberl. Springer, 2001. 310pp., hardback, DEM139.90, ISBN 3540422862.
- *HEAVY METALS RELEASE IN SOILS*, by H. Magdi Selim. Lewis Publishers, Inc., 2001. 300pp., hardback, USD99.95, ISBN 1566705312.
- *LAND USE PLANNING: SUSTAINABILITY AND THE ENVIRONMENT* (Routledge Research Global Environment Change Series 7), by Susan Owens. Routledge, 2001. 200pp., hardback, GBP55.00, ISBN 0415162769.
- *MANTLE CONVECTION IN THE EARTH AND PLANETS*, by Gerald Schubert *et al.* Cambridge University Press, 2001. 912pp., hardback, GBP140.00, ISBN 052135367X.
- *MANTLE PLUMES AND THEIR RECORD IN EARTH HISTORY*, by Kent C. Condie. Cambridge University Press, 2001. 336pp., hardback, GBP75.00, ISBN 0521806046.
- *METEORITES*, by Brigitte Zanda & Monica Rotaru. Cambridge University Press, 2001. 128pp., paperback, GBP11.95, ISBN 0521799406.
- *PLATE TECTONICS: UNRAVELLING THE MYSTERIES OF THE EARTH* (Rev. ed.), by J. Erickson. Facts on File, 2001. Hardback, GBP37.95, ISBN 0816043272.
- *QUATERNARY GEOLOGY AND ENVIRONMENT* (Springer-Praxis Books in Geophysical Science), by Jean Riser. Springer, 2001. Hardback, ISBN 3540626469.
- *RADIOLARIANS IN THE SEDIMENTARY RECORD*, by P. Wever. Gordon & Breach, 2001. 265pp., hardback, GBP75.00, ISBN 9056993364.
- *RESOURCES OF THE EARTH: ORIGIN, USE, AND ENVIRONMENTAL IMPACT* (3rd ed.), by James Craig *et al.* Prentice Hall, 2001. 485pp., hardback, HKD623.31, ISBN 0130834106.
- *SEA LEVEL RISE: HISTORY AND CONSEQUENCES* (*International Geophysics*), by Bruce Douglas, Michael Kearney & Stephen Leatherman. Academic Press, 2000. 256pp., USD59.95, ISBN 0122213459.
- *SEDIMENTARY PETROLOGY* (3rd ed.), by M.E. Tucker. Blackwell 2001. 272pp., paperback, GBP24.95, ISBN 063057351.
- *SUBSURFACE MICROBIOLOGY AND BIOGEOCHEMISTRY*, by James K. Frederickson *et al.* John Wiley & Sons, Inc., 2001. 352pp., hardback, USD109.95, ISBN 0471131577X.
- *THE HISTORY AND DYNAMICS OF GLOBAL PLATE MOTIONS* (Geophysical Monograph Series, Vol. 121), by M.A. Richards *et al.* American Geophysical Union, 2000. 398pp., hardback, USD70.00, ISBN 0875909795.

- *THE HISTORY AND SEDIMENTOLOGY OF ANCIENT REEF SYSTEMS* (Topics in Geobiology, Vol. 17), by George D. Stanley. Plenum Pub. Corp., 2001. 468pp., hardback, USD95.00, ISBN 0306464675.

- *UNDERSTANDING EARTH* (3rd ed. with text and CD-ROM), by Frank Pross & Raymond Silver. W.H. Freeman Company, 2000. Paperback, USD69.95, ISBN 0716741172.

CD-ROMS

- *MICROFOSSILS ON CD-ROM*, by N. Macleod. Blackwell Science UK, 2000. A\$223.30, ISBN 0632054425.

- *PALEOBASE: MACROFOSSILS (PART 2 CD-ROM)*, by N. Macleod. Blackwell Science UK, 2001. A\$80.30, ISBN 06320958919.

General Information

Papers should be as concise as possible. However, there is no fixed limit as to the length and number of illustrations. Normally, the whole paper should not exceed 30 printed pages. The page size will be 204 x 280 mm (8 x 11 inches).

The final decision regarding the size of the illustrations, sections of the text to be in small type and other matters relating to printing rests with the Editor.

The final decision of any paper submitted for publication rests with the Editor who is aided by a Special Editorial Advisory Board. The Editor may send any paper submitted for review by one or more reviewers. Authors can also include other reviewers' comments of their papers. Scripts of papers found to be unsuitable for publication may not be returned to the authors but reasons for the rejection will be given. The authors of papers found to be unsuitable for publication may appeal only to the Editor for reconsideration if they do not agree with the reasons for rejection. The Editor will consider the appeal together with the Special Editorial Advisory Board.

Unless with the consent of the Editor, papers which have been published before should not be submitted for consideration.

Authors must agree not to publish elsewhere a paper submitted and accepted.

Authors alone are responsible for the facts and opinions given in their papers and for the correctness of references etc.

One set of proofs will be sent to the author (if time permits), to be checked for printer's errors. In the case of two or more authors, please indicate to whom the proofs should be sent.

Twenty-five reprints of each article published are supplied free-of-charge. Additional reprints can be ordered on a reprint order form, which is included with the proofs.

Correspondence: All papers should be submitted to

The Editor (Dr. Teh Guan Hoe)
Geological Society of Malaysia
c/o Geology Department
University of Malaya
50603 Kuala Lumpur
MALAYSIA

Tel: (603) 7957 7036 Fax: (603) 7956 3900

Script Requirements

Scripts must be written in Bahasa Malaysia (Malay) or English.

Two copies of the text and illustrations must be submitted. The scripts must be typewritten double-spaced on paper not exceeding 210 x 297 mm (or 8.27 x 11.69 inches, A4 size). One side of the page must only be typed on.

Figure captions must be typed on a separate sheet of paper. The captions must not be drafted on the figures. The figure number should be marked in pencil on the margin or reverse side.

Original maps and illustrations or as glossy prints should ideally be submitted with sufficiently bold and large lettering to permit reduction to 18 x 25 cm: fold-outs and large maps will be considered only under special circumstances.

Photographs should be of good quality, sharp and with contrast. For each photograph, submit two glossy prints, at least 8 x 12.5 cm and preferably larger. Use of metric system of measurements (SI) is strongly urged wherever possible.

An abstract in English which is concise and informative is required for each paper.

References cited in the text should be listed at the end of the paper and arranged in alphabetical order and typed double-spaced. The name of the book or journal must be in *italics*. The references should be quoted in the following manner:

HAMILTON, W., 1979. Tectonics of the Indonesian region. *U.S. Geological Survey Professional Paper 1078*, 345p.

HOSKING, K.F.G., 1973. Primary mineral deposits. In Gobbett, D.J. and Hutchison, C.S. (Eds.), *Geology of the Malay Peninsula (West Malaysia and Singapore)*. Wiley-Interscience. New York, 335-390.

HUTCHISON, C.S., 1989. *Geological Evolution of South-east Asia*. Clarendon Press, Oxford. 368p.

SUNTHARALINGAM, T., 1968. Upper Paleozoic stratigraphy of the area west of Kampar, Perak. *Geol. Soc. Malaysia Bull. 1*, 1-15.

TAYLOR, B., AND HAYES, D.E., 1980. The tectonic evolution of the South China Sea basin. In: D.E. Hayes (Ed.), *The Tectonic and Geologic Evolution of Southeast Asian Sea and Islands, Part 2. Am. Geophy. Union Monograph 23*, 89-104.

Submission of electronic text. In order to publish the paper as quickly as possible after acceptance, authors are requested to submit the final text also on a 3.5" diskette. Both Macintosh and PC (DOS/Windows) platforms are supported. Main text, tables and illustrations should be stored in separate files with clearly identifiable names. Text made with most word processors can be readily processed but authors are advised to provide an additional copy of the text file in ASCII format. Preferred format for illustration is Encapsulated PostScript (EPS) but authors may submit graphic files in their native form. It is essential that the name and version of softwares used is clearly indicated. The final manuscript may contain parts (e.g. formulae, complex tables) or last-minute corrections which are not included in the electronic text on the diskette; however, this should be clearly marked in an additional hardcopy of the manuscript. Authors are encouraged to ensure that apart from any such small last-minute corrections, **the disk version and the hardcopy must be identical**. Discrepancies can lead to proofs of the wrong version being made.

