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CATATAN GEOLOGI

(GEOLOGICAL NOTES)

THE PERMIAN-TRIASSIC BOUNDARY IN NORTHWEST MALAYA

I. METCALFE*

Introduction

Problems concerning the Permian-Triassic boundary have long plagued stratigraphers and palaeontologists. The development of many different regional stages and substages for the late Permian and early Triassic and the fact that Permian-type macrofaunas extend into rocks dated as early Triassic (Scythian) have led to confusion over the placement of the base of the Triassic. The base of the Triassic has traditionally been placed at the base of the *Otoceras* Beds in the Himalayas (Diener, 1912). However, in recent years a number of workers have advocated an upper Permian status for the *Otoceras* Beds (e.g. Kozur, 1973; Newell, 1973). Waterhouse (1976) discussed in detail the marine faunas of the Permian and supported Kozur's (1973) view that the *Otoceras* faunas (or the basal Griesbachian) should be treated as top-most Permian. The upper Griesbachian and the Dienerian Stage were referred to a new stage, the Brahmanian, typified by ammonoids of Triassic aspect including *Ophiceras*. Nakazawa *et al.* (1980) on the other hand argued a Triassic age for their *Otoceras woodwardi* Zone (lower Griesbachian) since it contains typical Triassic bivalves. Nakazawa *et al.* (1980) also pointed out that the lower Triassic of East Asia was characterised by various species of *Claraia*, *Otoceras* being absent, and suggested that the absence of *Otoceras* was due to a time gap at the Permian-Triassic boundary over most, if not all, of East Asia. The only published record of *Otoceras* from East Asia is from shales overlying Guadalupian limestones in South Vietnam (Phan, 1981) where the genus is associated with *Claraia*. Beds equivalent to the *Otoceras* horizon may well be present in East Asia but unrecognisable due to the absence of suitable index fossils. It may be possible in the future to recognise this horizon using conodonts.

Recent studies have yielded conodont faunas from late Permian-early Triassic sections in several parts of the world including the *Otoceras* Beds (Bhatt and Joshi, 1978). Detailed conodont studies of sections covering the Permian-Triassic transition may provide a reliable and internationally acceptable means of defining and recognising the base of the Triassic. The recent recognition in Malaysia of a limestone sequence which contains conodonts and spans the Permian-Triassic boundary, apparently without a break, is therefore of regional and international significance.

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Permian-Triassic Stratigraphy of Peninsular Malaysia

The Palaeozoic and Mesozoic sediments of the Malay Peninsula fall into three distinct north-south trending belts or regions in which largely differing sedimentary sequences developed. These regions have been referred to as basins by Aw *et al.* (1977). They are the Western Basin which includes northwest Malaya, Perak, Selangor west Negri Sembilan and Malacca, the Central Basin covering west Pahang, east Negri Sembilan and west Johore, and the Eastern Basin comprising Trengganu, east Pahang and east Johore (see fig. 1). The Permo-Triassic stratigraphy in the three basins is shown in fig. 2 and is as follows:

Western Basin

The Permian is represented in the northwest by the Chuping Limestone, possibly by the uppermost parts of the Kubang Pasu and Singa Formations and by the basal part of the Kodiang Limestone (see below). In Perak, some shallow water limestones of the Kinta Valley area are dated as lower Permian (Ishii, 1966; Metcalfe, 1981a). The Permian in the southern part of the Western Basin may possibly be represented in the Kenny Hill Formation although no palaeontological confirmation of the age of this formation has so far been obtained. The presence of late Permian in the Western Basin has only recently been demonstrated (Metcalfe, 1981b).

Triassic sediments are not known in the central and southern parts of the Western Basin. In the northern part of the Basin (i.e. northwest Malaya) two partly contemporaneous formations span the Triassic, the Kodiang Limestone of DeCoo and Smit (1975), now known to range in age from late Permian to Norian (Metcalfe, 1981b and unpublished data) and the Semanggol Formation of Anisian to Norian age (Kobayashi *et al.*, 1967; Tamura *et al.*, 1975).

Central Basin

The Permian and basal Triassic is represented in the Central Basin by interbedded shales and limestones (some of which are thick and form hills) known as the Gua Musang Formation (Burton, 1973) and the partly equivalent Aring Formation (Aw, 1977). The Gua Musang Formation has yielded Middle Permian fusulinids (Igo, Koike and Yin, 1965), Smithian conodonts (Tamura *et al.*, 1975), the Scythian bivalve genus *Claraia* (Ichikawa and Yin, 1966; Tamura, 1968) and ammonoids characteristic of the middle Scythian *Meekoceras glacilitatis* Zone (Hada, 1966). The Gua Musang Formation therefore spans the Permian-Triassic boundary but the presence of uppermost Permian and basal Triassic has not yet been demonstrated and there is no known exposed section of the Gua Musang Formation which spans the boundary. The Aring Formation, comprising a mainly pyroclastic sequence, is said by Aw (1977) to range in age from Carboniferous to early Triassic. Permian sediments are also known from the Jengka Pass area where limestones contain late Middle Permian fusulinids and overlying sandstones yield a Late Permian flora (Kon'no and Asama, 1970).

The uppermost Triassic is represented in the Central Basin by the basal part of the Tembeling Formation and the Anisian to Norian interval is covered by the Jelai and Gunong Rabong Formations and their partial equivalents the Kaling and Semantan Formations (Jaafar, 1976) and Gemas Formation (Loganathan, 1977). The Gunong Rabong,

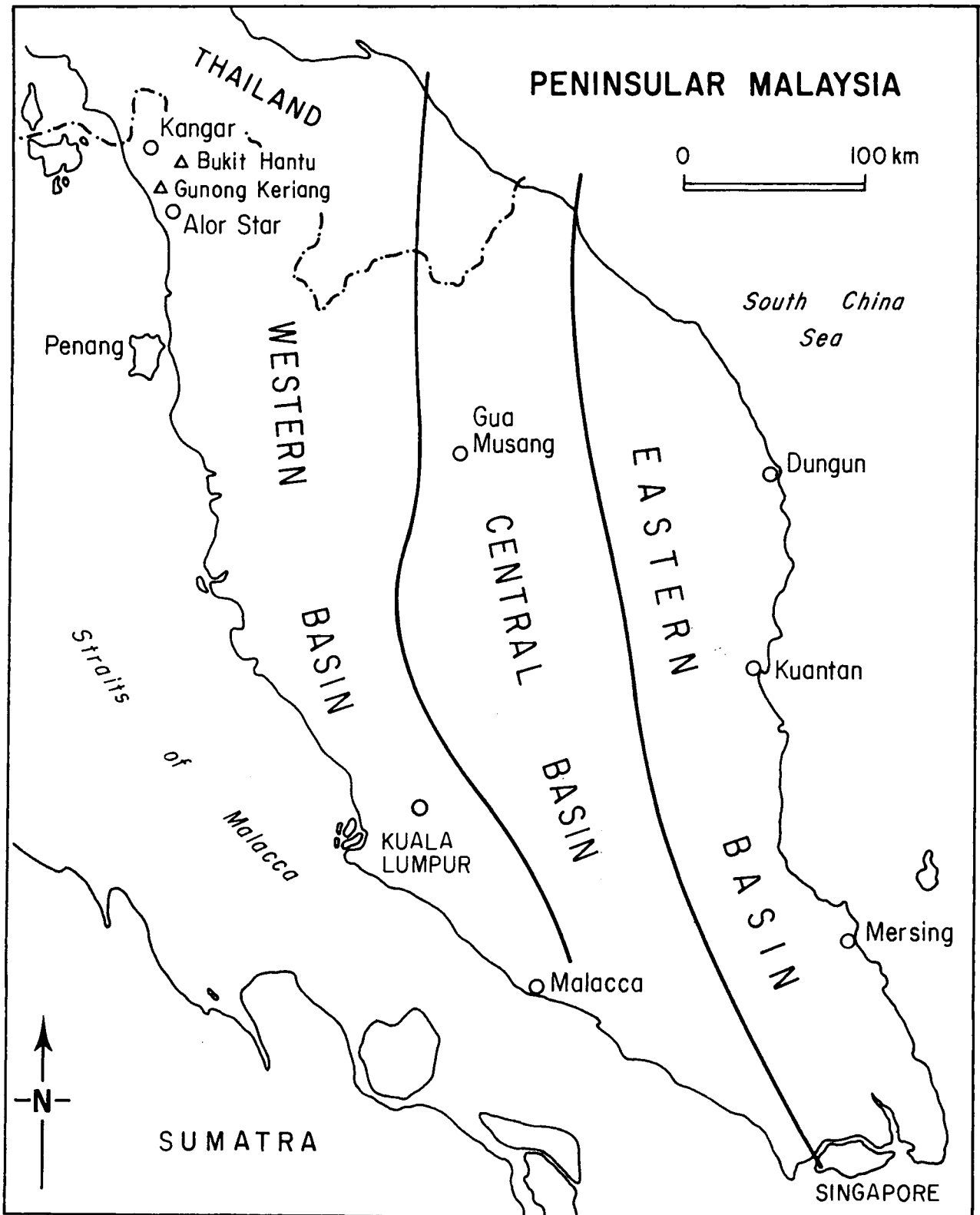


Fig. 1. Map showing the distribution of the Western, Central and Eastern Basins of the Malay Peninsula and the location of Gunong Keriang and Bukit Hantu.

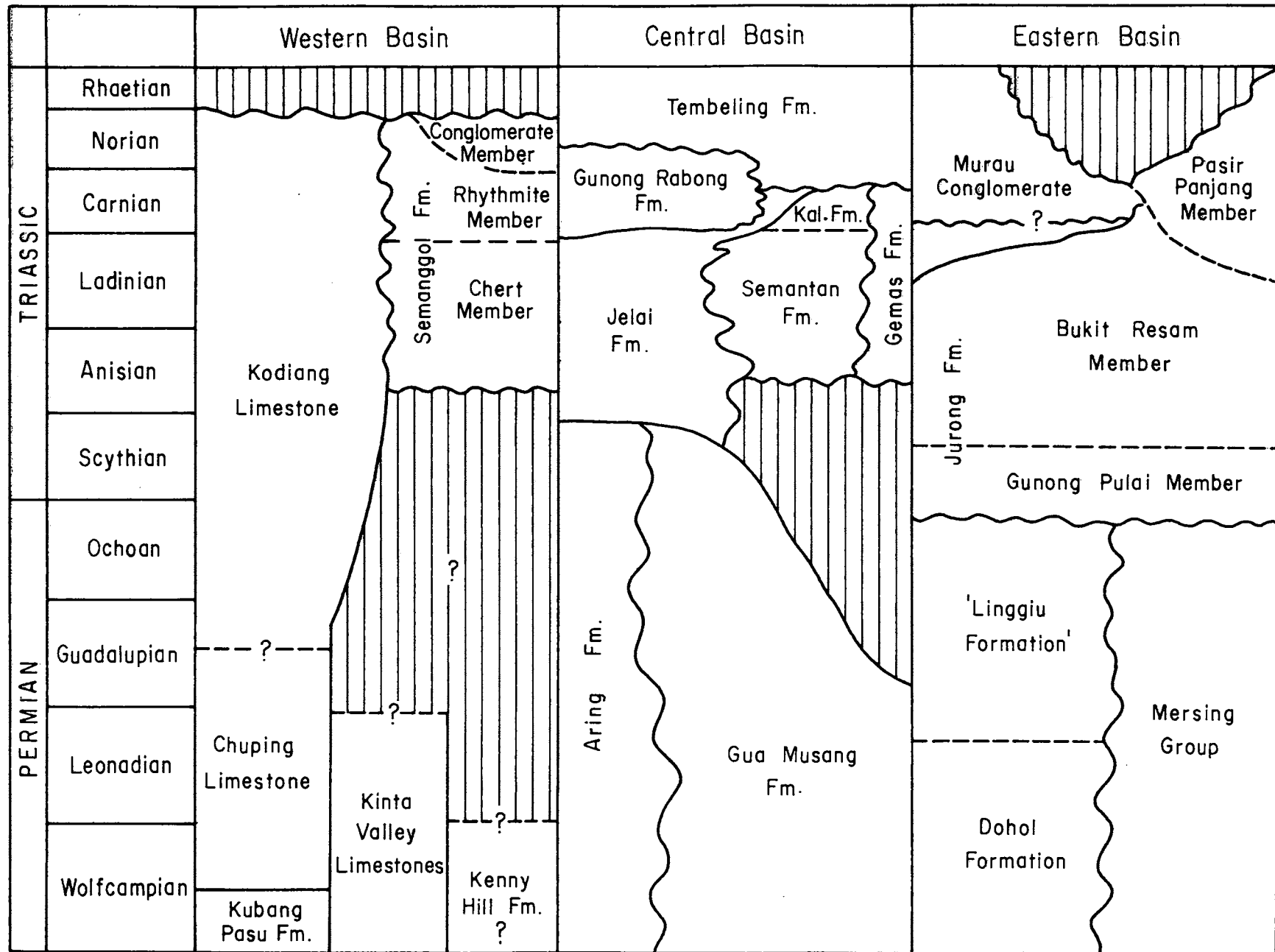


Fig. 2. Diagram showing the Permian and Triassic stratigraphy of the three sedimentary basins of the Malay Peninsula. Modified after Aw *et al.* (1977) and Burton (1973).

Kaling, Semantan and Gemas Formations comprise shale, sandstone, conglomerate, tuff and occasional limestone and contain a fauna characteristic of the *Daonella-Halobia* biofacies. The Jelai Formation includes sandstone, shale and volcanics and contain a shallow water benthonic fauna of the *Myophoria* biofacies (Tamura *et al.*, 1975).

Eastern Basin

Permian rocks of the Eastern Basin are represented in the north by interbedded shales, sandstones and minor tuff beds and occasional limestone lenses. Middle Permian faunas have been described from north Pahang (Igo, 1964) and southeast Kelantan (Jones *et al.*, 1966). Details of the Permian stratigraphy in the central and northern parts of this basin are poorly known. In the southern part of the basin (east Johore) the Permian is represented by clastic sediments and metasediments with occasional limestone lenses. These sediments have yielded lower Permian fusulinids (Gobbett, 1973) from the Dohol Formation (Aw *et al.*, 1977) and a rich Late Permian flora from the 'Linggiu formation' (Kon'no *et al.*, 1970). Highly folded metasediments in the Mersing area are also believed to be, at least in part, of Permian age.

The Permian sediments of the Eastern Basin are overlain, in central and southeast Johore, by the Triassic Jurong Formation, a sequence of conglomerates, sandstones and mudstones with minor tuffs containing a *Myophoria* biofacies fauna. The enigmatic Murau conglomerate at Tg. Murau included at the base of the Tembeling Formation by Koopmans (1968) is here referred to the late Triassic on the basis of fossils found in the basal conglomerate of that formation at Jengka Pass (Ichikawa *et al.*, 1966).

The Permian-Triassic Boundary in Northwest Malaya

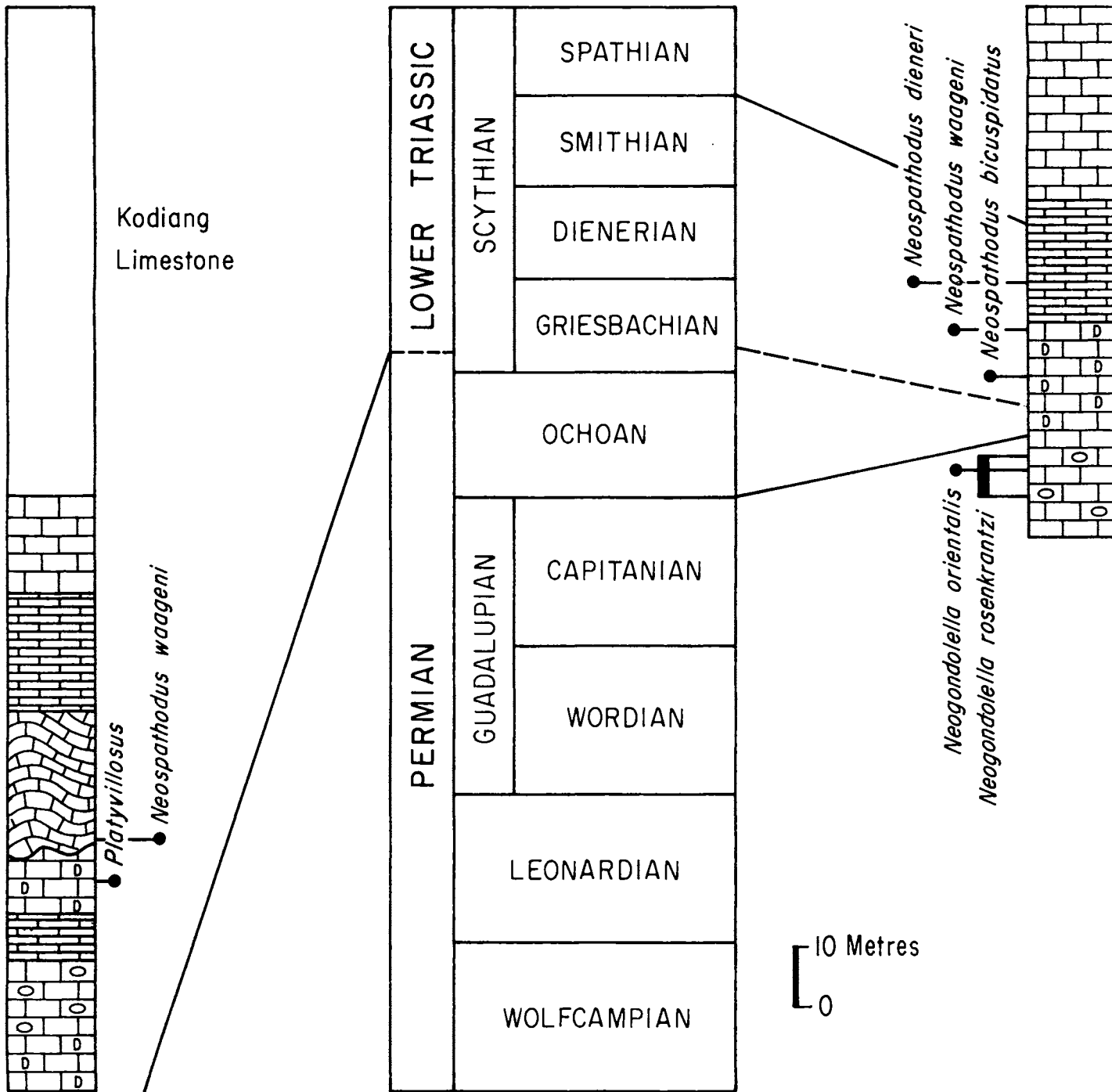
Until recently the Permian-Triassic boundary was only recognised in Malaysia (by inference) within the Gua Musang Formation of the Central Basin (see above). However, recent conodont studies (Metcalf, 1981b) show the presence of this boundary in the Kodiang Limestone of Bukit Hantu, near Kodiang, Kedah (fig. 1). Metcalfe (1981b) also indicated that the boundary occurred in Gunong Keriang, near Alor Star. However, this is now known not to be the case (see below).

Gunong Keriang

In this hill, forty metres of bedded limestone and dolomite are overlain by one hundred and forty-two metres of slumped bedded limestone and massive limestone (fig. 3). These limestones were originally regarded to be of Permian age (Alexander, 1965; Burton, 1965) but with the discovery of early Triassic (Smithian) conodonts (Ishii and Nogami, 1966) the limestones were shown to be, at least in part, of Triassic age. DeCoo and Smit (1975) did not, however, include these limestones in their Triassic Kodiang Limestone Formation as they are lithologically and petrographically rather different. Metcalfe (1981b) suggested that the section at Gunong Keriang represents the lower part of the Kodiang Limestone resting unconformably on the Permian Chuping Limestone. This was based on conodont specimens identified as *Sweetognathus whitei* (Rhodes), a Lower Permian species, which occurred immediately below limestones with diagnostic Smithian conodonts. More recent work on these faunas indicate that the specimens referred to *S. whitei* by

Gunong Keriang

Bukit Har



 Bedded Limestone

 Massive Limestone

 Dolomitic Limestone

 Slumped Limestone

 Chert

Fig. 3. Lithologic sections recorded at Gunong Keriang and Bukit Hantu showing the occurrence of important conodonts. Modified after Metcalfe (1981).

Metcalfe (1981b) should be assigned to the genus *Platyvillosus* indicating that the limestones of Gunong Keriang are entirely of Lower Triassic age.

Bukit Hantu

Bukit Hantu exposes the lower part of the Kodiang Limestone (fig. 3). Recent conodont studies have shown the presence of late Permian (Capitanian) strata in this hill (Metcalfe, 1981b). This age is indicated by *Neogondolella rosenkrantzi* (Bender and Stoppel) and *Neogondolella orientalis* (Barskov and Koroleva). These late Permian limestones pass up, apparently without a break, into limestones containing the early Triassic conodonts *Neospathodus bicuspidatus* (Muller), *N. waageni* Sweet and *N. dieneri* Sweet. The Permian-Triassic boundary is therefore located in the lower part of the section exposed at Bukit Hantu and this section demonstrates that the Kodiang Limestone extends in places down into the Permian. Further detailed studies of the sediments spanning the Permian-Triassic boundary at this locality are in progress and will hopefully yield information of value both on a regional and perhaps a global scale.

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PERHUBUNGAN LAIN (OTHER COMMUNICATIONS)

KONSEP TANAH DAN BATUAN DALAM GEOSAINS: SATU PERBANDINGAN

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Perkembangan pengetahuan geologi kini jauh melampaui batas geologi tradisional dan lebih mudah disebut geosains. Perkembangan pembangunan moden memang memerlukan pengetahuan multibidang, dan geosains sememangnya menepati keperluan ini. Akibatnya beberapa persoalan konsep akan timbul dan bidang yang bersepadu seharusnya mampu memahami konsep dalam bidangnya dan bidang lain dalam multi-bidang tersebut.

Dari ribuan konsep yang ada, saya ingin mengulas pengertian tanah dan batuan dalam perbincangan ini. Batuan dari sudut geologi mempunyai pengertian yang luas, meliputi tanah, dan perkara ini tidak harus dihairankan memandangkan penekanan kajiannya lebih menitikberatkan konsep asalmula, perbezaan dan taburan batuan di kerak bumi ini. Pendekatan geomorfologi pula mulai perlu membezakan di antara tanah dengan batuan. Umumnya tanah didefinisikan sebagai batuan yang telah berubah sepenuhnya akibat proses terluluhawa, dan zon di antara tanah dengan batuan dikenal regolit.

Dalam Sains Tanah pula pengertian batuan menjadi lebih samar, dan takrifan tanah menjadi satu perdebatan yang tidak pernah putus. Fitzpatrick (1980, m.s. 8) merasakan definisi tanah yang lebih tepat (meskipun tidak bermakna) adalah seperti berikut:

'Soil is anything so-called by a competent authority'.

Dan ahli pedologi tempatan menggunakan istilah tanah (perkataan Bahasa Malaysia yang baru diwujudkan) untuk 'soil', dan secara umum bersetuju dengan konsep tanah mewakili horizon-A dan -B, sementara horizon-C dan -R mewakili batuan terluluhawa dan batuan dasar dari satu profil tanah.

Bidang geologi kejuruteraan (perkembangan bidang geologi yang lebih moden) berfungsi pembawa utusan konsep geologi ke pengetahuan jurutera. Di sini tanah dan batuan perlu ditakrifkan dengan terperinci. Ahli geologi kejuruteraan mulai sepakat mendefinisikan peringkat-peringkat tanah ke batuan sebagaimana yang ditunjukkan dalam cadangan gred luluhawa jasad batuan (Anon, 1981). Dalam bidang kejuruteraan geoteknik takrifan tanah dan batuan lebih jelas lagi. Kajian mengenai tanah dan batuan berkembang dengan pesat dan berasingan sehingga wujud apa yang dikenal Mekanik Tanah dan Mekanik Batuan. Rata-rata ahli kejuruteraan geoteknik sependapat mengenai takrifan tanah dan batuan yang telah dikemukakan oleh Terzaghi dan Peck (1967, m.s. 4) seperti berikut:

'Soil is a natural aggregate of mineral grains that can be separated by such gentle mechanical means as agitation in water. Rock, on the other hand, is a natural aggregate of minerals connected by strong and permanent cohesive forces'.

Dari perbincangan ringkas ini, ketara konsep tanah dan batuan berbeza pada masing-masing bidang dalam multibidang geosains. Kaitan-

nya dapat diperhatikan dari Jadual 1. Kefahaman konsep ini jelas untuk satu-satu bidang, dan tidak harus dipersoalkan oleh ahli bidang lain. Kini semakin ketara, konsep tanah dan batuan adalah hak multibidang (bukan untuk bidang tertentu) geosains, dan adalah amat wajar dipertahankan sebagai berpengertian luas dalam bentuk tanah dan batuan, sesuai dengan semangat intergrasi multibidang.

Rujukan

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Manuskrip diterima 2hb Okt. 1984

JADUAL 1. Perkaitan Konsep Tanah dan Batuan dalam Multibidang Geosains

GEOLOGI	GEOMORFOLOGI	SAINS TANIH	GEOLOGI KEJURUTERAAN	KEJURUTERAAN GEOTEKNIK
	Tanah	<u>Horizon-A (Tanah)</u> <u>Horizon-B (Tanah)</u>	<u>Tanah Atas (TA)</u> <u>Tanah Baki (VI)</u> <u>Tanah Terluluhawa Sepenuhnya (V)</u>	Tanah Atas (TA)
Batuan	Regolit (Batuan Terluluhawa)	Horizon-C (Batuan Terluluhawa)	<u>Bahan Bumi Terluluhawa Tinggi (IV)</u> <u>Bahan Bumi Terluluhawa Sederhana (III)</u> <u>Batuan Terluluhawa Sedikit (II)</u>	Tanah ----- Batuan
	Batuan Dasar	Horizon-R (Batuan Induk)	Batuan Segar (I)	

Catatan: Bahan Bumi membawa makna tanah dan batuan.

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P E R T E M U A N P E R S A T U A N
(M E E T I N G S O F T H E S O C I E T Y)

TECHNICAL TALKS

J. SUPPE: Structure and mechanics of the active Taiwan fold and thrust belt.

Despite a sudden, heavy downpour in the afternoon of August 22, 1984, and massive traffic jams in the city, about 60 interested members managed to find their way safely to the Department of Geology, University of Malaya, Kuala Lumpur, to listen to Professor Dr. John Suppe, Professor of Geology, Princeton University, U.S.A., speak on the above-mentioned topic.

Initially Professor Suppe spoke on the tectonics of the Taiwan area. Taiwan is the site of active collision between the Luzon Arc of the Philippine Sea plate and the Chinese continental margin. The collision is oblique, having started off 4-5 Ma ago in northern Taiwan and is just beginning at the southern tip of the island. As one moves north toward Taiwan from Luzon it is equivalent to moving forward in time. The Manila Trench is transformed into the western Taiwan foredeep and the accretionary wedge is transformed into the western Taiwan fold-and-thrust belt. This frontal zone is well-known structurally because of extensive petroleum exploration. Further, new methods of subsurface structural analysis have been developed to project on accurate picture of the structure.

Professor Suppe then went on to describe the major transformational processes which involved fault-band and fault-propagation folding. He then presented a quantitative theory of the overall mechanics of the fold-and-thrust belt, which is essentially a theory of the mechanics of a wedge of soil in front of a bulldozer.

Professor Suppe reported that this theory was recently successfully tested in Taiwan and with the help of borehole data it showed that the cross-sectional shape of the fold-and-thrust wedge was that predicted from normal laboratory measurements of fracture strength and coefficient of friction; furthermore the step-up angles of the thrusts agree closely with the theory.



J. Suppe

G.H. TEH

MALAM SISWAZAH/SAINTIS MUDA (GRADUATES/YOUNG SCIENTIST EVENING)

K.C. THAM: Tertiary basins of the Bukit Garam District, Sabah, and their regional implications.

S.SIVAGNANAM: Sedimentology of the Crocker Formation and its regional implications.

As part of the Society's efforts to encourage fresh graduates to speak on their thesis areas, the Society was fortunate to have Mr. K.C. Tham and Mr. S. Sivagnanam speak on the above-mentioned topics on Wednesday, August 29, 1984 at the Department of Geology, University of Malaya, Kuala Lumpur.

Mr. K.C. Tham, who is now with The Analysts, a division of Schlumberger S.A., began the evening describing the whole sequence of tertiary sedimentary rocks in the Bukit Garam District which are represented by the Kulapis, Labang, Tanjong and Garinono Formation. From his recent findings, he suggested some improvement to certain geological boundaries in the existing geological map of Sabah (1967). Palaeocurrent studies indicate the seas are from the SE. The rounded Tanjong Formation basins and their NE/SW alignment are of regional importance and are interpreted as a rift valley with possible tie up with the Cagayan Ridge spreading centre.

Next Mr. Sivagnanam in summarising the geology of his study area also found some discrepancy in the existing boundary of the Temburong Formation in his study area as it did not come into the Tenom Gouge area as indicated by Wilson.

As for its regional implications, Mr. Sivagnanam proposed the sedimentation of the Crocker Formation to be that of a multi-fan model with the source material, in agreement with Kuenen, from Indo China in Cretaceous - Eocene time.

The two talks generated a considerable amount of questions and discussions from an interest audience and it was heartening to observe the speakers being able to stand up to them in a mature manner.

G.H. TEH



S. Sivagnanam



K.C. Tham

BERITA PERSATUAN
(NEWS OF THE SOCIETY)

HONORARY MEMBERSHIP - S.K. CHUNG

The Council has great pleasure in appointing Mr. Chung Sooi Keong as a Honorary Member of the Society. Mr. Chung is presently Chief Technical Adviser/Project Manager of UNDP/CCOP, since retiring as Director-General, Geological Survey of Malaysia in February 1982. He is responsible for administering and directing near and offshore investigations for CCOP which is an intergovernmental organisation formed to investigate the resource potentials, of the offshore regions of member countries.

So far, the Society has only 3 Honorary Members and they are K.F.G. Hosking, J.A. Katili and T. Kobayashi. It is heartening to note that Mr. Chung is the first Malaysian to be bestowed Honorary Membership. That, however, is not his first as a Malaysian for he is also the first Malaysian Director (July, 1968) to assume control of the Geological Survey of Malaya and the Geological Surveys of Sarawak and Sabah which were integrated to form the Geological Survey of Malaysia. He is also the first Malaysian Director-General of the Geological Survey of Malaysia.

Highlights of his achievements as Director-General of the Geological Survey Malaysia include, among other things,

- (i) Controlling the oil and gas exploration data before the formation of Petronas when new oil and gas fields were discovered in offshore Trengganu, Sabah and in Sarawak.
- (ii) Expanding the Geological Survey activities from field mapping and mineral investigations into modern branches of geological discipline covering economic geology, industrial minerals, exploration geochemistry, geophysics, hydrogeology (underground water), engineering geology, geochronology, quaternary geology, diamond drilling crews, remote sensing.
- (iii) Initiating the first offshore marine investigation for minerals in offshore Johore and Kuantan in 1975 followed by offshore investigation for tin and heavy minerals in the southern half of the Malacca Straits culminating in the discovery of offshore tin near Cape Rachado.
- (iv) Starting the first large scale geochemical exploration project in Peninsular Malaysia resulting in the discovery of two large base metal deposits in Pahang and Kelantan.
- (v) Establishing the first unit in the Geological Survey to investigate the underground water resource potential in the country. The department is the only government organization capable of carrying out detail exploration and exploitation of groundwater throughout Malaysia.
- (vi) Initiating and organizing the establishment of the first Geochronological Laboratory to determine the ages of rocks in the country using potassium/argon and rubidium-strontium isotope methods. This is the only laboratory capable of dating the ages of rocks in Malaysia.

- (vii) Implementing the diversification of mineral mining by the successful search for other minerals besides tin e.g. base metals like copper, lead, zinc and molybdenum, etc. The discoveries of these base metal in Peninsular Malaysia are achievements in themselves because the FIRST potentially mineable molybdenum-copper deposits to be discovered in Peninsular Malaysia was proven.
- (viii) Organizing and completing the first large scale airborne geophysical survey covering roughly 1/3 the land areas of Peninsular Malaysia. The results have been most encouraging as all areas of known mineralization is manifested in the magnetic/radiometric anomalies.
- (ix) The department now has the biggest and the most sophisticated geochemical laboratory in Malaysia.
- (x) Engaging in the geological dam site investigation of the huge Cameron Highlands Hydroelectric dam site in Malaysia in 1957 followed by the site investigation of the Ayer Itam Dam in Penang and the following dam site investigations by the department: (a) Muda River Dams; (b) Temenggor Dam Site; (c) Bersia Dam Site; (d) Kenering Dam Site (Perak); (e) Kuala Lumpur Klang Gates Dam; (f) Perting Dam near Bentong; (g) Pergau Dam Site (Kelantan); (h) Kuala Berang Dam Site (Trengganu); (i) Belawi Dam/Batang Ai Dams (Sarawak), etc.
- (xi) Starting the first Quaternary Geology Division to study the cause and effect of quaternary geology in relation to tin mineralization, coastal sedimentation and erosion, study of sedimentation and offshore mineral exploration.
- (xii) Starting the first Industrial Mineral Division to cater for the needs of industrial and infrastructure developments such as clay for ceramics, paper manufactures, fillers, tiles, bricks, glass sands, cement, quarry stones, fertilisers, drilling mud and other nonferrous raw material supply.
- (xiii) Starting the first Remote Sensing Unit of geological interpretation.
- (xiv) Initiating the German/Malaysia Geological Survey (Sabah) on the integrated exploration for minerals in Sabah in 1980. The discovery of massive sulphides of the cyprus type of mineralization in Sabah is significant.

In addition, Mr. Chung has served as the Permanent Representative from Malaysia to the UNDP/CCOP, Governing Council of the ESCAP/RMRDC, Commonwealth Committee on Mineral Resources and Energy (CCMRG) and Malaysia's Representative to the International Union of Geological Sciences (IUGS).

G.H. TEH

GEOSEA V PROCEEDINGS - ARTICLES RECEIVED

The Geological Society of Malaysia will be publishing the GEOSEA V Proceedings in 2 volumes as special issues of its Bulletin series. It is scheduled to be available in mid-1985.

The response to the call for submission of papers has been most overwhelming. So far 77 papers has been received for consideration for publication in the Proceedings and authors, who wrote in seeking extension of the dateline, have been allowed to submit their manuscripts late (see list below).

GEOSEA V Proceedings - Manuscripts Received

1. Nature of gold mineralization in certain areas in East Manipur, India, within the Indo-Burman Ophiolite Belt - P.J. Deka. (10.4.84)
2. Chromite deposits of Papua New Guinea - a future potential source of chrome - P.M. Afenya. (10.4.84)
3. The succession of vertebrate faunas in the continental Mesozoic of Thailand - E. Buffetaut & R. Ingavat. (10.4.84)
4. Present understanding of the Pre-Cenozoic stratigraphy of Hong Kong - D.R. Workman et al. (9.7.84)
5. Clay mineralogy of selected alluvial soils from Peninsular Malaysia - J. Shamshuddin. (9.7.84)
6. Palaeogeographic development of west Sarawak - Denis Tan. (14.7.84)
7. Discovery of Lower Permian corals in Sumatra - H. Fontaine. (17.7.84)
8. Slope stability problems in part of western Singapore - J. Pitts. (17.7.84)
9. Residual soil development on sedimentary rocks of the Jurong Formation in Singapore - J. Pitts & R. Kannan. (17.7.84)
10. Geologic significance of granitic fragments found from pumice flow of 1883 eruption at the Krakatau Group, Indonesia - N. Oba et al. (21.7.84)
11. A preliminary sulfur and oxygen isotope study of the Maha Sarakham Evaporitic Anhydrite from Bamnet Narong Area of NE Thailand - Visut Pisutha-Arnond et al. (31.7.84)
12. The Chemistry of Lateritic Soils: The search for new agricultural technology - B.I. Kronberg, W.S. Fyfe et al. (31.7.84)
13. Conodont biostratigraphic studies in Sumatra: Preliminary Results - I. Metcalfe. (1.8.84)
14. Bauxite in the Kuantan area, Peninsular Malaysia - S. Senathi Rajah. (6.8.84)
15. Magnetic Spectrum of the San Kampaeng geothermal area, Northern Thailand - Somsri Sertsrivanit et al. (7.8.84)

16. On a Pleistocene gravel beach sequence exposed in coastal plain tin mines, Phuket Island, Thailand - G.A.M. Kruse. (9.8.84)
17. The Role of the ESCAP Regional Mineral Resources Development Centre - J.F. McDivitt. (9.8.84)
18. Palynology as a tool in delineating tropical lowland depositional environments of Late Quaternary age - R. Hillen. (13.8.84)
19. Cretaceous melange in West Kalimantan and its tectonic implications - P.R. Williams et al. (15.8.84)
20. Mud volcanoes and the origin of chaotic deposits in Sabah, East Malaysia - R.B. Tate. (15.8.84)
21. Progress in Quaternary Geology investigations in S.E. Asian countries since GEOSEA IV, Manila, 1981 - J.A.M. Ten Cate. (15.8.84)
22. Aspects of the Geochemistry of Malaysian cassiterites - W. Fuad Hassan. (14.8.84.)
23. Petrochemistry of basaltic rocks at km 567.5 Pahonyothin Highway, northern Thailand - Y. Panjasawatwong & W. Yaowanoyothin. (17.8.84)
24. Recent advances in exploration modelling for tin deposits, and their application to the S.E. Asian environment - R.G. Taylor & P.J. Pollard (20.8.84)
25. On the Geology of the Petchabun Fold-Belt (Central Thailand) - Implications on the Geodynamic Evolution of Mainland S.E. Asia - Dietrich Helmcke. (21.8.84)
26. Some aspects of southern granitoid complex and tin mineralization in the northern part of Bangka, Indonesia - R. Soeria-Hmadja et al. (23.8.84)
27. On the Quaternary Deposits of Thailand - Phisit Dheeradilok & Worakoon Kaewyana. (24.8.84)
28. Aspek Geologi Kejuruteraan batuan metasedimen klastik di sekitar Kuala Lumpur, Semenanjung Malaysia - I. Komoo. (27.8.84)
29. The rare-earth elements geochemistry of Lingshan tungsten-tin bearing granites and their applications to petrogenesis of the granites - Yuan Zhongxing et al. (28.8.84)
30. Geology and Stratigraphy of Sri Racha area, Chonburi Province, Eastern Thailand - M. Taiyaqut et al. (28.8.84)
31. Petrological & Geochemical studies of granites of Kathu Plutons of Phuket Island, Southern Thailand - P. Charusiri et al. (28.8.84)
32. Direct detection of hydrocarbons by Electraflex Method - Abdul Halim Quazi. (29.8.84)
33. Distribution of major and some trace elements of some granites from Bangka, Indonesia - J.M. Sitanggang. (29.8.84)
34. Complex tin-bearing sulfides of the South Chinese Ore Type - G.H. Moh (1.9.84)

35. Preliminary synthesis of the geology of Bangka Island, Bangka
- U Koko. (3.9.84)
36. Quaternary volcanic ash deposits in the Padang Terap District, Kedah
State, Peninsular Malaysia - J. Debaveye et al. (3.9.84)
37. Geomorphology and soils of the Padang Terap District, Kedah State,
Peninsular Malaysia - M. De Dapper & J. Debaveye. (3.9.84)
38. Age determination on the Kuantan Granite and Dolerite Dykes
- F.L. Yap (4.9.84)
39. K/Ar ages of biotites from the granites of Penang, Malaysia
- T.S. Kwan & F.L. Yap. (4.9.84)
40. Geological evolution of the Southern Philippines - C.K. Burton.
(4.9.84)
41. Quaternary volcanism and other phenomena generally attributed to
volcanicity in the Aceh Region (North Sumatra), Indonesia
- G.A. De Néve. (4.9.84)
42. Geohazards of the Galunggung 1982-83 Aftermath - G.A. De Néve
(4.9.84)
43. Aspects of the Geohydrology in coral reef atolls of the Kai and
Tanimbar Islands in the southern Moluccas - G.A. De Néve. (4.9.84)
44. Southeast Asia as a part of an Early Palaeozoic Australian Gondwanaland
- C. Burrett & B. Stait. (6.9.84)
45. Quaternary stratigraphy and prospects for placer tin deposits in the
Kuantan area, Pahang - T. Suntharalingam. (6.9.84)
46. Some thoughts on the development of the alluvial tinfields of the
Malay-Thai Peninsula. - D. Taylor. (6.9.84)
47. On the evaporite deposits in Bamnet Narong area, northeastern Thailand
- S. Yumuang et al. (6.9.84)
48. The slope stability problem at Mae Moh lignite mine, Lampang Province,
Northern Thailand - W. Tandicul et al. (6.9.84)
49. The Holocene transgression in Peninsular Thailand - P. Pramojane
& P. Hastings et al. (6.9.84)
50. Factors concerning with spontaneous fires in Northern Thailand coals
- B. Ratanasthien. (7.9.84)
51. Soil landscapes in Peninsular Malaysia - S. Paramanathan & S.
Zauyah. (11.9.84)
52. Geological evolution of the Indonesian Archipelago - H.M.S. Hartono
& S. Tjokrosapoetro. (11.9.84)
53. New lights on human evolution in Southeast Asia - S. Sartono.
(11.9.84)
54. Tin-tungsten mineralized granite at Mae Chedi area, Wiang Pa Pao
District, Chiang Rai Province, Northern Thailand - R. Hansawek
et al. (11.9.84)

55. Discovery of stone age tools from Tripura and its relevance to Prehistory of Southeast Asia - N.R. Ramesh. (11.9.84)
56. Base metal exploration in Sabah - David T.C. Lee & H.S. Weber. (12.9.84)
57. Massive sulfide deposits and their possible significance to other ores in Southeast Asia - R.W. Hutchinson. (11.9.84) (Keynote paper)
58. Development of San Kamphaeng geothermal energy plant Thailand - T. Ramingwong & S. Praserdvigai. (11.9.84)
59. Regional controls of hydrothermal ore localization in northern Thailand - P. Asnachinda & S. Chantaramee. (11.9.84)
60. Metallogeny of Hoang Lien Son subduction zone - Le Thac Xinh. (11.9.84)
61. Recent advances in the knowledge of geology and mineral resources of Vietnam since 1981 - Le Thai Xinh & Nguyen Xuan An. (11.9.84) (Review Paper)
62. Recent advances in the knowledge of geology, energy resources and metallogenesis of Papua New Guinea since 1981 - R. Rogerson, A. Williamson & G. Francis. (11.9.84)
63. Sedimentology of Upper Jurassic deposits in the Tembesi River area (Central Sumatra) - L. Beauvais et al. (11.9.84)
64. A review of what is presently known about the nature, distribution and genesis of certain authigenic minerals in the stanniferous alluvial deposits of Southeast Asia - K.F.G. Hosking. (14.9.84)
65. Global tectonics and resources - W.S. Fyfe. (17.9.84)
66. Tertiary basins of S.E. Asia - their disparate tectonic origins and eustatic stratigraphical similarities - Charles S. Hutchison. (20.9.84)
67. Tin/tungsten-bearing granites in South China and their metallogenic relations - Xu Keqin & Zhu Jinchu. (24.9.84)
68. Geology and exploitation of kaolin deposits in the Bidor area, Peninsular Malaysia - P.C. Aw. (25.9.84)
69. Geology and tectonics of Arakan Yoma - a reappraisal - D.R. Nandy. (2.10.84)
70. Application of the Zeiss TGA 10 particle-size analyzer in the exploration of stanniferous placers - W.W.-S. Yim. (2.10.84)
71. Hydrogeological activities in Peninsular Malaysia and Sarawak - F.S. Chong and Denis N.K. Tan. (2.10.84)
72. Neogene stratigraphy, structure and petroleum potential of the Oiapu-Yule Island - Oroi Region, Papua New Guinea - G. Francis, R. Rogerson et al. (2.10.84)
73. Results of a gravity survey in the Kuala Lumpur area - C.A. Foss. (11.10.84)

74. A study of altimeter height control in a gravity survey around Kuala Pilah, Central Malaysia - C.A. Foss. (11.10.84)
75. Catchment geomorphology and its relationship with stream flow - a case study of selected drainage basins in Peninsular Malaysia - C.H. Peh. (15.10.84)
76. Status of uranium exploration in Peninsular Malaysia - L.H. Chu. (19.10.84)
77. The nature and potential of gold mineralization in Kelantan, Peninsular Malaysia - L.H. Chu & D. Santokh Singh. (19.10.84)

GEOSEA V Proceedings - Late Submission

1. Forearc or Foredeep: Tectonic controversy concerning structure of Banda Arc - Audley-Charles, M.G.
2. The integration of remote sensing, terrain evaluation and engineering geology in Southeast Asia - Beaumont, T.E. and Hunt, T.
3. The Kanchanaburi Supergroup of Peninsular and Western Thailand - Burton, C.K.
4. Geochemistry and Petrogenesis of alkaline basaltic rocks of Kuantan, Peninsular Malaysia - Chakraborty, K.R.
5. Coal potential and exploration in Sarawak - Chen Shick Pei.
6. Behaviour of tin and associated elements in a mountain stream, Bujang Melaka, Malaysia - Fletcher, W.K., Dousset, P.E. and Yusoff bin Ismail.
7. Cathaysia, Gondwanaland and the Paleotethys in the evolution of continental Southeast Asia - Gatinsky, Yuri G. and Hutchison, Charles S.
8. Marginal sea formation by rifting of the Chinese and Australian Continental Margins and implications for Borneo - Hutchison, Charles S.
9. The seismic record in S.E. Asia: Some distribution characteristics in time - Leong Lap Sau and Burton, Paul W.
10. Seismic risk parameters from cumulative frequency estimates in S.E. Asia - Leong Lap Sau and Burton, Paul W.
11. Late Paleozoic glacial marine facies in Southeast Asia and its implications - Stauffer, P.H. and Lee Chai Peng
12. Directions of geologic transport in Peninsular Malaysia - Tjia, H.D.
13. Cretaceous melange in West Kalimantan and its tectonic implications - Williams, P.R., Supriatna, S. and Harahap. H.



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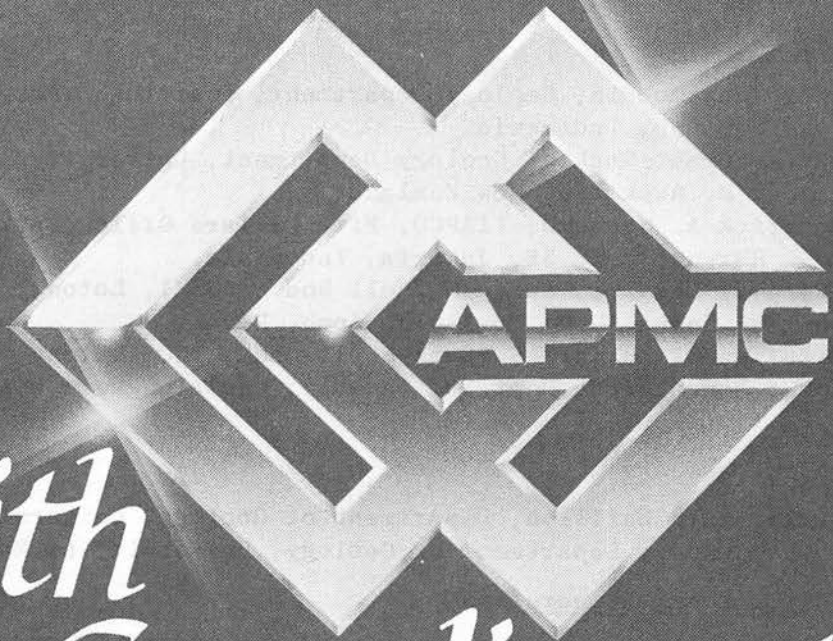
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The following applications for membership were approved by the Council:

Full Members

Dindin Hasanuddin, Geology Department, Institute Technology of Bandung, Bandung, Indonesia.
 John A. Grant-Mackie, Geology Department, University of Auckland, P.B. Auckland, New Zealand.
 Frederick A. Newcomb, IIAPCO, Fire Pillars Office Park, Jl. Letjen Haryono M.T. 58, Jakarta, Indonesia.
 Philip C. Lesslar, Sarawak Shell Bhd., SGS/1, Lutong, Sarawak.
 Kwan Tai Seong, P.O. Box 1015, Ipoh, Perak.
 Saiful Bahri Zainal, Sarawak Shell Bhd., ITC, Lutong, Sarawak.
 Wasant Pongsapich, Dept. of Geology, Chulalongkorn University, Bangkok, Thailand.

Student Members

Seitle Singh Dhillion, Department of Geology, University of Malaya.
 Ho Chee Kwong, Department of Geology, University of Malaya.

Institutional Members

Universiti Pertanian Malaysia, Bahagian Perolehan (Terbitan Bersiri), Serdang, Selangor.
 Charterhouse Petroleum, Audrey House, Fly Place, London EC1N 6SN, England. Attn: Paul S. Taylor.

PERTUKARAN ALAMAT (CHANGE OF ADDRESS)

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

Tan Boon Kong, c/o Geotechnical Research Centre, McGill University, 817 Sherbrooke St., Montreal, Quebec, Canada H3A 2K6.
 Max H. Holtby, 42965 Lumsden Road, R.R. No. 3, Sardis, British Columbia, Canada, VOX 1Y0.
 R.J. Paten, 9 Mt. Nebo Road, The Gap, Queensland, 4061, Australia.
 H.G. Oesterle, c/o W. Graf, Cadonaustrasse 43^a, CH-7000 Chur, Switzerland.
 Dale F. Wetherbee, Diamond Shamrock International Petroleum Company, 717 North Harwood, 13th Floor, Dallas, Texas 75201, U.S.A. (214) 922-2000.
 Ida Suzaini bt. Abdullah, ITA/11, c/o Sarawak Shell Berhad, Lutong, Miri, Sarawak.
 Lee Malcolm Gray, Department of Geology, Mt. Union College, Alliance, Ohio 44601, U.S.A.
 Robert Toba Siahaan, XGL, Exploration Department, Sarawak Shell Berhad, Lutong, Miri, Sarawak.

PERTAMBAHAN BARU PERPUSTAKAAN (NEW LIBRARY ADDITIONS)

The following publications were added to the Library:

1. Geological Survey of India, News, vol. 14, nos. 5 & 6 (1983), and vol. 15, no. 1 (1984).
2. National library, S'pore, adult reference collections, accessions list, March-June 1984.
3. Petroleum News, vol. 15, no. 3, & no. 5, 6, 1984.
4. Proceedings of the annual Technical Meeting, 1982. Dept. of Geol. Sciences, Chiang Mai Univ. 1-2 Feb., 1983.
5. Diesel & gas turbine worldwide, May-Sept, 1984.
6. IMM Bulletin no. 931, 933 and 934, 1984.
7. Acta Palaeontologica Sinica, V. 23 (1) 1984.
8. J. Stratigraphy, v. 8(1), 1984.
9. Memoirs of Nanjing Institute of Geol & Pal. 18, 1983.
10. IMM Transaction Sect. A. v. 93, 1984.
11. Geosurvey newsletter, v. 16, no. 3-6, 1984.
12. Contributions from the Inst. of Geology & Paleontology Tohoku Univ. no. 86, 1984.
13. The Science Reports of the Tohoku Univ., vol. 54, no. 1 (1983), no. 2 (1984).
14. International subcommission on stratigraphic classification of IUGS Commission on stratigraphy, circular no. 66, 1984.
15. Commonwealth Science council, newsletter, July/Aug, 1984.
16. Journal of geosciences, Osaka City Univ., v. 27, 1984.
17. Chronique de la recherche miniere, no. 475 & 476, 1984.

BERITA - BERITA LAIN

(OTHER NEWS)

HAMMERS AND AIRLINES DON'T MIX

Want to feel like a criminal real fast?

Just try getting on board a commercial airline flight while carrying your trusty rock hammer.

Suddenly, you're no longer seen as a geologist or scientist. You've become a suspicious person.

Your rock hammer is no longer a scientific instrument. It's a weapon.

The whole situation is enough to make some people embarrassed or downright mad. But will the wrath of a geologist be enough to change the system? Probably not.

"Is there nothing that our organization can do to alleviate the problem of not being able to carry a rock hammer on an airplane? I have been continually frustrated by ignorant airport security personnel who will not accept the fact that a rock hammer is not a weapon, but rather a tool of my trade."

Those are the words of John K. Aldrich (AC '69), who wrote to the EXPLORER about the problem.

"Even when I show them (security personnel) a business card or a registration certificate which demonstrates my profession, they will not budge." Aldrich wrote.

"Certainly medical doctors are permitted to board with their case of 'weapons'. Should we not be granted the same courtesy?"

Well Not really.

"If the screening agent sees something that might be construed as a weapon, he or she can keep it from going onto the plane." said I.J. Horn, special agent for the Federal Aviation Administration in Fort Worth, Texas.

("Most of your doctors don't travel with their doctor kits." Horn said. And if they tried, they'd probably be stopped.)

That's because anything that looks like a weapon, Horn said - ice picks, straight razors, even crampons - are usually not allowed on board. Sharp-pointed rock hammers definitely fall into that category.

"There's a strong possibility that they're not going to be able to carry that item on board." Horn said.

The justification can be traced to a section of a security manual used by most U.S. air carriers: Weapons and Dangerous Devices Guidelines. There, carriers are instructed that "common sense should always prevail" in determining what can and can't be taken onto a commercial flight.

But many items which are "not a weapon in itself, but could be used as a weapon" should be kept out of the passenger cabin, according to the manual. Security personnel are allowed "broad interpretation" of the rule, so the sharp and, in the wrong hands, potentially dangerous rock hammer usually causes problems.

"The carrier asks, 'Does this person need this item for the flight?' Horn said. "If not, and if they felt it fit into what they believed to be a dangerous weapon, they (security personnel) could deny a person from having it on board."

So when you're stopped at a security gate for carrying a rock hammer, Horn said don't get mad at the security people. "They're just agents for the carrier, and they've been told what to do."

Instead, Horn suggests placing rock hammers (and all other potentially dangerous items) in luggage to be checked at the counter. Or, while at the ticket counter, ask permission to carry the rock hammer on board.

Your request probably will be denied. But at least you won't be viewed with suspicious eyes when you pass through security.

(AAPG Explorer, July, 1984)

ANALYTICAL CHEMISTRY IN THE EXPLORATION, MINING AND PROCESSING OF MATERIALS - SECOND INTERNATIONAL SYMPOSIUM

CSIR Conference Centre, Pretoria.
15-19 April 1985

Introduction

This is the second bulletin announcing the IUPAC Symposium on Analytical Chemistry in the Mining. Exploration and Processing of Materials and constitutes the final call for papers.

Analytical chemistry is vital to the mining and minerals industry. To meet the ever-increasing demands placed in the quest for better quality and the more economical exploitation of mineral resources, sophisticated analytical techniques must be constantly developed or existing methods improved.

The need for regular and formal exchange of knowledge has resulted in South Africa, with its many mining interests and rich and varied mineral deposits, hosting the second Symposium as a sequel to the first highly successful one held in Johannesburg in 1976.

Sponsors and Associated Organizations

The Symposium is being held under the patronage of the International Union of Pure and Applied Chemistry (IUPAC), and it is sponsored by several associated research institutions and private companies. The secretarial services are supplied by the Symposium Secretariat of the Council for Scientific and Industrial Research (CSIR).

Venue and Dates

The Symposium will be held at the CSIR Conference Centre, a modern lecture complex situated in quiet and attractive surroundings on the eastern outskirts of Pretoria.

The scientific programme will begin on Monday morning, 15 April and end on Friday afternoon, 19 April 1985.

It is suggested that out-of-town delegates should plan to arrive in Pretoria during the weekend preceding the Symposium as early registration and the "getting to know you" Cheese and Wine party will be held on Sunday, 14 April. Special sightseeing tours will be arranged for delegates arriving during this weekend.

Objective and Aim

The objective is to highlight the importance of analytical chemistry in the production of materials from the initial stages of exploration and assessment of ores to the beneficiation and, finally, to the refined product.

The aim is to bring together from all over the world scientists specializing in the various fields of analytical chemistry to exchange information, to discuss progress in the analytical sciences and to explore future developments.

The Symposium should, therefore, be of interest to anyone working in the fields relating to the determination of the quality of materials, i.e. analytical chemists, mineral physicists, metallurgists, geologists, chemical and mining engineers.

Final Call for Papers

This is the final invitation for contributions on any of the following analytical topics:

- Atomic absorption spectrometry techniques
- Inductively coupled plasma techniques
- X-ray spectrometry and diffraction techniques
- Neutron activation techniques
- Ion beam analysis
- Surface analytical techniques
- Geochemical exploration
- Automation and on-line analysis
- Flow injection analysis
- Analysis of ferrous materials
- Analysis of non-ferrous materials
- Wet chemistry
- Reference materials
- Elemental analysis of coal
- Chemometrics
- Analysis of Nuclear materials
- Analysis of gold, silver and platinum group metals
- Analysis of the environment

Authors still wishing to contribute must submit their abstracts of not more than 300 words to the Symposium Secretariat.

All correspondence related to the Symposium should be addressed to:

The Symposium Secretariat S.328
 CSIR
 Box 395
 PRETORIA
 0001 South Africa
 Tel: (012) 86-9211 x 4412 (Mrs Meyer)
 x 2077 (Mrs Rhodes)
 International + 271286-9211
 Telex 3-21312 SA

ZEOLITE '85 - AN INTERNATIONAL CONFERENCE ON THE OCCURRENCE, PROPERTIES, AND UTILIZATION OF NATURAL ZEOLITES

Budapest, Hungary
 August 12-16, 1985

Recent interest in natural resources focused increasing attention on natural zeolites and initiated active research. It was eight years ago that a general survey on natural zeolites was last presented (1976, Tucson, Arizona). In the meantime a large amount of work has been done and much experience has been accumulated in this field. Zeolite '85 will provide an opportunity for wide-scale discussions, reviews on the newest results and methods in chemical, physico-chemical, geological and mineralogical investigations, and the applications of natural zeolites in industry, agriculture, and environment protection.

The Conference under the auspices of the International Committee on Natural Zeolites is sponsored by the Hungarian Academy of Sciences.

Scope

The program covers all aspects of natural zeolite research and applications including the following subjects.

- Geological Occurrence
 - Geology
 - Mineralogy
 - Geochemistry
- Mineralogical Properties
 - Mineralogy
 - Crystal Chemistry
 - Synthesis & Stability
- Production
 - Mining
 - Beneficiation
 - Product Preparation
- Physical & Chemical Properties
 - Diffusion
 - Adsorption
 - Hydration-Dehydration
 - Ion-Exchange
 - Catalysis
- Biological Reactivity
 - Carcinogenicity
 - Antibiotic Reactivity
 - Hemodialysis
- Agricultural Applications
 - Agronomy
 - Horticulture
 - Animal Nutrition
 - Animal Waste Treatment
 - Aquaculture
- Pollution-Abatement Applications
 - Wastewater Treatment
 - Water Purification
 - SO_x, NO_x Adsorption
- Energy Conversion Applications
 - Catalytic Reactivity
 - Hydrocarbon Drying, Purification
 - Solar Energy Utilization
- Nuclear Energy Applications
 - Waste Isolation & Storage
 - Backfill & Overpack Products
- Other Industrial Applications
 - Paper Products
 - Construction Materials

Scientific Program

The program includes invited and submitted papers. Oral contributions will be presented in several parallel sessions. Round table discussions are also scheduled. Posters can be displayed throughout the Conference.

Lectures and posters should be presented in English. No translation facilities will be provided.

Paper Submission

After review of the abstract, authors will be invited to submit a complete manuscript.

January 31, 1985 Full Manuscript in camera ready form. Original contributions are requested. All papers will be subjected to peer review before acceptance.

Abstracts of the accepted papers will be published in the Conference Proceedings

General Information

Zeolite '85 will be held in Budapest (Hungary), August 12-16, 1985. Registration begins on Sunday, August 11.

The following registration fees are anticipated:

- about 180 US \$ for Conferees;
- about 80 US \$ for Students, Spouses and Guests.

Registration fees include a copy of Program, Abstracts, List of Participants and for Conferees only the Conference Volume.

Accommodation will be available in hotels and student dormitories.

Further information:

Dr. J. Engelhardt Secretary ZEOLITE '85
Central Research Institute for Chemistry,
Hungarian Academy of Sciences,
H-1525 Budapest,
P.O. Box 17,
Hungary.

EXTRACTION METALLURGY 85

London
9-12 September, 1985
First Circular

Date and Venue

Extraction Metallurgy '85 is the fifth in the IMM series of international symposia devoted to advances in extraction metallurgy. It will be held from 9 to 12 September, 1985, at Imperial College of Science and Technology, London, England. The symposium is being organized by the Institution of Mining and Metallurgy, in association with the Australasian Institute of Mining and Metallurgy, Benelux Metallurgie, the Canadian Institute of Mining and Metallurgy, the Société Française de Metallurgie, GDMB, Germany, Norsk Metallurgisk

Selskap, Norway, the Metallurgical Society of AIME, the Society of Mining Engineers of AIME and the South African Institute of Mining and Metallurgy.

Theme

Adaptation to change is the theme of the symposium.

New orebodies may require new processes or the adaptation of old techniques. Social pressures and government regulations may demand reductions in effluents. Customers may demand higher quality products. Cost escalation and other factors may change the relative merits of alternative processes and the relative economics of different operations. New materials (often developed elsewhere) become available. These, and many other factors, combined with a professional desire to innovate and improve, bring about changes in the technology of extraction metallurgy.

Sometimes the changes are radical; more normally, however, they are gradual modifications of old technology. Some are quick to react, others are more conservative. But, wherever a change is successfully developed, it is usually not long before it is available for use elsewhere.

Extraction Metallurgy '85 provides a forum for discussion of why, how, when and where such changes have been, or may be, developed.

Papers

It is expected that sessions will be held on the following topics:

- Production of the light metals (Al, Mg, Ti)
- Plasma technology and uses
- Extraction and recycling of electronic/IT metals
- Analytical techniques and quality control
- Complex sulphide metallurgy
- Chloride metallurgy applications
- Effluent treatment and by-product recovery
- Recent developments in gold metallurgy
- Waste heat recovery
- Process development and design

Papers are invited on research work, process innovations or changes in plant practice related to the above or other topics that reflect the industry's adaptation to changing circumstances.

Abstracts (250-300 words) of proposed papers should be submitted to the Conference Office, The Institution of Mining and Metallurgy, 44 Portland Place, London W1N 4BR, England. Authors of approved abstracts will be requested to submit their completed manuscript in March, 1985.

The preprinted volume of papers will be distributed to registrants before the symposium.

Tours

Technical visits to research establishments and metallurgical plants in the United Kingdom, Europe and Scandinavia are planned during the week following the symposium. Full information on these visits will be given in the Final Circular.

Enquiries

All enquiries in connection with Extraction Metallurgy '85 should be addressed to the Conference Officer, The Institution of Mining and Metallurgy, 44 Portland Place, London W1N 4BR, England (telephone: 01-580 3802; telex: 261410 IMM G)

CARBONATE RESEARCH NEWSLETTER

Carbonate Newsletter

A new quarterly publication covering recent articles, books, meetings and events of interest to carbonate geologists and geochemists has been started. Areas covered include carbonate sedimentology, stratigraphy, geochemistry, mineralogy, diagenesis, paleontology, marine biology, and petroleum engineering of carbonate reservoirs. Over 100 geological, engineering, and general scientific journals are searched-on a regular basis for references. The newsletter features keyword summaries of each citation and aims to help researchers and explorationists keep abreast of new developments through the timely dissemination of information. Annual subscriptions are US \$12 for four issues appearing in February, May, August, and November. For additional information or subscriptions write the CARBONATE RESEARCH NEWSLETTER, 1615 California St., Suite 411, Denver, Colorado, 80202.

URGENTLY NEEDED

IF YOU HAVE ANY GEOLOGICAL NOTES OR NEWS
ITEMS TO SHARE WITH OTHER MEMBERS,
PLEASE SEND THEM IN IMMEDIATELY TO THE
EDITOR THANK YOU.

SENARAI KATA UMUM YANG SERING DIEJA SALAH - DBP

BAHAGIAN I

SENARAI KATA UMUM YANG SERING DIEJA SALAH

- agenda (*bukan* agenda, ejenda) (*Ig. agenda*)
- agensi (*bukan* ajensi, cjensi) (*Ig. agency*)
- agama (*bukan* igama, ugama)
- beragama
keagamaan
agama Islam
jabatan agama
- agung
- diagungkan
keagungan
memperagungkan
mengagungkan
mesyuarat agung
- aidiladha (*bukan* idiladha, iduladha, aiduladha)
Hari Raya Aidiladha
- aidilfitri (*bukan* aidulfitri, idilfitri, idulfitri)
Hari Raya Aidilfitri
- alatulis (*bukan* alat tulis, alat-tulis)
- ambulans (*bukan* ambulan) (*Ig. ambulance*)
- aneh [anch] (*bukan* anih)
keanehan
- aneka (*bukan* anika)
- anekarama
anekaragam
Anekaria (siaran RTM)
beraneka
- anggerik (*bukan* anggerek, anggrek, anggrik)
- arena [arena] (*bukan* arina) (*Ig. arena*)
Arena Sukan (siaran RTM)
- arkitek (*bukan* akitek) (*Ig. architect*)
- ataupun (*bukan* atau pun)
- audit (*bukan* odit) (*Ig. audit*)
- diaudit
juruaudit
mengaudit
pengauditan
- auditorium (*bukan* oditorium) (*Ig. auditorium*)
- autobiografi (*bukan* otobiografi) (*Ig. autobiography*)
- autograf (*bukan* otogeraf, otograf) (*Ig. autograph*)
- automatik (*bukan* otomatik, otomatis) (*Ig. automatic*)
berautomatik
- autonomi (*bukan* otonomi) (*Ig. autonomy*)
- awet [awet] (*bukan* awit)
- diawet
mengawet
pengawetan
- bagi/bahagi (penggal)
bahagian
- baharu/baru (lawan 'buruk') (*bukan* bahru, bharu)
- bandar baharu/baru
dibaharui
kebaharuan
membaharui
memperbaharui
- pembaharu
pembaharuan
- bahtera (*bukan* bahtra)
- bandaraya (*bukan* bandar raya)
Bandaraya Kuala Lumpur
- bankrap (*bukan* bengkerap) (*Ig. bankrupt*)
- banteras/berantas (*bukan* benteras)
- dibanteras/diberantas
membanteras/memberantas
- barang/barongan [baron] (sj. tarian) (*bukan* barung/
barungan)
- baru (lawan 'lama' tentang masa)
baru-baru ini
la baru saja sampai.
- begini (*bukan* bagini)
- begitu (*bukan* bagitu)
- belok [belok] (kelok; bengkok)
- berbelok
berbelok-belok
dibelok
membelok
membelokkan
pembelokan
terbelok
- belot [belot] (berpaling tadah; berkhiatan)
- berbelot
membelot
pembelot
pembelotan
- belut [bplot] (sj. ikan)
- bena [bena] (acuh; peduli; hirau; perhatian)
- bena tak bena
membenakan
- berontak (*bukan* beruntak)
- memberontak
pemberontak
pemberontakan
- beza (*bukan* beda)
- berbeza
berbeza-beza
dibezakan
membezakan
membeza-bezakan
memperbezakan
pembezaan
perbezaan
- biarpun (*bukan* biar pun)
- bina (mendirikan; membangun)
- binaan (bangunan)
dibina
membina
pembina
pembinaan
terbina
- bingung (*bukan* bengong)
- kebingungan
membingungkan
pembingungan
- binti (*bukan* binte)
- biologi (*bukan* bioloji) (*Ig. biology*)
- blok (deretan rumah; pakatan negara; acuan cap)
- memblok
seblok (satu blok; sama blok)
blok komunis
- boleh (*bukan* bolih)
- berkebolehan
dibolehkan
diperbolehkan
kebolehan
membolehkan
memperbolehkan
seboleh-bolehnya
- bonus (*bukan* bonos) (*Ig. bonus*)
- boroh (jaminan; barang tanggungan)
memborohi
- brek (*bukan* berek) (*Ig. brake*)
- brek kereta
dibrek
membrek
pembrekan
- bumiputera (*bukan* bumiputra)
- buruh (pekerja) (*bukan* buroh, boroh)
- memburuh
pemburuhan
Kementerian Buruh
- busjaket (*bukan* busjeket) (*Ig. bush jacket*)
berbusjaket
- butik (*Ig. boutique*)
- calon [calon] (*bukan* calon)
- dicalonkan
mencalonkan
pencalonan

- casis (*Ig. chassis*)
 catat (*bukan* catet, catit)
 catatan
 dicatat
 mencatat
 pencatat
 tercatat
 cedok (kaut)
 ceduk (cekung)
 cemuh (*bukan* cemooh)
 dicemuh
 mencemuh
 mencemuhkan
 cenderamata (*bukan* cendera mata)
 cetak (*bukan* citak)
 cetakan
 dicetak
 mencetak
 pencetak
 percetakan
 tercetak
 cocok (sesuai; sama benar; tepat; betul; serasi) (*bukan* cucok, cucuk)
 coklat (*bukan* cokelat) (*Ig. chocolate*)
 colek (calit)
 dicolek
 mencolek
 secolek
 cuba (*bukan* coba)
 cubaan
 cuba-cuba
 dicuba
 mencuba
 mencubai
 mencubakan
 percubaan
 cucuk (tusuk) (*bukan* cucok, cocok)
 bercucuk
 dicucuk
 mencucuk/menyucuk
 penyucuk
 tercucuk
 culik (melarikan) (*bukan* colek)
 diculik
 menculik
 penculik
 penculikan
 daif (lemah)
 definisi (*bukan* definasi, difinasi, difinisi) (*Ig. definition*)
 didefinisikan
 mendefinisikan
 delegasi (*bukan* deligasi) (*Ig. delegation*)
 depot (*bukan* depo, depoh) (*Ig. depot*)
 derhaka (*bukan* durhaka)
 menderhaka
 penderhaka
 penderhakaan
 dewasa [dewasa] (*bukan* diwasa)
 kedewasaan
 mendewasakan
 dialog (*bukan* dailog) (*Ig. dialogue*)
 berdialog
 diesel (*bukan* disel) (*Ig. diesel*)
 enjin diesel
 minyak diesel
 dif (tetamu)
 dif kehormat
 dinamik (*bukan* dinamis) (*Ig. dynamic, dynamics*)
 draf (*bukan* deraf) (*Ig. draft*)
 didraf
 mendraf
 pendrafan
 drama (*bukan* derama) (*Ig. drama*)
 berdrama
 didramakan
 pendramaan
 drebar (*bukan* derebar, driber) (*Ig. driver*)
 ejen (wakil penjual; wakil) (*bukan* agen) (*Ig. agent*)
 ejen kereta
 ejen insurans
 ejen komunis
 ekonomis (*Ig. economical*)
 tidak ekonomis (= tidak menguntungkan/jimat) (*Ig. un-economical*)
 ekspot (*bukan* ekspot) (*Ig. export*)
 diekspot
 mengeksport
 pengekspot
 elektrik (*bukan* letrik) (*Ig. electric*)
 empang/empangan (tebat) (*bukan* ampang/ampangan)
 diempangkan
 mengempang
 pengempangan
 terempang
 enjin (*bukan* injin) (*Ig. engine*)
 erti (*bukan* arti)
 bererti
 diertikan
 mengerti
 pengertian
 seerti
 estetik (*bukan* estetis) (*Ig. aesthetic, aesthetical*)
 estetika (*Ig. aesthetics*)
 faham (*bukan* paham)
 berfaham/berfahaman
 bersefahaman
 difahami
 difahamkan
 kefahaman
 memahami
 memahamkan
 pemahaman
 sefahaman/sefahaman
 faktor (*bukan* faktur) (*Ig. factor*)
 fardu (*bukan* fardhu)
 difardukan
 memfardukan
 fikir (*bukan* pikir)
 berfikir
 berfikiran
 difikirkan
 memikir/memikiri
 pemikir
 pemikiran
 sefikiran
 terfikir
 fokus (*bukan* fokas) (*Ig. focus*)
 difokuskan
 memfokuskan
 forum (*bukan* foram) (*Ig. forum*)
 berforum
 gabenor (*bukan* gabenuur, gabnor, gabnur) (*Ig. governor*)
 garison (*bukan* gerisen, garisen) (*Ig. garrison*)
 geleng (gerak kepala ke kiri ke kanan)
 bergeleng
 bergeleng-geleng
 menggelengkan
 menggeleng kepala
 gelojoh (*bukan* gelujuh)
 gelombang (*bukan* gelumbang)
 bergelombang
 gembleng [gəm-blɛŋ] (*bukan* gembeleng, gembeling)
 bergembleng
 digembleng
 menggembleng
 penggembleng
 penggemblengan
 tergembleng
 generasi (*bukan* jenerasi) (*Ig. generation*)
 geografi (*bukan* jcoografi) (*Ig. geography*)
 geologi (*bukan* jeoloji) (*Ig. geology*)
 geometri (*bukan* jcometri) (*Ig. geometry*)
 geroda (*bukan* garuda)

- giling (melumatkan)
 giling-giling
 gilingan
 menggiling
 menggilingkan
 menggiling rempah
 penggiling
- gimnasium (*bukan* jimnasium) (*Ig. gymnasium*)
 gimnastik (*bukan* jimnastik) (*Ig. gymnastic, gymnastics*)
- golong (kumpul)
 digolongkan
 golongan (kumpulan)
 menggolongkan
 penggolongkan
 segolongan
 tergolong
- gondol (*bukan* gundul)
 menggondol hadiah
 menggondolkan kepala (= bergondol)
- gotong-royong
 bergotong-royong
- graf (*bukan* geraf) (*Ig. graph*)
 grafik (*bukan* gerafik) (*Ig. graphic*)
 gred (*bukan* gered) (*Ig. grade*)
 digredkan
 menggredkan
 menggredan
- gris (*bukan* geris) (*Ig. grease*)
 minyak gris
- gulung (benda yang berlembar-lembar atau berutas-utas yang dilipat berbentuk bulat torak) (*bukan* gulong, golong)
 bergulung
 digulung
 bergulung-gulung
 gulung-gemulung
 menggulung
 penggulung
 tergulung
- hafaz (*bukan* hafal, hafas)
 dihafaz
 menghafaz
- hairan (*bukan* heran)
 dihairankan
 kehairanan
 menghairankan
- haiwan (*bukan* hewan)
 kehaiwanan
- hidap (*bukan* idap)
 dihidapi
 menghidap
 menghidapi
 penghidap
- hidrogen (*bukan* hidrogen) (*Ig. hydrogen*)
 hipotesis (*bukan* hipotisis) (*Ig. hypothesis*)
 honorarium (*bukan* honorarium) (*Ig. honorarium*)
- hormat (*bukan* hurmat)
 dengan hormatnya
 berhormat (Yang Berhormat, Yang Amat Berhormat)
 dihormati
 kehormat
 kehormatan
 menghormati
 penghormat
 penghormatan
 terhormat
- hurai (tidak terikat) (*bukan* urai)
 berhurai
 dihuraikan
 menghurai
 menghuraikan
 penghuraian
 terhurai
- iaitu (*bukan* yaitu)
- idea (*bukan* ide) (*Ig. idea*)
- ilustrasi (*bukan* ilustrasi) (*Ig. illustration*)
 berilustrasi
- imajinasi (*bukan* imajinasi) (*Ig. imagination*)
- import (*bukan* impot) (*Ig. import*)
 diimport
 mengimport
 pengimport
 import ekspor
- industri (*bukan* indastri, indasteri) (*Ig. industry*)
 mengindustrikan
 perindustrian
- inspektor (*bukan* inspektar, inspekter) (*Ig. inspector*)
 institut (*bukan* instituit) (*Ig. institute*)
 insurans (*bukan* insuran) (*Ig. insurance*)
 menginsuranskan
- istirahat (*bukan* istirehat, istirihat)
 beristirahat
- isu (*bukan* isiu) (*Ig. issue*)
- isyak (*bukan* isya)
- isytihar (*bukan* istihar)
 diisytiharkan
 mengisytiharkan
 pengisytiharan
 perisytiharan
- jadual (*bukan* jadwal)
 berjadual
- jaket (*bukan* jeket) (*Ig. jacket*)
- jambat (titi)
 jambatan (*bukan* jembatan)
- jawab
 berjawab
 dijawab
 jawapan (*bukan* jawaban)
 penjawapan (*bukan* penjawaban)
- jemaah (*bukan* jamaah, jumaah)
 berjemaah
- jempol [jempol] (*bukan* jempul)
- jeneral (*bukan* jenderal) (*Ig. jeneral*)
- jolok (tusuk; sj. tumbuhan)
- julukan (nama timangan)
- jurnal (*bukan* jernal) (*Ig. journal*)
- justeru (*bukan* justru)
- kabel (dawai) (*bukan* kebel) (*Ig. cable*)
- kadet (*bukan* kedet) (*Ig. cadet*)
- kaget [kaget] (*bukan* kagit)
 mengagetkan
- kahwin (*bukan* kawin)
 berkahwin
 dikahwinkan
 kahwin-mawin
 mengahwini
 mengahwinkan
 perkahwinan
- kalaupun (*bukan* kalau pun)
- kaleng [kaleŋ] (tin) (*bukan* kaling)
- karbon (*bukan* kaban) (*Ig. carbon*)
 berkarbon
 mengkarbon
 pengkarbonan
- kartrij (*bukan* katrij) (*Ig. cartridge*)
- kartun (*bukan* katun) (*Ig. cartoon*)
 pelukis kartun
- kaset (*bukan* keset) (*Ig. cassette*)
 radio kaset
- kastard (*bukan* kastad) (*Ig. custard*)
- kecewa (*bukan* keciwa)
 dikecewakan
 kekecewaan
 mengecewakan
 terkecewa
- keju [keju] (*bukan* kiju)
 berkeju
- kelas (*bukan* klas) (*Ig. class*)
 berkelas-kelas
 dikelaskan
 mengelaskan
 pengelasan
 terkelas

- kelmarin (*bukan* kemarin)
kelok [kelok] (liku)
kelang-kelok
mengelok (me-nge-lok)
berkelok
berkelok-kelok
kelompok (*bukan* kelompok)
berkelompok
dikelompokkan
mengelompokkan
pengelompokan
sekelompok
keluk [kəluk] (lengkung)
berkeluk-keluk
kendera (*bukan* kendaraan)
berkenderaan
kenderaan (*bukan* keinderaan, kendaraan)
mengenderai
pengendera
kerana (*bukan* karena, kerna)
keraton [kəraton] (*bukan* keraton)
keretapi (*bukan* kereta api)
keriting (ikal) (*bukan* kerinting)
dikeringting
mengeriting
klasik (*bukan* klasik) (*Ig. classic*)
klinik (*bukan* kelinik) (*Ig. clinic*)
koir (*bukan* kuayar) (*Ig. choir*)
kolaj (*Ig. collage*)
kolej (*Ig. college*)
komedi (*bukan* komidi) (*Ig. comedy*)
komisen (dalal) (*bukan* kamsin) (*Ig. commission*)
kompleks (*bukan* komplek) (*Ig. complex*)
komunis (*bukan* kominis) (*Ig. communist*)
komunisme (*bukan* komunisma) (*Ig. communism*)
konco (*bukan* kuncu)
konco-konco (*bukan* kuncu-kuncu)
konduktor (*bukan* kondaktor, kondakter) (*Ig. conductor*)
konkrit (*bukan* kongkerit) (*Ig. concrete*)
kontrak (*bukan* konterek, kontrek) (*Ig. contract*)
kontraktor (*bukan* kontrekter, kontrektor) (*Ig. contractor*)
koperatif (syarikat kerjasama) (singkatan koop) (*Ig. cooperative*)
kreatif (*bukan* kriatif) (*Ig. creative*)
kritik (*bukan* keritik) (*Ig. critique*)
dikritik
kritikan (*Ig. criticism*)
mengkritik (*bukan* mengeritik) (*Ig. criticize*)
pengkritik (*bukan* pengeritik) (*Ig. critic*)
kritis (*bukan* kritik) (*Ig. critical*)
kubis (*bukan* kobes, kobis)
kuetiau (sj. makanan)
kuorum (*bukan* korum, koram) (*Ig. quorum*)
kuota (*bukan* kota) (*Ig. quota*)
kupon (*bukan* kopon) (*Ig. coupon*)
label (*bukan* lebel) (*Ig. label*)
berlabel
lafaz (*bukan* lafal, lafas)
dilafazkan
melafazkan
lakon (*bukan* lakun)
berlakon
dilakonkan
lakonan
melakonkan
pelakon
lalulintas (*bukan* lalu lintas, lalu-lintas)
lancong [lancon] (bersiar-siar, pergi melihat-lihat, dsb.)
(*bukan* lancung)
melancong
pelancong
pelancongan
lancung (tidak tulen, palsu, tidak jujur, curang, dsb.)
kelancungan (kepalsuan)
lancungan (tiruan)
melancung (menipu)
lapor [lapor] (*bukan* lapur)
dilaporkan
laporan
melaporkan
pelapor
pelaporan
lembap (*bukan* lembab)
kelembapan
melembapkan
lembek [lembek] (sj. tilam)
lembik [lembek] (lembut)
kelembikan
melembikkan
lengkong (sj. agar-agar)
lengkung (lengkok, kelok, liku)
dilengkung
lengkungan
melengkungi
melengkungkan
pelengkung
licin (*bukan* lincin)
dilicinkan
kelicinan
melicinkan
pelicin
lingkung (keliling; teluk)
lingkungan
lojik (kata umum untuk *Ig. logical*)
lojistik (*Ig. logistics*)
lumur (*bukan* lomor)
berlumuran
dilumuri
melumurkan
mahu (*bukan* mau)
berkemahuan
mahupun
kemahuan
semahu-mahunya
majalah (*bukan* majallah)
majistret (*bukan* majisteret) (*Ig. magistrate*)
maksimum (*bukan* maksima) (*Ig. maximum*)
manfaat (*bukan* menafaat, munafaat)
bermanfaat
dimanfaatkan
memanfaatkan
kemanfaatan
mansuh (*bukan* mansukh)
dimansuh
memansuhkan
pemansuhan
termansuh
mantera (*bukan* mentera, mantra)
bermantera
mementerai
memanterakan
marhaen [marhaen] (*bukan* marhain)
marin (*bukan* merin) (*Ig. marine*)
martabak (*bukan* mertabak, murtabak)
masalah (mas-a-lah) (*bukan* masaalah, masa'alah)
masyhur (*bukan* masyhor, masyur)
dimasyhurkan
kemasyhuran
memasyhurkan
pemasyhuran
termasyhur
matlamat (*bukan* matalamat)
bermatlamat
mergastua (*bukan* margasatwa)
meskipun (*bukan* meski pun)
mestika (*bukan* mastika, mustika)

- meterai (cap tanda)
dimeteraikan
memeteraikan
termeterai
- minimum (*bukan minima*) (*Ig. minimum*)
- misteri (rahsia) (*bukan mistri*) (*Ig. mystery*)
- muhibah (*bukan muhibbah*)
- munasabah (*bukan menasabah*)
- muzik (*bukan musik*) (*Ig. music*)
- nanas (*bukan nenas*)
- naskhah (*bukan naskah*)
senaskhah
- nekad
kenekatan (*bukan kenekadan*)
- nitrogen (*bukan nitrojen*) (*Ig. nitrogen*)
- oksigen (*bukan oksigen, oksijan*) (*Ig. oxygen*)
- oleh (*bukan olih*)
beroleh
diperoleh
memperoleh
perolehan
- oleh-oleh (buah tangan)
- operator (*bukan opereter*) (*Ig. operator*)
operator telefon
- opsyen (*Ig. option*)
- organisma (*bukan organisme*) (*Ig. organism*)
- overdraif (*bukan overderaf*) (*Ig. overdraft*)
- pamer [pamer] (*bukan pamer*)
dipamerkan
mempamerkan
pameran
- pamor [pamor] (*bukan pamur*)
berpamor
- panen [panen] (*bukan panin*)
- pantomim (*bukan pantomin*) (*Ig. pantomime*)
- pasport (*bukan paspot*) (*Ig. passport*)
- pateri (sj. perekat)
dipateri
mematerikan
- pelan [pəlan] (rajah) (*bukan plan*) (*Ig. plan*)
- pelopor (*bukan pelupur*)
dipelopori
mempelopori-
- pelosok (*bukan pelusuk*)
- pendeta (*bukan pendita*)
- perabot [pərabot] (*bukan perabut*)
- periksa (*bukan periksa*)
diperiksa
memeriksa
pemeriksa
pemeriksaan (penelitian)
peperiksaan (ujian)
- perintah (*bukan perentah*)
berpemerintahan
diperintah
memerintah
pemerintah
pemerintahan
seperintah
- permaidani (*bukan permadani*)
- pesona (*bukan persona*)
dipesonakan
mempesonakan
terpesona
- petroleum (*bukan petroliam*) (*Ig. petroleum*)
- pihak (*bukan pehak*)
berpihak
memihak
sepihak
- pistol (*bukan pestol*) (*Ig. pistol*)
- plastik (*bukan pelastik*) (*Ig. plastic*)
- plat (*bukan plet*) (*Ig. plate*)
- platform (*bukan pletform*) (*Ig. platform*)
- platun (*bukan pelatun*) (*Ig. platoon*)
- playar (*bukan pelayar*) (*Ig. pliers*)
- poliklinik (*bukan polikelinik*) (*Ig. polyclinic*)
- popular (*bukan populer*) (*Ig. popular*)
dipopularkan
mempopularkan
kepopularan
- praktis (*bukan praktik, praktikal*) (*Ig. practical, practise*)
dipraktiskan
kepraktisan
mempraktiskan
- pramugara (*bukan peramugara*)
- pramugari (*bukan peramugari*)
- prebet (dlm. tentera) (*bukan perebet*) (*Ig. private*)
- premium (*bukan premiam, primiam*) (*Ig. premium*)
- profesion (*bukan profession, profesyen*) (*Ig. profession*)
- profesional (*bukan profesyenal*) (*Ig. professional*)
- profil (*bukan profail, perofail*) (*Ig. profile*)
- projek (*bukan perojek*) (*Ig. project*)
- proses (*bukan peroses*) (*Ig. process*)
diproseskan
memproses
pemprosesan
- psikologi (*bukan saikologi, saikoloji, sikologi, sikoloji*)
(*Ig. psychology*)
- pusaka (*bukan pesaka*)
dipusakai
mempusakai
- putera (*bukan putra*)
dipu terakan
keputeraan
putera puteri
- puteri (*bukan putri*)
- raden [raden] (gelaran) (*bukan radin*)
- radin (sj. padi)
- raga/raga-raga (menunjukkan, mempamerkan)
diperagakan
memperagakan
peraga
peragawan (*bukan pragawan, pergawan*)
peragawati (*bukan pragawati, pergawati*)
- rahsia (*bukan rahasia*)
berahsia
dirahsiakan
merahsiakan
- rai [ra-i] (menjamu) (*bukan ra'i*)
diraikan
keraian
meraikan
- raket (*bukan reket*) (*Ig. racket, racquet*)
- raksasa (*bukan raksaksa, rasaksa*)
- rasmi (sah) (*bukan resmi*)
dirasmikan
kerasmian
merasmikan
perasmian
rasmi-rasmian
- reben (*Ig. ribbon*)
- rehat (*bukan rihat*)
berehat
merhatikan
kerehatan
- republik (*bukan repablik*) (*Ig. republic*)
- resmi (sifat semula jadi; sifat khas)
"Baik membawa resmi ayam betina supaya tidak ada bencana."
- rizab (simpanan) (*Ig. reserve*)
dirizabkan
merizabkan
- romantik (*bukan romantis*) (*Ig. romantic*)
- rosak (*bukan rusak*)
dirosakkan
kerosakan
merosak
merosakkan
- rujuk (*bukan rujok, rojok*)
dirujuk
merujuk/merujuki
merujuk
rujukan

- sahaja/saja
bersahaja
menyahajakan
- samseng [samseŋ] (*bukan* samsing)
- samudera (*bukan* samudra)
- sandwic (sj. makanan) (*Ig. sandwich*)
- sardin (sj. ikan) (*bukan* sadin) (*Ig. sardine*)
- sastera/susastera (*bukan* sastra/susastra)
kesusasteraan
sasterawan
- sate (sj. makanan) (*bukan* satai, satuy, sateh)
- sateria/kesateria (*bukan* satria/kesatria)
- sayid (*bukan* syed)
- sebar (tabur) (*bukan* sibar)
bersebaran
disebarkan
menyebarkan
penyebar
penyebaran
tersebar
- sekalian (*bukan* sekelian)
- seksa (*bukan* siksa)
diseksa
menyekasakan
penyeksaan
terseksa
- selesa [sələsa] (tidak sempit, lega, luas; enak, sedap, senang)
- selesema (*bukan* selesma, selsema)
- selisa [səlisa] (sisia)
- seloroh (senda gurau)
berseloroh
menyelorohkan
- seluruh (semua)
menyeluruh
- semak [semak] (periksa) (*bukan* simak)
disemak
menyemak
penyemak
penyemakan
- semoga/moga-moga (*bukan* semuga/muga-muga)
- senarai [sənarai] (*bukan* sinarai)
disenaraikan
menyenaraikan
- sengketa [səŋketa]
bersengketa
mempersengketakan
persengketaan
- seperti (*bukan* saperti)
sepertinya
- serbaneka (*bukan* serbanika)
- serta-merta (*bukan* sertamerta, semerta)
- sesuatu (*bukan* sasualu)
- sibuk (*bukan* sebok)
kesibukan
menyibukkan
- sihat (*bukan* sehat)
kesihatan
menyihatkan
penyihatkan
- silinder (*bukan* selinder) (*Ig. cylinder*)
- siling (lelangit) (*Ig. ceiling*)
- simbolik (*bukan* simbolis) (*Ig. symbolic, symbolical*)
- siri (*Ig. series*)
- sivik (*bukan* siviks) (*Ig. civics*)
- skandal (*bukan* skendal) (*Ig. scandal*)
- skim (rancangan) (*bukan* sekim) (*Ig. scheme*)
- skrip (*bukan* sekerip) (*Ig. script*)
- skru (*bukan* sekeru) (*Ig. screw*)
- sofistikated (*Ig. sophisticated*)
- sorot (cahaya)
menyorot
menyoroti
penyorot
sorotan
- statik (*bukan* statis) (*Ig. static*)
- stesen (perhentian kenderaan) (*bukan* setesyen, stesyen, setesen) (*Ig. station*)
- stok (*bukan* setok) (*Ig. stock*)
- stor (*bukan* setor) (*Ig. store*)
penstoran
- strategi (*bukan* strateji) (*Ig. strategy*)
- subjektif (*bukan* subjektif) (*Ig. subjective*)
- subsidi (*bukan* sabsidi) (*Ig. subsidy*)
- subversif (*bukan* sabersif, sabversif) (*Ig. subversive*)
- surut (mundur; reda)
menyuruti
menyurutkan
tersurut
- sutera (*bukan* sutra)
- swasta (*bukan* suwasta)
diswastakan
menschwastakan
penschwastakan (*bukan* pengschwastakan)
- syiling (mata wang; duit syiling)
- tafsir (keterangan, penjelasan)
ditafsirkan
mentafsirkan
pentafsir
pentafsiran
tafsiran
- tahu (maklum; sj. burung) (*bukan* tau)
diketahui
ketahuan
ketahui
mengetahui
pengetahuan
setahu
tahu-menahu
- taksir (kira, penilaian)
ditaksir
menaksir
mentaksirkan (melalaikan)
taksiran
- tamadun (*bukan* tamaddun)
bertamadun
- taubat (*bukan* tobat)
bertaubat
menaubatkan
- tauge (sj. sayuran) (*bukan* taugh)
- tauhu (sj. sayuran; sj. makanan)
- tauke (*bukan* taukeh)
- tekad [tekad] (kemahuan)
bertekad
- tekat [təkat] (sulaman)
ditekat
menekat
- tekstil (*bukan* tekstail) (*Ig. textile*)
- teladan
diteladani
meneladan
meneladani
- telefon (*bukan* talipon) (*Ig. telephone*)
- telegraf (*bukan* taligraf) (*Ig. telegraph*)
- telegram (*bukan* taligram) (*Ig. telegram*)
- telekom (*bukan* talikom) (*Ig. telecommunications*)
- teleks (*bukan* telex) (*Ig. telex*)
- teleskop (*bukan* taliskop) (*Ig. telescope*)
- televisyen (*bukan* talivisyen) (*Ig. television*)
- telor [telor] (pelat, loghat)
keteloran
- telur [təlor] (spt. telur ayam; sj. tumbuhan)
bertelur
menelurkan
- tembok [tembok] (dinding, tambak)
menembok
- tembuk [təmbok] (berlubang, tembus)
ditembuk
menembuk
- tempe (sj. makanan) (*bukan* tempéh)

tempo (irama)
tempoh [tempoh] (waktu; jangka waktu; kelonggaran)
ditempohkan
menempohkan

tempuh [tempoh] (melanggar; menimpa; melalui; menjalani)
bertempuh-tempuh
mencempuh
menempuhi
setempuh
tempuh-menempuh

teori (*bukan tiori*) (*Ig. theory*)

tepok [tepok] (lumpuh)

tepek [təpok] (menepuk tangan)
bertepuk
menepuk
tepukan

tesis (*bukan tisis*) (*Ig. thesis*)

tetek (buah dada)
menetek
meneteki
menetekkan

tetek-bengek (remeh-temeh)

tiket (*bukan teket*) (*Ig. ticket*)

tolong
bertolong-tolongan
menolong
penolong
pertolongan
tolong-menolong
tertolong

tonton (melihat) (*bukan tunton, tuntun*)
ditontoni
menonton (melihat)
menontonkan (memperlihatkan)
mempertontonkan (memperlihatkan)
penonton (yang melihat)
tontonan (pertunjukan)

tragedi (*bukan trajidi, trajedi*) (*Ig. tragedy*)

traktor (*Ig. tractor*)

tulen [tulen] (*bukan tulin*)
ketulenan

tungkus-lumus (bekerja keras)

tuntun (pimpin) (*bukan tunton*)
bertuntun (berpimpin)
dituntun (dipimpin)
menuntun (memimpin)
penuntun (pembimbing)
tuntunan (bimbingan)

tutor (pembimbing mahasiswa di universiti) (*Ig. tutor*)

tutur (kata, perkataan, percakapan)
bertutur
dituturkan
menuturkan
penutur
penuturan
pertuturan

ubat (*bukan obat*)
berubat
diubat
mengubat
mengubati
mengubatkan
memperubatkan
pengubat
pengubatan
perubatan
ubat-ubatan
ubat-kelat

unik (*Ig. unique*)
keunikian

unit (*bukan yunit*) (*Ig. unit*)
seunit

urai (berderai-derai)
emas urai

vokasional (*bukan vokesyenal*) (*Ig. vocational*)

wajib
berkewajipan
berwajib
diwajibkan
kewajipan (*bukan kewajiban*)
mewajibkan
sewajibnya

walaupun
walau bagaimana sekalipun
walau bagaimanapun

wang (*bukan uang*)
kewangan

warung (*bukan warong*)

wujud (*bukan ujud*)
berwujud
diwujudkan
kewujudan
mewujudkan
pewujudan
perwujudan

yogia
seyogianya

zuhur (*bukan zohor*)

Dipetikkan dari:

Senarai Ejaan Rumi
Bahasa Malaysia

Dewan Bahasa & Pustaka
Kementerian Pelajaran Malaysia
Kuala Lumpur
1984

KURSUS-KURSUS LATIHAN DAN BENGKEL-BENGKEL (TRAINING COURSES AND WORKSHOPS)

October 1984 - November 1984

TECTONICS, SEISMOLOGY AND SEISMIC RISK ASSESSMENTS (Potsdam, G.D.R.). One-month training course organized annually by East German Academy of Sciences in collaboration with Unesco. English. For information: Prof. Dr. H. Kautzleben, Director, Central Earth's Physics Institute, Academy of Sciences of the German Democratic Republic, Telegraphenberg, DDR 1500 Potsdam, G.D.R.

October 1 - November 2, 1984

REMOTE SENSING: GEOLOGIC APPLICATIONS (Flagstaff, Arizona, U.S.A.). Advanced training program for foreign scientists organized by U.S. Geological Survey. English. For information: U.S. Geological Survey Training Center, 917 National Center, Reston, Virginia 22092, U.S.A.

October 1984 - September 1985

FUNDAMENTAL AND APPLIED QUATERNARY GEOLOGY (Brussels, Belgium). Annually organized training course leading to a Master's degree in Quaternary Geology by the Vrije Universiteit Brussel (IFAQ) and sponsored by Unesco. English and French. For information: Prof. Dr. R. Paepe, Director of IFAQ, Kwartairgeologie, Vrije Universiteit Brussel, Pleinlaan 2, B-1050, Brussels, Belgium.

October 1984 - September 1985

HYDRAULIC ENGINEERING AND HYDROLOGY (Delft, The Netherlands). Diploma courses organized annually by the International Institute for Hydraulic and Environmental Engineering and sponsored by Unesco for professionals from developing countries. English. For information: International Institute for hydraulic and Environmental Engineering (IHE), Oude Delft 95, P.O. Box 3015, 2601 DA Delft, The Netherlands.

October 8 - 12, 1984

BIOGEOCHEMICAL CYCLING OF S AND N IN REMOTE AREAS (NATO Workshop), St. Georges, Bermuda (J.N. Galloway, Environmental Studies Dept., University of Virginia, Charlottesville, VA 220903, U.S.A.).

November 1984 - December 1984

METHODS AND TECHNIQUES IN EXPLORATION GEOPHYSICS (Hyderabad, India). Diploma course organized annually by the National Geophysical Research Institute of the Council of Scientific and Industrial Research, Hyderabad, India, and sponsored by Unesco. English. For information: The Director, International Training Course on methods and techniques in geophysical exploration, National Geophysical Research Institute, Hyderabad, 500 007 (A.P.) India.

November 1984 - December 1984

SMALL MINE POTENTIAL AND TECHNOLOGY (Leoben, Austria). Annual training course sponsored by the Republic of Austria and Unesco. English. For information: Prof. Wolfbauer, Forschungsgesellschaft Joanneum, Roseggerstrasse 15, A-8700 Leoben, Austria.

November 12 - 30, 1984

RURAL HYDROGEOLOGY AND HYDRAULICS IN FISSURED BASEMENT ZONES (Workshop), Roorkee, India. (Prof. B.B.S. Shinghal, Department of Earth Sciences, University of Roorkee, Roorkee 247667, India)

November 15 - 17, 1984

MINERAL POLICY FOR SMALL-SCALE MINING (Workshop), New Delhi, India. Cosponsored by AGID in conjunction with World Mining Congress. (Co-ordinator, Regional Mineral Resources Development Centre, P.O. Box 19, Bandung, Indonesia)

January 1985 - March 1985

REMOTE SENSING APPLICATION AND DIGITAL IMAGE PROCESSING (Enschede, The Netherlands). Certificate courses on techniques for national resources surveys, organized annually by the International Institute of Aerial Surveys and Earth Sciences (ITC). Sponsored by Unesco. English. For information: ITC Student Affairs Office, P.O. Box 6, 7500 AA Enschede, The Netherlands.

February 1985

METALLOGENY (Quito, Ecuador). Annual training course for Latin Americans organized by Central University of Quito, the Autonomous University of Madrid (Spain), and Unesco. Spanish. For information: Ing. Antonio Salgado, Director, Curso Internacional de Metaloginia, Escuela de Ingenieria en Geologia, Minas y Petroleos, Division de Post-grado, Universidad Central, Quito, Ecuador.

February 1985 - March 1985

GEOCHEMICAL PROSPECTING TECHNIQUES (Tervuren, Belgium). Annual course sponsored by the Royal Museum of Central Africa and UNDP. French. For information: Musee royal de l'Afrique centrale, Steenveg op Leuven, 13, B-1980 Tervuren, Belgium.

February 1985 - June 1985

MINERAL EXPLORATION (Leoben, Austria). Diploma course organized annually by the University of Mining and Metallurgy in Leoben and sponsored by Unesco. English. For information: University for Mining and Metallurgy, Postgraduate course on mineral exploration, Montanuniversitat, Leoben, A-8700, Austria.

February 1985 - November 1985

PHOTOINTERPRETATION APPLIED TO GEOLOGY AND GEOTECHNICS (Bogota, Colombia). Course organized by the Interamerican Centre of Photo-interpretation (CIAF) in cooperation with ITC and Unesco. Spanish. For information: Academic Secretariat of the CIAF, Apartado Aereo 53754, Bogota 2, Colombia.

February 1985 - December 1985

GEOTHERMICS (Pisa, Italy). Certificate course organized annually by the Istituto Internazionale per le Ricerche Geotermiche and sponsored by Unesco, UNDP and Italy. English. For information: Dr. Mario Fanelli, Istituto Internazionale per le Ricerche Geotermiche, Via Buongusto 1, 56100 Pisa, Italy.

March 1985 - April 1985

MINERAL EXPLORATION (Paris, France). Short course based on a simulation method organized annually by the Ecole Nationale Superieure des Mines and sponsored by Unesco. French. For information: Prof. H. Pelissonnier, Ecole des Mines, 60 Bd Saint Michel, 75272 Paris, Cedex 06, France.

KALENDAR (CALENDAR)

A bracketed date (Mar-Apr 1984) denotes entry in that issue carried additional information.

1984

- Sept 26 - 28 : SEDIMENTATION IN THE AFRICAN RIFT SYSTEM (Geological Society Meeting), London, U.K. (L.E. Frostick, Dept. of Geology, Birkbeck College, 7/15 Gresse Street, London W1P 1PA. U.K.)
- Sept 30 - : LATE QUATERNARY SEA-LEVEL CHANGES AND COASTAL
Oct 6 : EVOLUTION (International Symposium and Field Meeting), Argentina and Chile. IGCP-200 and INQUA Commission on Quaternary Shorelines. (Dr. Enrique Schnack, International Sea-level Symposium, Casila 722, Correo Central, 7600 Mar del Plata, Argentina)
- Oct 1 - 5 : SCIENTIFIC COMMITTEE ON ANTARCTIC RESEARCH (18th Meeting), Bremerhaven, F.R.G. (G. Hemmen, Scott Polar Research Institute, Lensfield Road, Cambridge, U.K. CB2 1ER)
- Oct 1 - 5 : REMOTE SENSING OF ENVIRONMENT (18th International Symposium), Paris, France. (Environmental Research Institute of Michigan, P.O. Box 8618, Ann Arbor, MI 48107, U.S.A.)
- Oct 1 - 6 : CENTRAL ANDEAN TECTONICS (Symposium), La Paz, Bolivia. (Secretaria, Commission National de Estudios Geofisicos, Casilla 5939, La Paz, Bolivia)
- Oct 5 : WATER RESOURCES PLANNING AND MANAGEMENT (International Conference), Athens, Greece. (Prof. A. Aureli, Via Cimarosa 10, 95124 Catania, Italy)
- Oct 7 - 12 : BUENOS AIRES COASTAL PLAIN - NORTH PATAGONIA COAST (Field Meeting), Mar del Plata, Argentina. INQUA Shorelines Commission. (Dr. Enrique Schnack, Casilla 722, Correo Central, RA - 7600 Mar del Plata, Argentina)
- Oct 8 - 11 : MINING TECHNIQUES FOR ALLUVIAL TIN DEPOSITS (International Seminar), Ipoh, Malaysia. (The Director, SEATRAD Centre, Tiger Lane, Ipoh, Malaysia)
- Oct 8 - 10 : ASSOCIATION OF EARTH SCIENCE EDITORS (Annual Meeting), Portland, Oregon, U.S.A. (Beverly Vogt, Oregon Department of Geology, 1005 State Office Building, Portland, OR 97201, U.S.A.)
- Oct 9 - 14 : IN SITU SOIL AND ROCK REINFORCEMENT (International Conference), Paris, France. (Conference Director, ENPC/DFCAI, 52, rue Madame, 75006 Paris, France)
- Oct 13 - 16 : ORIGIN OF THE MOON (Topical Conference). Kona, Hawaii. (P. Jones, LPI, 3303 NASA Road One, Houston, TX 77058, U.S.A.)

- Oct 14 - 20 : MINERAL PROCESSING AND EXTRACTIVE METALLURGY. (International Conference), Kunming, P.R. China. (The Secretary, Institution of Mining and Metallurgy, 44 Portland Place, London W1N 4BR, U.K.)
- Oct 15 - 17 : SINKHOLES (1st Multidisciplinary Conference), Orlando, Florida, U.S.A. (College of Extended Studies, University of Central Florida, Orlando, Fl 32816)
- Oct 15 - 18 : LATIN AMERICAN CONGRESS OF PALAEOLOGY (3rd Congress), Oaxtepec, Morelos, Mexico. (Dr. Jose C. Guerrero, Universidad Nacional Autonoma de Mexico, Mexico D.F., Mexico)
- Oct 17 - 20 : AMERICAN ASSOCIATION OF STRATIGRAPHIC PALYNOLOGISTS (Annual Meeting and Field Trip), Arlington, Virginia, U.S.A. (N.O. Frederiksen, U.S. Geological Survey, M.S. 970, Reston, VA 22092, U.S.A.)
- Oct 21 - 25 : SOCIETY OF EXPLORATION GEOPHYSICISTS (54th Annual Meeting), Denver, Colorado, U.S.A. (H. Breck, Society of Exploration Geophysicists, P.O. Box 3098, Tulsa, OK 74101, U.S.A.)
- Oct 24 - 26 : NATURE OF THE LOWER CONTINENTAL CRUST (Joint Meeting Geological Society of London with 3rd Alfred Wegener Conference), London. Co-sponsored by ILP. (Prof. J.B. Dawson, Department of Geology, The University, Sheffield, S1 3JD, England, U.K.)
- Oct 25 - : GEOLOGY OF TIN DEPOSITS (International Symposium),
Nov 5 Nanning City, Guangxi Zhuang Autonomous Region, P.R. China. (Mr. Zhang Sihui, Chinese Academy of Geological Sciences, Baiwanzhuang Road 26, Fuchengmenwai, Beijing, People's Republic of China)
- Oct 29 - : INTERNATIONAL WATER SUPPLY ASSOCIATION (15th
Nov 2 International Congress), Tunis, Tunisia. (R. Clark, International Water Supply Association, 1 Queen Anne's Gate, London SW1H 9BT, U.K.)
- Oct 31 - : SEISMOLOGY AND PHYSICS OF THE EARTH'S INTERIOR
Nov 7 (Regional Assembly of the International Association), Hyderabad, India. Plus short course for developing countries on inversion of geoscience data. Co-sponsored in part by ILP. (Organising Committee, IASPEI Regional Assembly, National Geophysical Research Institute, Hyderabad 500 007, India)
- November/
December : LAND EVALUATION FOR SOIL EROSION HAZARD ASSESSMENT (Meeting), Enschede, Netherlands. (Dr. W.G. Sombroek, ISSS, International Soil Museum, 9 Duivendaal, POB 353, 6700 A.J. Wageningen, The Netherlands)
- Nov 5 - 8 : GEOLOGICAL SOCIETY OF AMERICA (Annual Meeting), Reno, Nevada, U.S.A. (S.S. Beggs, Geological Society of America, P.O. Box 9140, 3300 Penrose Place, Boulder, CO 80301, U.S.A.)

- Nov 5 - 9 : ARGENTINE GEOLOGICAL CONGRESS (9th), Bariloche, Argentina. Field trips. Languages: Spanish, English, and French. (IX Congreso Geologico Argentino, Maipu 645 Piso 1, 1006 Buenos Aires, Argentina)
- Nov 13 - 15 : OPHIOLITES THROUGH TIME (Conference), Nancy, France. (J. Desmons, University de Nancy I, Lab. de Petrologie, B.P. 239, F-54506 Vandoeuvre-les-Nancy Cedex, France)
- Nov 19 - 23 : 12th WORLD MINING CONGRESS, New Delhi, India. (Organizing Committee, Institute of Engineers, 8 Gokhale Road, Calcutta 700 020, India)
- Dec 2 - 5 : FUTURE PETROLEUM PROVINCES OF THE WORLD (AAPG W.E. Pratt Memorial Conference), Phoenix, Ariz., U.S.A. (AAPG, P.O. Box 979, Tulsa, OK 74101, U.S.A.)
- Dec 2 - 6 : SOCIETY OF EXPLORATION GEOPHYSICISTS (54th Annual Meeting), Atlanta, Georgia, U.S.A. (J. Hyden, SEG, Box 3098, Tulsa, OK 74101, U.S.A.)

1985

- January : ACID-SULPHATE SOILS (Meeting), Dakar, Senagal. (Dr. W.G. Sombroek, ISSS, International Soil Museum, 9 Duivendaal, POB 353, 6700 A.J. Wageningen, The Netherlands)
- Jan 7 - 10 : HYDROGEOLOGY OF ROCKS OF LOW PERMEABILITY (17th International Congress of IAH), Tucson, Arizona, U.S.A. (Eugene S. Simpson, Department of Hydrology and Water Resources, College of Earth Sciences, The University of Arizona, Tucson, AZ 85721, U.A.A.)
- February : INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION ASSEMBLY (13th Session), Paris, France. (Unesco, 7, place de Fontenoy, 75700 Paris, France)
- Feb 11 - 14 : GEOMECHANICS IN TROPICAL LATERITE AND SAPROLITIC SOILS (1st International Conference), Sao Paulo, Brazil. (Dr. W.C. Hachich, Secretary ISTS-BMS, C.P. 7141, 01000 Sao Paulo, SP, Brazil)
- Feb 11 - 14 : ASIAN MINING '85 (2nd Conference), Manila Philippines. (Meeting Secretary, The Institution of Mining and Metallurgy, 44 Portland Place, London W1N 4BR, U.K.)
- Feb 27 - : GEOLOGY OF THE OCEANS (75th Annual Meeting of the
Mar 2 : Geologische Vereinigung), Kiel, West Germany. Languages: English and German. (M. Sarnthein, Geologisch-Palaeontologisches Institut, Universitaet, Olshausenstrasse, D-2300 Kiel, F.R.G.)
- Mar 11 - 15 : SE ASIAN GEOTECHNICAL CONFERENCE (8th), Kuala Lumpur, Malaysia. Language: English. (The Hon. Secretary, 8th SEAGC, The Institution of Engineers, Malaysia, P.O. Box 223, Petaling Jaya, Selangor, Malaysia).
- Mar 11 - 15 : TUNNELLING 85 (4th International Symposium), Brighton, England. (Tunnelling 85, The Secretary, Institution of Mining and Metallurgy, 44 Portland Place, London W1N 4BR, U.K.)

- Apr 1 - 4 : EUROPEAN UNION OF GEOSCIENCES (Biennial Conference),
Strasbourg, France. (Organizing Committee,
Department of Earth Sciences, University of Cambridge,
Downing Street, Cambridge CB2 3EQ, U.K.)
- Apr 1 - 5 : NUMERICAL METHODS IN GEOMECHANICS (5th International
Conference), Nagoya, Japan. (Prof. T. Kawamoto,
Department of Civil & Geotechnical Engineering,
Nagoya University, Chikusa, Nagoya 464, Japan)
- Apr 9 - 12 : EVOLUTION OF THE EUROPEAN LITHOSPHERE (MEGS 4:
Meeting of European Geological Societies), Edinburgh,
U.K. (Dr. S.K. Monro, Institute of Geological
Sciences, Murchison House, West Mains Road,
Edinburgh EH9 3LA, Scotland, U.K.)
- Apr 14 - 17 : PROSPECTING IN AREAS OF DESERT TERRAIN (Conference),
Rabat, Morocco. (Conference Office, IMM, 44 Portland
Place, London W1N 4BR, U.K.)
- Apr 28 - : GEOCHEMICAL EXPLORATION (11th International AEG
May 1 Symposium), Toronto, Canada. (Dr. W.B. Coker, Kidd
Creek Mines Ltd., 357 Bay St., Ste. 300, Toronto,
Ontario, Canada M5H 1T7)
- May 6 - 17 : NEOGENE PHOSPHORITES OF THE SE UNITED STATES
(International field workshop and seminar, IGCP 156),
Greenville, N.C., to Tallahassee, Florida. (W.C.
Burnett, Dept. of Oceanography, Florida State
University, Tallahassee, FL 32306, U.S.A.)
- May 13 - 17 : TUNGSTEN (3rd International Symposium), Madrid.
(Mr. M.R.P. Maby, Secretary, Primary Tungsten
Association, 280 Earls Court Road, London SW5
9AS, U.K.)
- May 15 - 17 : TURBIDITE-HOSTED GOLD DEPOSITS (International
Symposium), Fredericton, New Brunswick, Canada.
Symposium held with Geological Association of
Canada Annual Meeting. (Simon J. Haynes, NOVA
Scotia Department of Mines and Energy, P.O. Box
1087, 1690 Hollis Street, Halifax, Nova Scotia,
Canada B3J 2X1)
- May 27 - 31 : AMERICAN GEOPHYSICAL UNION (Spring Meeting),
Baltimore, Md. (Meetings, AGU, 2000 Florida
Avenue, NW, Washington, DC 20009, U.S.A.)
- May 27 - : CORAL REEF CONGRESS: Reef and Man (5th International),
June 1 Papeete, Tahiti. (Antenne Museum Ephe, Congres
Recifs Coral Liens 1985, B.P. 562, Papeete,
Tahiti, French Polynesia)
- June 2 - 9 : INTERNATIONAL MINERAL PROCESSING CONGRESS (15th),
Cannes, France. Languages French and English.
(International Mineral Processing Congress Secretary,
BRGM SGN/Mineralurgie, B.P. 6009-45060 Orleans
Cedex, France)
- June 9 - 15 : WATER RESOURCES (5th World Congress), Brussels,
Belgium. (Dr. L.W. Debacker, c/o Brussels
International Conference Centre, Parc des Expositions,
Place de Belgique, B-1020 Brussels, Belgium)

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- Bulletin 2** (1968), 152 p. Bibliography and Index of the Geology of West Malaysia and Singapore by D.J. Gobbett. Price: M\$10.00 (US\$5.00)—softcover; M\$15.00 (US\$7.50)—hardcover.
- Bulletin 3** (1970), 146 p. Papers in Gemorphology and Stratigraphy (with Bibliography supplement), edited by P.H. Stauffer. Price: M\$10.00 (US\$5.00).
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- Bulletin 7** (1974), 138 p. Edited by B.K. Tan. Price: M\$12.00 (US\$6.00).
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- Bulletin 10** (1978), 95 p. A collection of papers on the geology of the Asean region. Edited by C.H. Yeap. Price: M\$10.00 (US\$5.00).
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- Abstracts of papers**, Regional Conference on the Geology of Southeast Asia, Kuala Lumpur (1972), 64 p. 8 figs., 3 tables, many extended abstracts. Edited by N.S. Haile. Price: M\$6.00 (US\$3.00).
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INFORMATION FOR CONTRIBUTORS

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Papers of general interest or on the geology of the Southeast Asian region (South China, Burma, Thailand, Indochina, Malaysia, Singapore, Indonesia, Brunei and the Philippines) and also marine areas within the region are welcome for publication in the *Bulletin*. Short notes, progress reports and general items of information are best submitted to the *Warta Geologi*.

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Two copies of the text and illustrations must be submitted. The scripts must be typewritten double-spaced on papers not exceeding 21 × 33 cm. One side of the page must only be typed on.

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Original maps and illustrations or as glossy prints should ideally be submitted with sufficiently bold and large lettering to permit reduction to 15 × 22 cm: fold-outs and large maps will be considered only under special circumstances.

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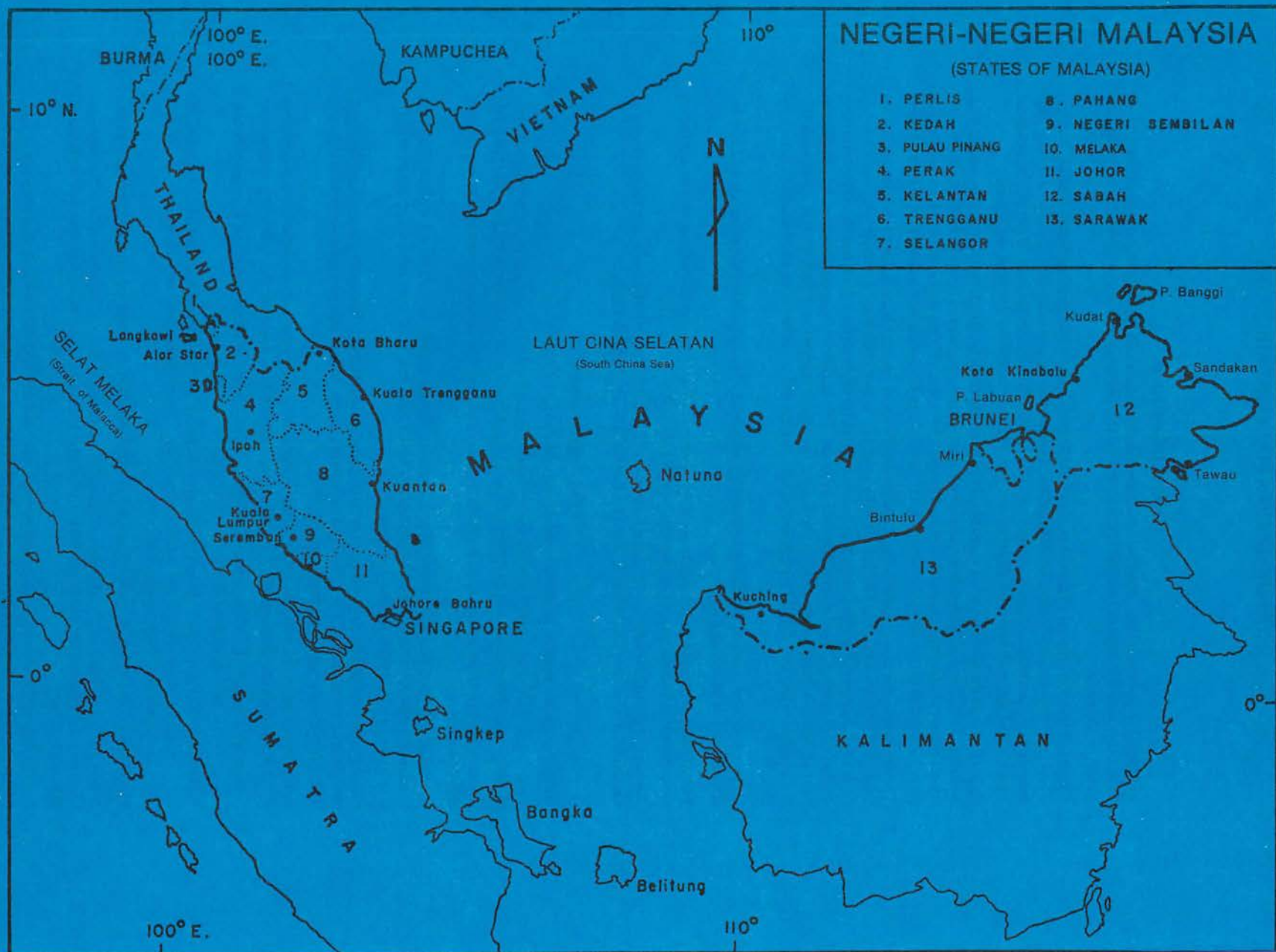
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