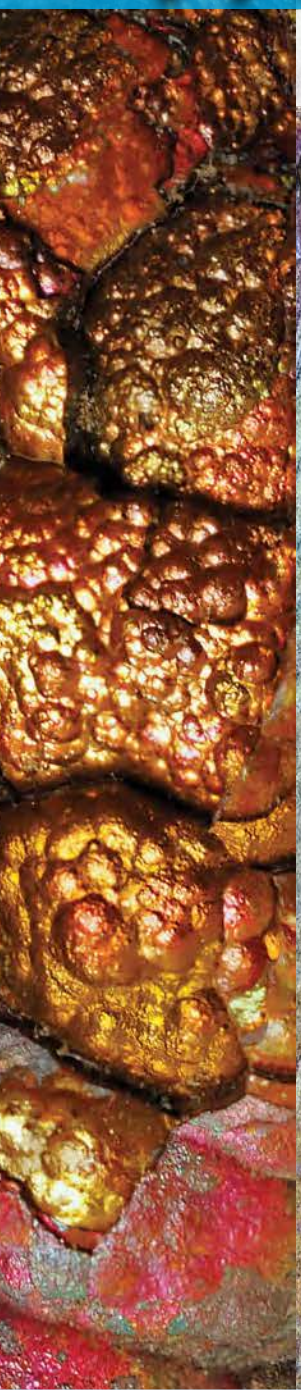
ISSN 0126 - 5539
PP2509/02/2010(024604)

PERSATUAN GEOLOGI MALAYSIA

WARTA GEOLOGI

NEWSLETTER of the GEOLOGICAL SOCIETY OF MALAYSIA



Jilid 35
No. 4

OCTOBER–DECEMBER
2009

Volume 35
No. 4

PERSATUAN GEOLOGI MALAYSIA
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CATATAN GEOLOGI
GEOLOGICAL NOTES

Shape parameters of clay and quartz clasts in the Neogene Tukau and Lambir Formations, Sarawak

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Abstract— The occurrence of large clay pebbles within quartz-rich micro-conglomerates is a puzzling phenomenon, since the specific weight of sand and clay is only marginally different. Clay flakes and pebbles are found to be on average five times larger than quartz grains belonging to the same bed. Clay clasts described here belong to the Miocene Lambir Formation, and also the somewhat younger Tukau Formation. In the latter, large quartz clasts occur together with clay flakes in micro-conglomerate layers located at the bottom of channel deposits. Both formations are characterized by fluvial to shallow-marine conditions, and are strongly influenced by tidal, wave and longshore current interaction. The occurrence of clay clasts within sand-dominated units is rather widespread, and clay flakes and pebbles are seen both within micro-conglomerates and fine -grained sandstone sequences. The clay flakes are mostly flat and elongated, whilst pebbles are subrounded to rounded. Present-day examples suggest these clay clasts formed in low-energy intertidal areas, originating from clay layers that dried up and were washed-off with the incoming tide.

Keywords: quartz, clay, pebbles, Lambir, Tukau, Neogene

INTRODUCTION

Clay clasts are a common constituent of the Neogene sand-dominated formations of North-Western Sarawak: Lambir, Belait, Tukau, (Fig. 1) which constitute the sediments of the 'Baram Delta' (Tan et al 1999, Hutchison 2005, Kessler 2005, 2006, 2009a, 2009b).

The Mid-Late Miocene Lambir Formation forms the crestal area of the Lambir Hills. The formation contains about equal amounts of claystone and sandstone, the latter mainly formed by (sometimes nested) tidal channels and beach bars. Most channels are 'reworked' and strongly amalgamated.

The somewhat younger Tukau Fm. (it unconformly overlies the Lambir) is formed by intertidal clastics, in particular tidal channel deposits that can be strongly amalgamated (Fig. 2a), and are interbedded with silt parallel layers (Fig. 2b). Individual channel beds are often characterized by 'side-stepping' and asymptotic foresets, in which laminae can be thin gray clay or, as shown in Fig. 2c, lignite.

This paper focuses on the size relationship between quartz clasts and clay clasts, and tries to explain this strange mix of observed grain sizes.

METHODOLOGY

The respective sediments (quartz: micro-conglomerates; clay clasts and sand) were sampled, washed and dried. The clasts were examined and measured under the microscope. Specific weight data were obtained

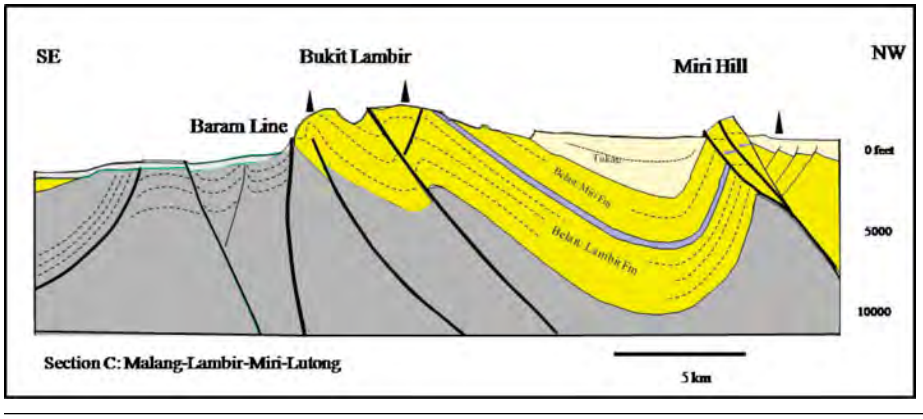

Figure 1: Tectonic/stratigraphic cross-section showing folded Neogene sediments.

Figure 2a: Prograding channels and beach-bar deposits in a quarry near Bakam, Sarawak. These sediments belong to the Tukau Fm., somewhat younger (Pliocene?) than the underlying Lambir/Miri Formations.

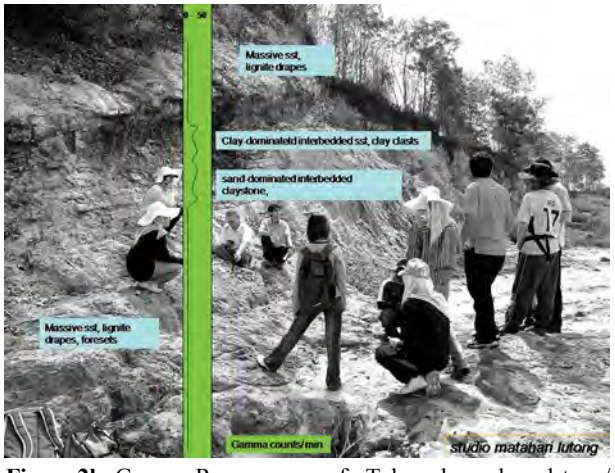

Figure 2b: Gamma Ray response of a Tukau channel sandstone/claystone assemblage. With students of the Curtin Miri 3rd year geology class, and delegates from Nippon Oil (Eneos) – Saturday Sep 12, 2009.

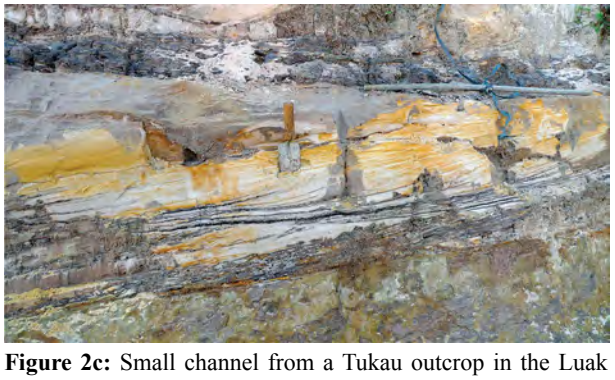

Figure 2c: Small channel from a Tukau outcrop in the Luak area, Miri City. Laminae within this cross-bedded and side-stepping channel are here formed by lignite.

Figure 3: Isolated lense of clay pebblesw within an amalgamated cross-bedded sandstone body, Tukau Fm., Bakam, Sarawak.

Figure 4: Micro-conglomeratic bed at the bottom of cross-bedded sandstone unit, Tukau Fm. This bed is formed of 60 % irregularly shaped clay clasts and 40 % quartz and hard rock conglomerate.

Figure 5: Clay flakes embedded in fine-grained sandstone (Lambir Fm, above 'parang' knife). Note the difference in shape and size between sand particles (these are less than 0.5 mm in diameter) and clay clasts (more than 20 mm in diameter). There is no obvious break between fine-grained sandstone and pebble bed, though clay clasts seem to form a lenticular-shaped body. The yellow-stained area above the clay pebble bed is the result of migrating pore waters and deposition of Goethite.

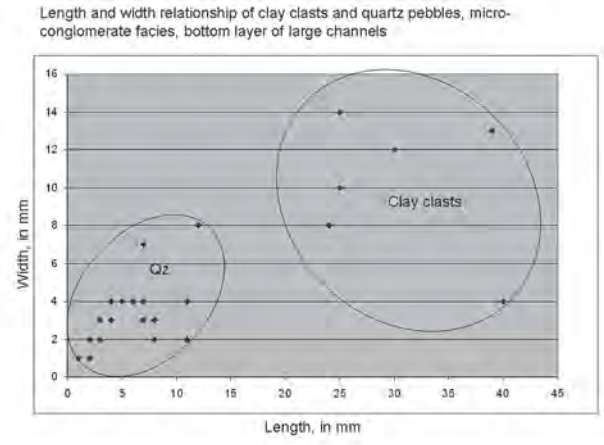

Figure 6: Comparison of quartz and clay clasts, located in a basal micro-conglomerate bed of a large amalgamated sandstone body. This study is based on outcrop data from Bakam, from the bed shown in Figure 4.

Figure 8: Polymict, quartz-dominated micro-conglomerates (a primary sediment?) (a) , and clay clasts (flakes, (b), originating from the same micro-conglomerate bed (Tukau Fm. in Bakam). Compared to the quartz clasts, the clay flakes do not show any sign of rounding, which means that transport distance could have been rather short.

Figure 9: On the beaches South of Miri, clay layers form in puddles during high-tide. During low-tide, this layer dries up to form polygonal clay flakes that buckle up.

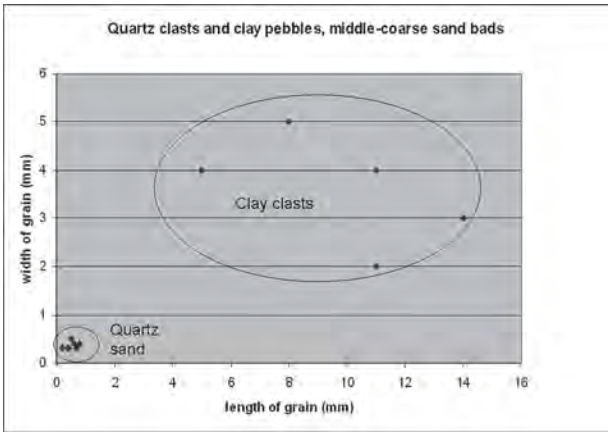

Figure 7: Comparison of quartz and clay clasts, located in a basal lamina of a stratified ripple within a large amalgamated sandstone body. Lambir Fm., outcrop of Figure 5.

by determination of their volume, and bulk weight. Several gamma ray measurements were carried out with a portable scintillometer, on sand, clay, and clay pebble beds.

SHAPE OF QUARTZ GRAINS AND CLAY CLASTS

Within the sandy units of both the Tukau and Lambir Formations, clay clasts (flakes and pebbles) are seen to form streaks and lenses, located within portions of outcropping sandstone beds – mostly deposits within amalgamated channel sediments. Measurements in several outcrops have shown, that the grain sizes of clay clasts (both clay flakes and clay pebbles) are a magnitude larger than quartz clasts belonging to the same beds.

Tukau Fm, Bakam quarries, some 20 km South of Miri

Both larger-sized quartz grains and clay clasts (flakes) occur in layered and poorly sorted deposits on the bottom of large sandstone channels.

Quartz pebbles are sub-rounded, and are only noted in the deposits of large channels. As the figures 3 to 8 suggest, clay clasts are always much larger, by an order of 5: 1, than quartz clasts occurring in the same bed, although the specific weight balance is only 2.15 g/cm3 (quartz-dominated micro-conglomerates) versus 1.975 g/cm3 for clay clasts, respectively.

Lambir Fm, coastal (Miri-Bekenu) road outcrops

Clay pebbles are mostly rounded and occur in crescent-shaped layered deposits that might be remnants of tidal current deposits, within a host rock characterized by fine and laminar-bedded sand. Quartz pebbles in combination with clay clasts, such as described above, have not been observed.

HOW AND WHERE DO CLAY FLAKES AND PEBBLES FORM?

Contemporaneous intertidal sediments south of Miri suggest that clay flakes form when thin blankets of clay dry-up at low-tide. This is shown in Fig. 9. Schematically, the process of clay deposition, drying and buckling, erosion and transport is shown in the sketches of Fig. 10a, 10b, and 10c.

It seems possible that dried clay flakes were transported by floating over short distances – the clay would rehydrate quickly, and the heavier flakes would start to submerge and sink. However, the flakes might be transported farther away, as long as the energy of the flow lasts. Rounding in clay pebbles, such as indicated in Fig. 5, may suggest that clay pebbles are 'tumbling along' on the bottom of intertidal channels, and perhaps also along shore within the subtidal setting.

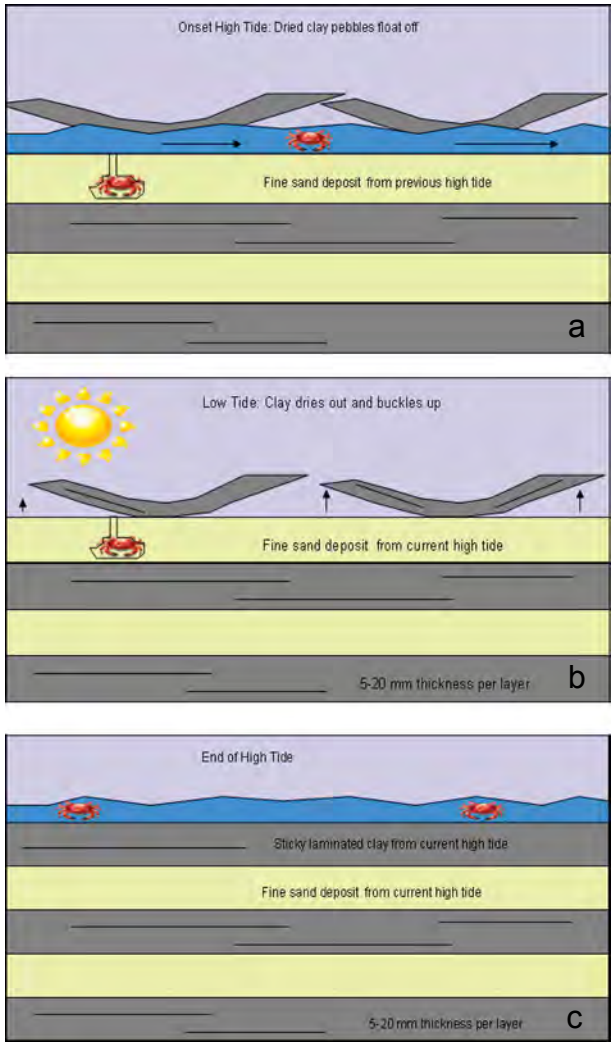

Figure 10: a) With water rising during high-tide, the dried flakes float up and are carried away by the current. b) As water recedes from the inter-tidal areas during low-tide, the uppermost clay layer dries out quickly, and buckles up to form polygonal flakes. c) During high-tide, layers of sticky clay form in puddles of stagnant water.

DISCUSSION

The origin of the large quartz pebbles as seen in the Tukau Formation remains somewhat enigmatic. Interpreted as a primary sediment, the closest areas of provenance might be Batu Gading, 45 km East, and/or the Belaga Mountains, some 80 km SE of Bakam. Outcrops in these areas are formed by clastics of the Rajang Groups, and also contain some hydrothermal quartz veins. Possibly, the latter served as a source of the large quartz pebbles, when the hinterland was exhumed and uplifted as from Late Miocene times onwards. To keep quartz pebbles, as described above, suspended, requires a fluvial system of strong current, and probably also implies a strong relief of the hinterlands. Clay flakes, however, may have originated from near-by tidal flats, as suggested by contemporaneous sedimentation. The combined deposition of quartz pebbles and clay flakes in the described channel-bottom layers can only be explained by a sudden drop of current strength. The question about flow characteristics: laminar; or temporarily turbulent flow/grain flow, remains.

CONCLUSIONS

Summarizing the above, both (irregularly shaped) clay flakes and (somewhat rounded) clay pebbles are observed. Flakes seem to be the less mature sediment, suggesting a very short distance between erosion and re-deposition. The mostly smaller clay pebbles are predominantly sub-rounded which is suggestive of more extensive transport. Quartz pebbles are only found at the bottom of channels within the Tukau Fm, and are inferred to be a primary sediment.

REFERENCES

Hutchison, C.S., 2005. Geology of North-West Borneo – Sarawak, Brunei and Sabah, 421 p, Elsevier, Amsterdam.

Kessler, F.L., 2005. Comments on the structural evolution of the Bukit Lambir area, Sarawak, Malaysia. Petroleum Geology Conference & Exhibition Bulletin, Kuala Lumpur.

Kessler, F.L., 2006. Observations on subtle deformations in the folded foreland, Sarawak, Borneo. GeoAsia Bulletin. Kuala Lumpur

Kessler, F.L., 2009a. Channels – Size Matters. Houston Geological Society Bulletin, Vol 51-1, September 2009, p 29-33.

Kessler, F.L., 2009b. Observations on sediments and deformation characteristics of the Sarawak Foreland, Borneo Island, Warta Geologi, 35(1), 1-10.

Tan, D.N.K, Abdul Hadi b. Abdul Rahman, Azlina Anuar, Boniface Bait & Chow K.T., 1999. West Baram Delta. In: The Petroleum Geology and Resources of Malaysia, Petroliam Nasional Berhad (PETRONAS), Kuala Lumpur, p 293-341.

ERRATUM

Please note that there is an error in **Geology Paper 23** in the Program & Abstract book of the Petroleum Geology Conference & Exhibition 2009. The correct extended abstract is printed below.

Geology Paper 23

The Middle Miocene Unconformity (MMU) in North Luconia, Deepwater Sarawak: How unconformable is the unconformity?

Van Vliet, A.[1] & Krebs, W. N.[2]

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[2]PETRONAS Carigali Sdn Bhd, 50088 Kuala Lumpur, Malaysia

Seismic and biostratigraphic data concurrently show that the Middle Miocene Unconformity (MMU) of the South China Sea is in most places neither of middle Miocene age nor an unconformity in the traditional sense (i.e. a true widespread break in the stratigraphic record).

Crustal extension during the late early Miocene resulted in listric faulting, fault-block rotation, and accelerated subsidence in a broad zone around the 'oceanic' core of the South China Sea; A combination of processes that formed the MMU. Crests of fault-blocks experienced mostly minor (probably entirely submarine) erosion and the 'mobilised' sediments were re-deposited in adjacent lows (Figs. 1,2 and 3). Only locally evidence is seen for subaerial peneplanation at the MMU and in those rare instances the MMU is directly overlain by shallow water (carbonate) facies (Figs. 4,5 and 6).

Hemipelagic sediments drape the rugged, essentially structural, topography of the MMU and at their base condensed sections above local unconformities are seen over the more prominent highs. There must have been, however, near continuous deposition at this time in the lows. The structural history of North Luconia is thus characterised by complete inactivity after the extensional event which created the MMU. The original relief of the MMU has been preserved to the present day with only minor and local erosional/depositional modification; The apparent structuration of the hemipelagic cover seems merely the effect of draping over pre-existing relief as opposed to late folding, which has important implications for the interpretation of the age of the numerous structures.

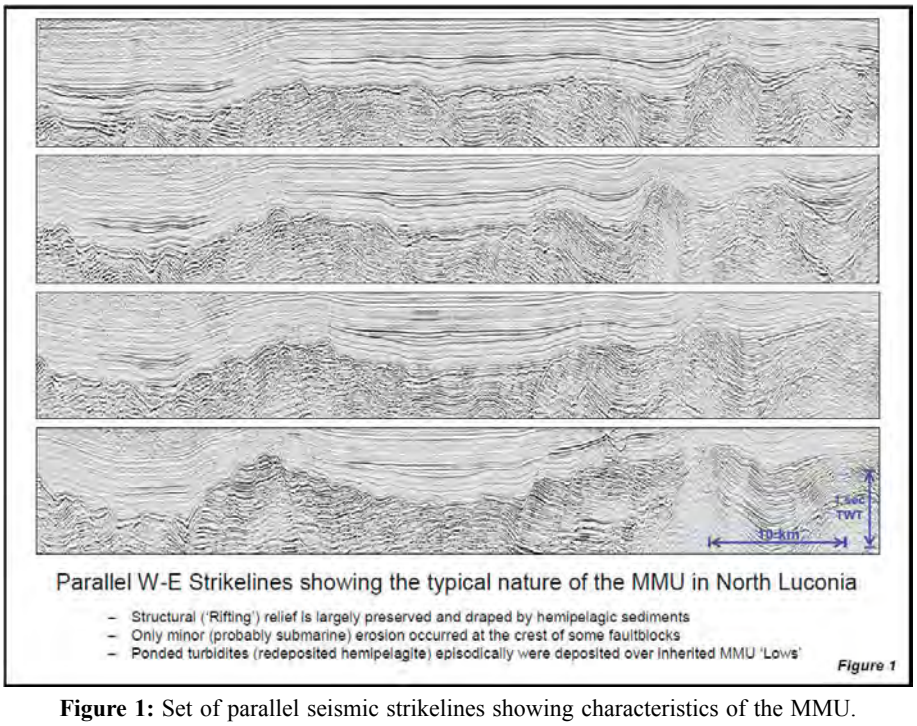

Figure 1: Set of parallel seismic strikelines showing characteristics of the MMU.

Stratigraphic relationships across the MMU are likely to be quite variable from significant missing section to continuous, albeit condensed, sedimentation (Fig. 7)

Graphic correlation analysis of biostratigraphic data from three deepwater wells in North Luconia that penetrate the MMU reveals that it comprises variable amounts of geologic time and that it is covered by condensed sections of variable durations. The age of the MMU in all three wells is late early Miocene. In the Well "B" (Fig. 8) and Well "A" (Fig. 9), drilled on paleo-highs, the MMU comprises about 4 Ma and 2.5 Ma, respectively. The condensed sections atop the MMU in both wells comprise equivalent amounts of geologic time, about 10 Ma (middle to late Miocene). Well "C" (Fig. 10) was drilled on the flank of a MMU high-block, and in this well, the MMU comprises only about 2 Ma and is covered by an interval with abundant reworked microfossils interpreted to represent erosional debris from adjacent highs. A condensed section of about 8.5 Ma rests upon this interval. A comparison of these well results (Fig. 11) indicates that the pre-MMU section in all wells accumulated rapidly during the mid-early Miocene and is underlain in Wells "A" and "B" by thinner sections of Oligocene-Lower Lower Miocene rock. MMU erosion was most extensive on the paleo-highs drilled by Wells "A" and "B" and was less along the flank drilled by Well "C". Deposition of hemipelagic sediments in Well "C" began about 1.5 Ma earlier than in Wells "A" and "B".

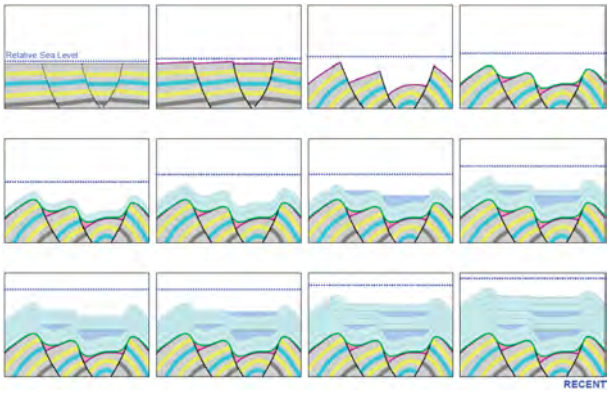

Figure 2: Schematic reconstruction North Luconia: Early Miocene to Recent (1).

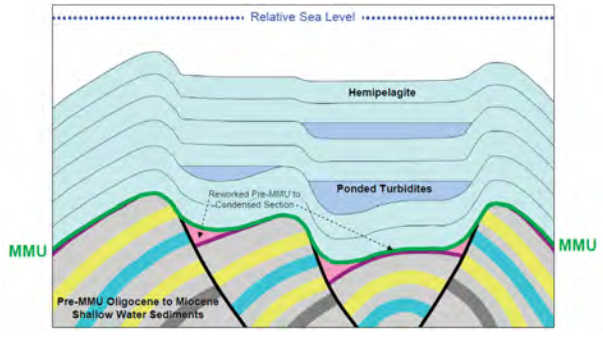

Figure 3: Schematic Geological Cross-Section North Luconia (1).

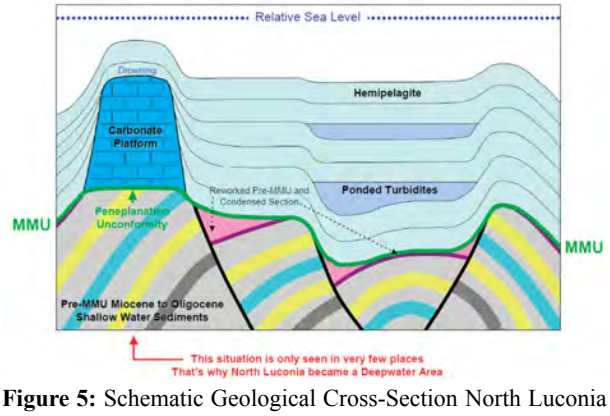

Figure 5: Schematic Geological Cross-Section North Luconia (2).

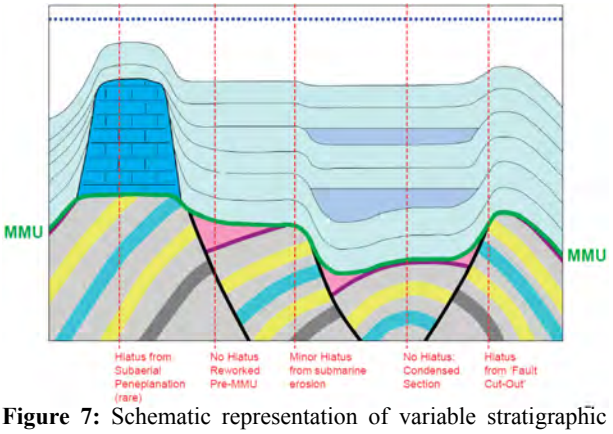

Figure 7: Schematic representation of variable stratigraphic relationships across the MMU.

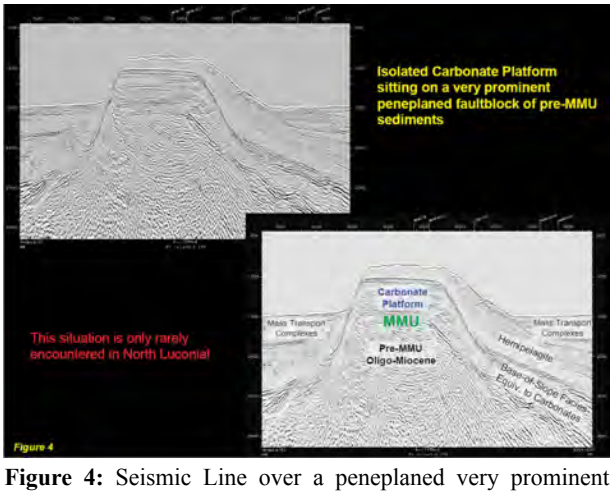

Figure 4: Seismic Line over a peneplaned very prominent pre-MMU Faultblock.

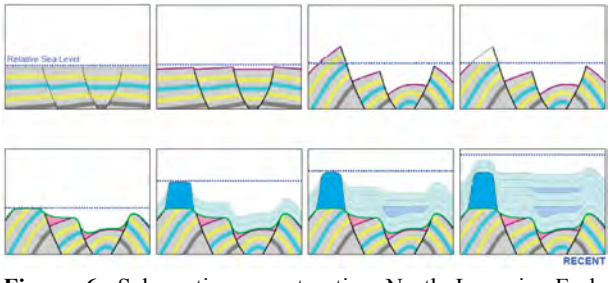

Figure 6: Schematic reconstruction North Luconia: Early Miocene to Recent (2).

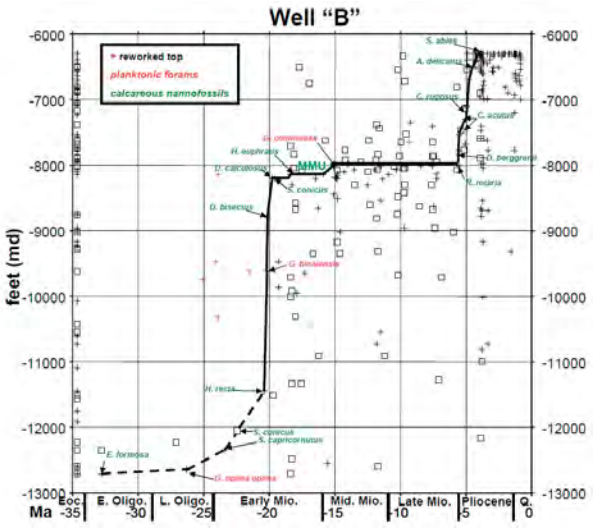

Figure 8: Graphic correlation plot of Well "B".

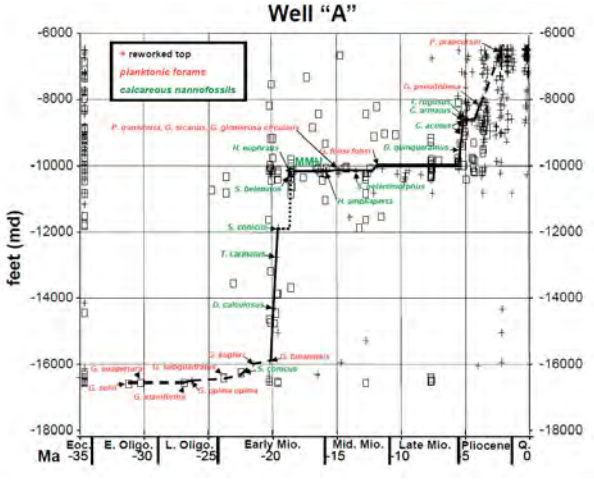

Figure 9: Graphic correlation plot of Well "A".

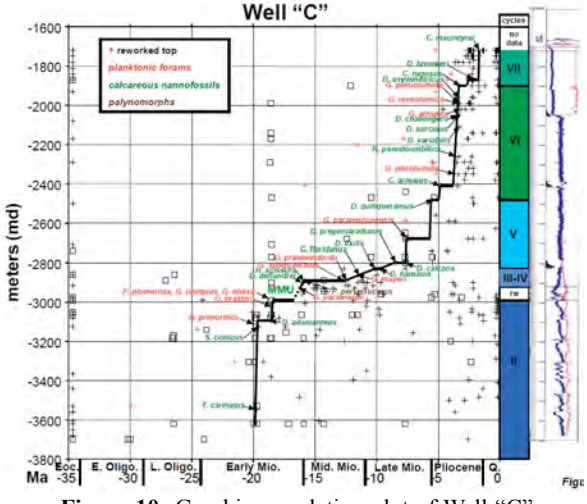

Figure 10: Graphic correlation plot of Well "C".

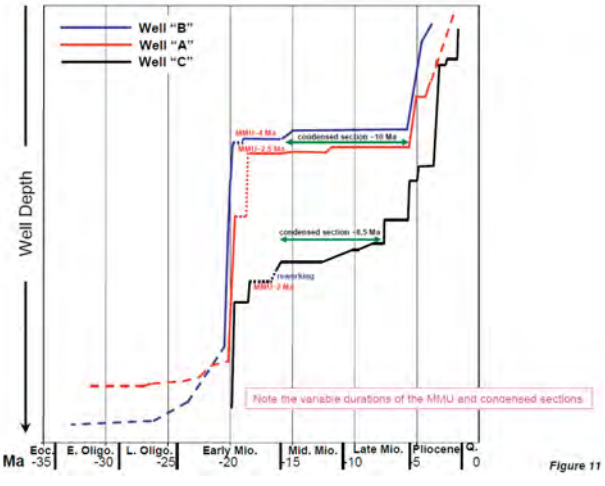

Figure 11: Nomogram of graphic correlation results of Wells "A", "B" and "C".

MALAM JURUTERA 2009

Malam Jurutera 2009 or Engineer's Night 2009 was held at the Department of Geology, University of Malaya on 14 October 2009. Three papers were presented to a small audience of about 15 persons. The first paper by Ir. Dr. C.T. Toh was on case histories of cut slope stabilities. Ir. C.A. Neoh presented several case histories of soil nailed slopes. The last paper was presented by Ir. S.S. Liew on the role of geotechnical engineer in civil engineering work in Malaysia. The event was organised by Mr. Tan Boon Kong, the chairman of the Working Group on Engineering Geology, Hydrogeology and Environmental Geology.

MALAM AIRTANAH 2009

Malam Airtanah 2009 or Groundwater Night 2009 was held at the Department of Geology, University of Malaya on 11 November 2009. Two papers were presented to an audience of about 20 geologists. The first paper by Dr. Ismail Yusoff entitled "The application of numerical technique in groundwater management" was presented by Dr. Bahaa-Eldin. Encik Mohd Hatta Abd Karim presented the second paper entitled "Some highlights of groundwater development and management in Malaysia". The event was organised by Mr. Tan Boon Kong, the chairman of the Working Group on Engineering Geology, Hydrogeology and Environmental Geology.

CERAMAH TEKNIK TECHNICAL TALK

Maximizing the effectiveness of integrated reservoir studies: Some practical approaches to improving the process and results

PAUL F. WORTHINGTON

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12 November 2009
Department of Geology, University of Malaya

Abstract— An integrated reservoir model comprises a seismically-generated structural framework for a geological architecture that governs the upscaling of petrophysical outputs through to fluid volumes and dynamic behaviour, in a manner that conforms to the engineering performance of the reservoir unit. A functional dynamic model of a reservoir therefore requires a meaningful static reservoir description as a foundation. The real benefits of integration in reservoir geoscience and engineering lie in the ability to optimize this coupling between the static and dynamic components of an integrated reservoir study. In particular, it is important to distinguish between constituent tasks that deliver true multidisciplinary products and those that are solely specific to one of the traditional subdisciplines, such as petrophysics or reservoir engineering. Unless this distinction is made, maximum benefits may not be secured. These concepts are developed by focusing on a number of important issues that underpin integrated reservoir studies. They should all be guided by the available data. Several are highlighted. The most fundamental concerns the way in which a reservoir is described, either deterministically or using probabilistic/stochastic methods, a choice that impacts directly on the way in which reservoir parameters are subsequently upscaled and distributed. Another major issue is how reservoir rocks are subdivided during the evaluation exercise. The traditional practice of using a single reservoir zonation scheme for all purposes is technically inferior to one that allows fit-for-purpose differences between a geological zonation, a petrophysical partitioning, and a hydraulic scheme for flow-unit identification. A third key issue concerns the estimation of permeability, both as a function of scale and within the context of reservoir subdivisions. These considerations include the vexed question of reconciling dynamic well test data with static predictions from core and log analysis. More generally, there is the issue of benchmarking a reservoir-evaluation exercise for purposes of quality assurance. An analysis of this staged process reveals some noteworthy omissions. Attention to issues such as these should contain the scope of iterations required to achieve meaningful history matches with production data.

These issues are illustrated by Asia-Pacific examples that substantiate the key messages for more effective approaches to integrated reservoir studies. Considerable improvements can be achieved by changing the way we do things without increasing expenditure. These improvements include a better use of key wells, changes in data-acquisition culture and the ability to recognise when sufficient data have been acquired for a particular purpose. Not unexpectedly, a prerequisite for greater success is the contemporary technical person who has more than one core skill and can stimulate others by thinking laterally within an integrated team.

FIRST CIRCULAR

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GEOLOGICAL SOCIETY OF MALAYSIA

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Grand BlueWave Hotel, Shah Alam, Selangor
11 – 12 June 2010

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CALL FOR PAPERS

PERSATUAN GEOLOGI MALAYSIA
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NATIONAL GEOSCIENCE CONFERENCE 2010

The Geological Society of Malaysia is pleased to announce that the National Geoscience Conference 2010 (NGC2010), 23rd in the annual series of conferences, will be held at the Grand BlueWave Hotel Shah Alam, Selangor from 11th to 12th June 2010. The Conference is a premier geoscientific event in Malaysia, which is well attended by geoscientists from academia as well as the public and private sectors. To foster a closer relationship with the Minerals & Geoscience Department Malaysia (JMG), NGC2010 is co-organised with JMG and will be held back-to-back with JMG's Conference 2010.

THEME: *GEOSCIENCE FOR NATION BUILDING*

Geoscience has an important contribution towards the building of a prosperous, safe and sustainable nation. The Earth provides us nearly all the raw materials and energy required for our existence. Research and development of new and innovative techniques has enabled geoscientists to discover these finite resources and manage their extraction in a more sustainable manner. Earth processes are also the source of various geological and climatic hazards that have to be minimised through sound planning to reduce the risk of disasters. Geoscience also provide solutions to pollution of the Earth due to anthropogenic activities.

PROGRAMME

The technical program of NGC2010 consists of oral and poster presentations on all aspects of geoscience related to the theme. Presentations by keynote speakers on topics of relevance to the theme and interest to the nation is planned. A discussion session on the Geologist Act is planned on 12th June 2010.

CALL FOR PAPERS

Once again we seek your support to ensure the success of NGC2010. Participants are invited to present papers on original research either in English or Bahasa Malaysia for the Technical Sessions. Contributors may submit more than one paper, however the Organising Committee has the right to select only one paper by any first author for oral presentations, while the rest will be for poster presentations.

Priority will also be given to papers with full manuscript. Please come and share your experiences, ideas and expertise for the benefit of our country and future generations.

Those who would like to present papers are required to submit an extended abstract (300 – 500 words). Abstracts of accepted papers will be distributed to all participants of NGC2010. Full papers will be reviewed and published in the Bulletin of the Geological Society of Malaysia. Manuscript requirements can be downloaded from http://geology.um.edu.my/gsmpublic/NGC2010/Instruction.pdf.

DEADLINES

Submission of abstract:	15th April 2010
Submission of full manuscript:	31st May 2010
Early Registration:	31st May 2010

REGISTRATION

All intending participants are advised to register early to facilitate the planning of the Conference. Registration fees will cover conference material, lunch and refreshment. Payment by crossed cheque or bank draft is acceptable and should be made payable to the "Geological Society of Malaysia".

Membership	Early Registration	Late Registration
Presenters	RM 80	RM 100
Full/associate/life members	RM 80	RM 100
Non-members	RM 120	RM 140
Spouse/family of members	RM 50	RM 70
Student members	RM 30	RM 50
Student non-members	RM 50	RM 70
Children below 5 years	free	free

ACCOMMODATION

Accommodation is at the participant's own expense. Participants are advised to make early room reservations as the Conference coincides with school holidays. For reservation and further information please contact the hotel directly:

Grand BlueWave Hotel Shah Alam
Tel: (603) 5511 8811
Fax: (603) 5511 8899
Email: sales@bluewavehotel.com
Website: www.bluewavehotels.com

REGISTRATION FORM

Further information and the Registration Form can be obtained from:

National Geoscience Conference 2010
Geological Society of Malaysia
c/o Department of Geology
University of Malaya
50603 Kuala Lumpur, Malaysia
Tel: (603) 7957 7036 Fax: (603) 7956 3900
Email: geologicalsociety@gmail.com

You may also download the pdf registration form from http://geology.um.edu.my/gsmpublic/NGC2010/first_circular.pdf

BERITA-BERITA LAIN
OTHER NEWS

6th Symposium of the International Geoscience Programme (IGCP 516): Geological Anatomy of East and South Asia

9-14 November 2010: Kuala Lumpur, Malaysia

First Circular & Call for Papers

Invitation & Aim

After the great success of the last five symposia of IGCP 516 at Tsukuba, Japan (2005), Quezon City, Philippines (2006), New Delhi, India (2007), Bangkok, Thailand (2008), and Kunming, China (2009), the 6th Symposium will be held at the Department of Geology, University of Malaya in Kuala Lumpur, Malaysia in mid-November 2010. This will be the last symposium as the formal activity of IGCP516. Symposium topics include: tectonics, structural geology, paleogeography, sedimentology, stratigraphy, paleontology, paleoceanography, paleomagnetism, mineral resources, magmatism, environmental geology, and other geological subjects related to the geological evolution of East and South Asia, particularly on the origin and assembly process of Gondwana-derived terranes and the final emplacement of these terranes into the Asian continent during the Phanerozoic. Colleagues who have long been working on the said subjects, who recently became interested in the subjects, and who would like to start their career with a try in this field are all cordially invited to participate in the symposium. Your contributions are highly appreciated.

IGCP516 Project Leaders:

Dr. Ken-ichiro Hisada (University of Tsukuba, Japan)
Dr. Punya Charusiri (Chulalongkorn University, Thailand)
Dr. Byung-Joo Lee (Korea Institute of Geoscience & Mineral Resources, Korea)
Dr. Xiaochi Jin (Institute of Geology, Chinese Academy of Geological Sciences, China)

6th Symposium Organizing Committee

Patron: Datuk Dr. Ghauth Jasmon (Vice-Chancellor University of Malaya)
Chairman: Prof. Dr. Lee Chai Peng
Co Chairman: Prof. Dr Azman A Ghani
Organizing Secretary: Associate Prof. Dr Ismail B. Yusoff
Scientific Session and Fieldwork: Prof. Dr Teh Guan Hoe
Treasurer: Associate Prof. Dr Ng Tham Fatt

Date & Venue

The scientific sessions of the symposium will be held at the Department of Geology, University of Malaya in Kuala Lumpur.
8 November 2010: Arrival of participants
9-10 November 2010: Scientific sessions
11-14 November 2010: Post-symposium field excursion (East-West Peninsular Malaysia Transect; including Penjom gold mine, Western and Eastern Belt granites, Central-Belt Mesozoic sedimentary formations, and Bentong-Raub rocks)
15 November 2010: Departure of participants

Scientific Program & Official Language

The official language of the symposium is English. The venues of the scientific sessions will be equipped with computers and LCD projectors. Participants who wish to make poster presentations are recommended to prepare their posters in dimensions of 84 x 119 cm or 33 x 47 inches (A0 size).

Abstract and Manuscript submission

Participants who wish to give oral and/or poster presentation(s) must submit extended abstract(s) of their presentation(s). Detailed information on the abstract format will be announced in the Second Circular. The deadline for abstract/manuscript submission will be 31 July 2010.

Fees

Symposium only (9-10 November 2010): US$ 200, covering admission to scientific sessions, abstract volumes, refreshments, and food (lunch/symposium banquet).

Post-symposium field excursion (11-14 November 2010): excursion fee (see below) covers transportation, food, accommodation, and excursion guidebook.

Twin-sharing room= US$ 400; Single room=US$ 500

Details of payment will be given in the Second Circular.

Accommodation in Kuala Lumpur

The symposium is going to be held at the Department of Geology, University of Malaya. The hotels designated are Crystal Crown Hotel, Hilton Hotel, and University House. The rate for a room is approximately RM150-RM300 (US$50-80) per night. Participants are advised to check into the above-mentioned hotels for convenience during the symposium. Details of accommodation will be announced in the Second Circular.

Visa

An official invitation letter from the Organizing Committee for applying entry visa to Malaysia will be sent to registrant on request. For those who need entry visa to Malaysia, please contact the Organizing Secretary (Associate Prof. Dr Ismail Yusoff).

Registration

Registration Form can be downloaded from: http://geology.um.edu.my/gsmpublic/IGCP516/6th_IGCP516_1st_Circular.doc

Contact Information

Please address all correspondence and inquiries related to the symposium to the Organizing Secretary.

Assoc. Prof. Dr. Ismail Yusoff
Department of Geology,
University of Malaya
50603 Kuala Lumpur
Tel: +60-3-79674141/4203
Fax : +60-3-79675149
Email: ismaily70@um.edu.my

Important Dates

31 March 2010	Deadline for responding to the First Circular
15 May 2010	Distribution of the Second Circular
31 July 2010	Deadline for abstract submission
30 September 2010	Distribution of the Final Circular
8 November 2010	Arrival of participants

UPCOMING EVENTS

May 3-7, 2010: Mapping Subsurface Structures, London, UK. Tel: 603 21684751; email: ap-enquiries@petroskills.com

May 10-14, 2010: Sandstone Reservoirs, Kuala Lumpur, Malaysia. Tel: 603 21684751; email: ap-enquiries@petroskills.com

May 10-14, 2010: Analysis of Structural Traps in Extensional Settings, London, UK. Tel: 603 21684751; email: ap-enquiries@petroskills.com

May 18-20, 2010: The 34th Indonesian Petroleum Association Convention & Exhibition 2010, Jakarta Convention Center, Indonesia. Tel: 62 21 5155959; Fax: 62 21 51402545; email: tpc@ipa.or.id; website: ipa.or.id/34th-Convention/CFP2010.htm

June 7-11, 2010: Reservoir Geology – Integrating Data for Reservoir Modelling, Vienna, Austria. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

June 14-18, 2010: Geochemical Techniques for Solving Reservoir Management and Field Development Problems, Houston, USA. Tel: 603 21684751; email: ap-enquiries@petroskills.com

June 21-25, 2010: Operations Geology, Kuala Lumpur, Malaysia. Tel: 603 21684751; email: ap-enquiries@petroskills.com

June 21-25, 2010: Sequence Stratigraphy: An Applied Workshop, Kuala Lumpur, Malaysia. Tel: 603 21684751; email: ap-enquiries@petroskills.com

June 21-25, 2010: Clastic Sedimentology for Exploration and Development, Vienna, Austria. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

June 21-25, 2010: Applied Reservoir Management, Vienna, Austria. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

June 28-July 2, 2010: Introduction to Petroleum Engineering, Vienna, Austria. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

June 28-July 2, 2010: Seismic Acquisition for Supervisors, Vienna, Austria. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

June 30-July 2, 2010: Use of Neural Networks in Reservoir Characterisation, Kuala Lumpur, Malaysia. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

July 5-7, 2010: Seismic Data Processing for Interpreters, Vienna, Austria. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

July 5-9, 2010: Foundations of Petrophysics, Vienna, Austria. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

July 5-9, 2010: Bayesian Inference and Neural Networks in Formation Evaluation, Kuala Lumpur, Malaysia. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

July 5-9, 2010: Development Geology, Kuala Lumpur, Malaysia. Tel: 603 21684751; email: ap-enquiries@petroskills.com

July 12-16, 2010: Prospect and Play Assessment, London, UK. Tel: 603 21684751; email: ap-enquiries@petroskills.com

July 19-23, 2010: Basin Analysis Workshop: An Integrated Approach, Kuala Lumpur, Malaysia. Tel: 603 21684751; email: ap-enquiries@petroskills.com

July 26-30, 2010: Carbonate Geology for Oil and Gas Exploration & Development, Vienna, Austria. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

July 26-30, 2010: Reservoir Engineering for Non-Reservoir Engineers. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

July 26-30, 2010: Introduction to Seismic Stratigraphy: A Basin Scale Regional Exploration Workshop, Singapore. Tel: 603 21684751; email: ap-enquiries@petroskills.com

August 2-4, 2010: Volcaniclastic Rocks – Classification, Properties, Genesis and Depositional Settings, Vienna, Austria. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

August 2-6, 2010: Advanced Reservoir Simulation Technologies, Vienna, Austria. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

August 2-6, 2010: Advanced Seismic Stratigraphy: A Sequence – Wavelet Analysis Exploration – Exploitation Workshop, Singapore. Tel: 603 21684751; email: ap-enquiries@petroskills.com

August 30-September 3, 2010: 6th Quadrennial Conference GeoSciEd VI of the International Geoscience Education Organisation (IGEO), Johannesburg, South Africa. Email: witsqeoutreach@gmail.com/slab@internode.on.net; website: //web.wits.ac.2a/newsroom/conferences/geoscied/geosciedhome:htm

September 5-10, 2010: 11th IAEG International Congress, New Zealand. Website: www.iaeg2010.com

September 13-17, 2010: Carbonate Reservoirs, London, UK. Tel: 603 21684751; email: ap-enquiries@petroskills.com

September 13-17, 2010: Seismic Interpretation, Kuala Lumpur, Malaysia. Tel: 603 21684751; email: ap-enquiries@petroskills.com

September 13-17, 2010: Petroleum Systems Modelling for Exploration Risk Assessments, Vienna, Austria. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

September 27-October 1, 2010: Petroleum Geochemistry: Tools for Effective Exploration and Development, London, UK. Tel: 603 21684751; email: ap-enquiries@petroskills.com

September 27-October 1, 2010: Petroleum Geostatistics – Integrating Data for Reservoir Modelling and Simulation, Vienna, Austria. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

October 10-14, 2010: Integrated Petrophysics for Reservoir Characterisation, Dubai, UAE. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

October 11-15, 2010: Production Geology for Other Disciplines, Kuala Lumpur, Malaysia. Tel: 603 21684751; email: ap-enquiries@petroskills.com

October 11-15, 2010: Deep-water Turbidite Depositional Systems and Reservoirs, London, UK. Tel: 603 21684751; email: ap-enquiries@petroskills.com

October 17-21, 2010: Carbonate and Fracture Petrophysics, Dubai, UAE. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

October 18-22, 2010: Wellsite and Operations Geology, Vienna, Austria. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

October 18-22, 2010: Compressional and Transpressional Structural Styles, London, UK. Tel: 603 21684751; email: ap-enquiries@petroskills.com

October 19-22, 2010: Oils and Fats International Congress 2010 in conjunction with Oils and Fats International Asia 2010: Oils and Fats Industry: Challenges and Innovative Solutions, Kuala Lumpur, Malaysia. Contact: OFIC 2010 Secretariat c/o MOSTA, C-3A-10, 4th Floor, Block C, Damansara Intan, 47400 Petaling Jaya, Selangor, Malaysia. Tel: 603 71182062/2064; Fax: 603 71182063; email: secretariat@mosta.org.my; website: www.mosta.org.my

October, 25-29, 2010: Structural Styles in Petroleum Exploration, Kuala Lumpur, Malaysia. Tel: 603 21684751; email: ap-enquiries@petroskills.com

November 1-5, 2010: Production Logging and Reservoir Monitoring, Kuala Lumpur, Malaysia. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

November 1-5, 2010: Seismic Velocities and Depth Conversion, Kuala Lumpur, Malaysia. Tel: 603 21684751; email: ap-enquiries@petroskills.com

November 7-11, 2010: Introduction to Open Hole Log Analysis, Dubai, UAE. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

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November 8-12, 2010: Basin Analysis and Petroleum Systems, Vienna, Austria. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

November 8-12, 2010: Special Core Analysis, Vienna, Austria. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

November 8-12, 2010: Petroleum Geomechanics, Kuala Lumpur, Malaysia. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

November 29-December 3, 2010: Pore Pressure, Fracture Pressure and Wellbore Stability Management, Vienna, Austria. Tel: +43 3842 43053-33; Fax: +43 3842 430531; email: training@hoteng.com; website: www.hoteng.com

November 30-December 3, 2010: OSEA 2010: Energise Asia's Oil & Gas Industry, Suntec Singapore. Website: www.osea-asia.com

August 5-15, 1012: 34th International Geological Congress, Brisbane, Australia. Contact: Dr. Ian Lambert, Geoscience Australia. Tel: +61 2 62499556; Fax: +61 2 62499983; email: ian.lambert@ga.gov.au; website: www.ga.gov.au/igc2012

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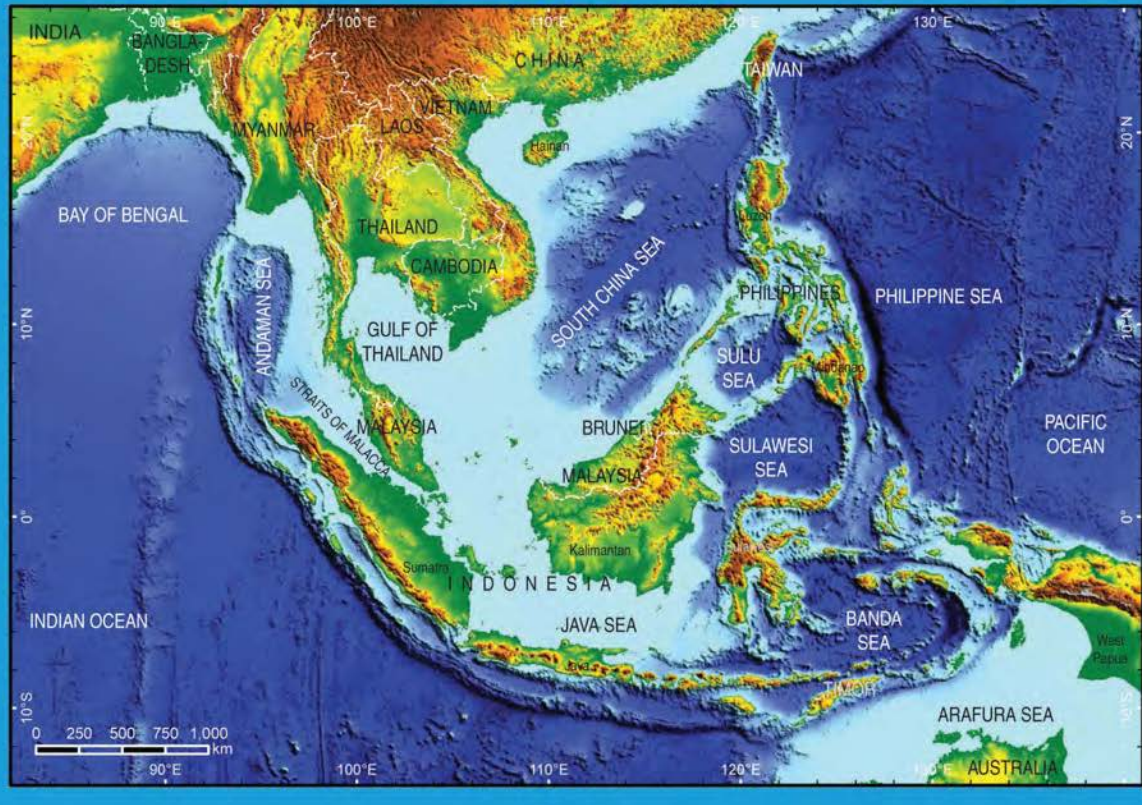

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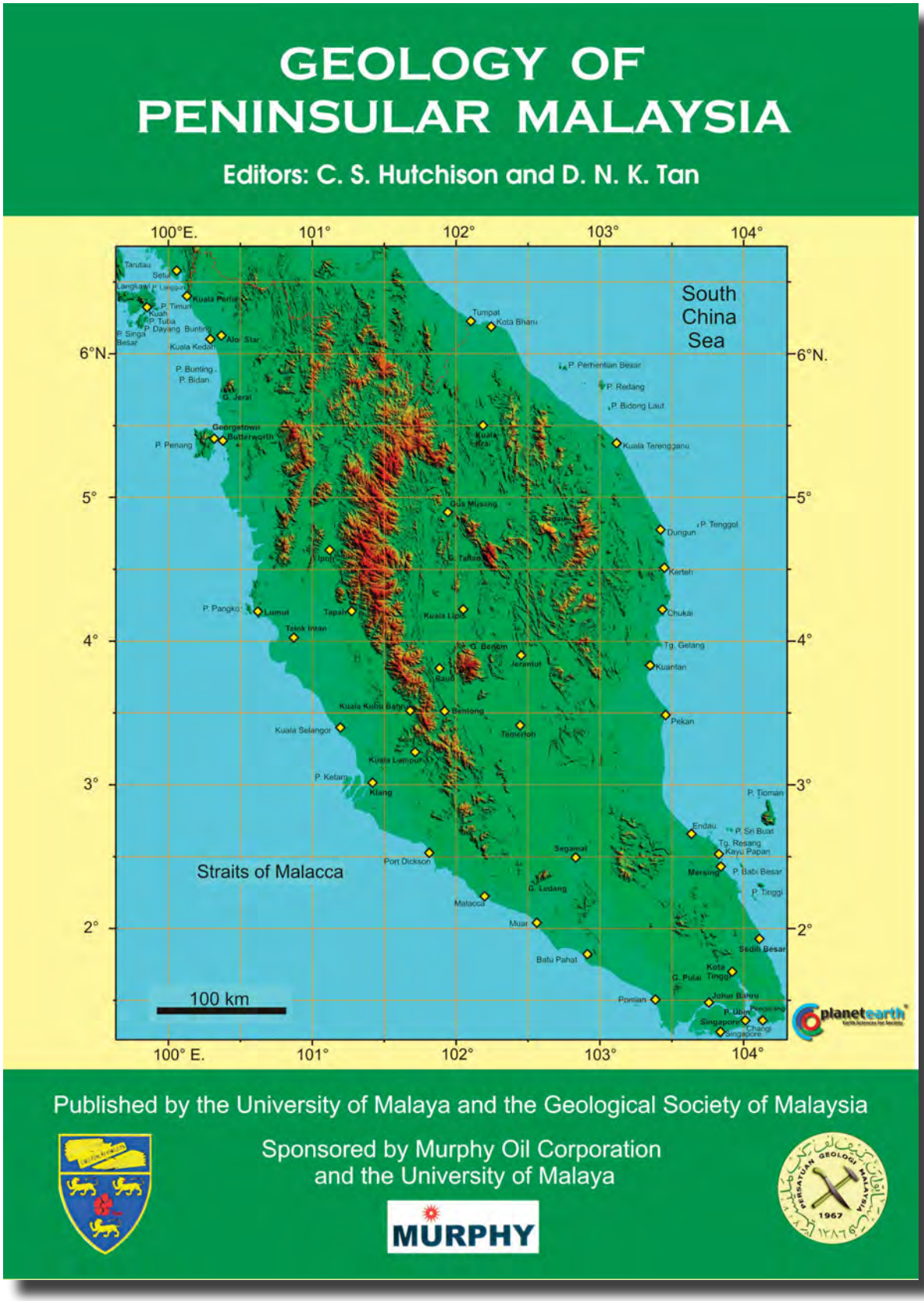

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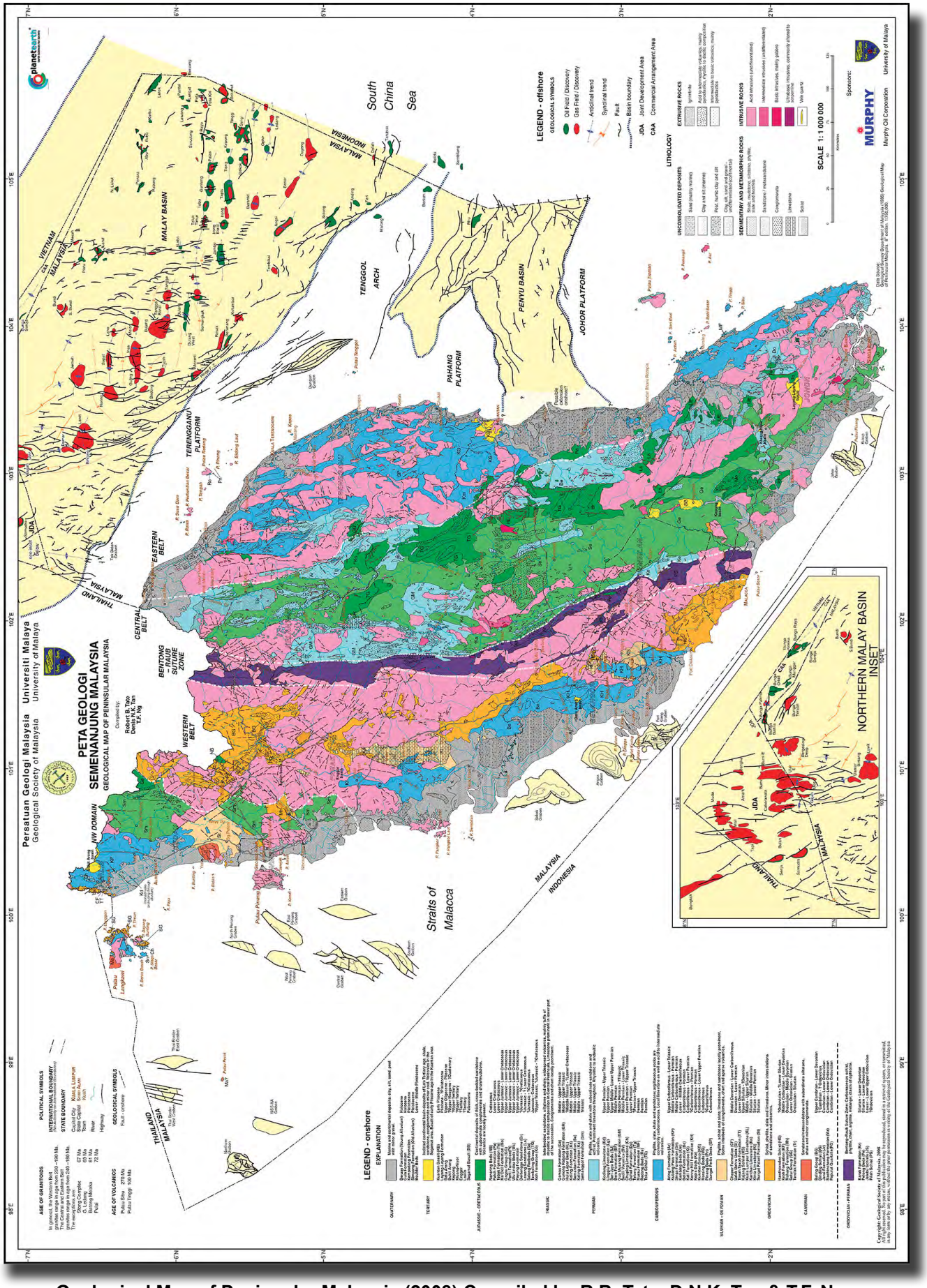

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PP2509/02/2010(024604) ISSN 0126-5539

WARTA GEOLOGI PERSATUAN GEOLOGI MALAYSIA

Newsletter of the Geological Society of Malaysia
Jilid 35, No. 4 • Volume 35, No. 4 • October–December 2009

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Department of Geology, University of Malaya, 50603 Kuala Lumpur, MALAYSIA
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Printed by Art Printing Works Sdn. Bhd.
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