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

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CATATAN GEOLOGI (Geological Notes)

Some recollections of geology at the University of Malaya: 3, early days in Pantai Valley

CHARLES S. HUTCHISON

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EARLY FIELD WORK

Our first Honours Year had transferred in 1960 with the department from Singapore. As part of their field training Tony Leow and I taught them how to make a detailed map using a plane-table and telescopic alidade. For the practical work we chose the andesite agglomerate quarry at Kampung Awah (Fig. 1). After crossing on the ferry from Temerloh, Kampung Awah was as far east as the road went. There was no connection to Maran until the British Army corps of engineers constructed a new road. Until that time, the East Coast was accessed only via ferry at Jerantut.



Figure 1. Plane-table mapping at Kampung Awah quarry, Pahang. From left to right: The late Law Wei Min, the author, Ignatius Wong, the late Tony Leow Jwee How, and the late Jaafar bin Ahmad.

Footnote: Earlier parts of my recollections appeared as follows: part 1 in Warta Geology 25 (No. 3), 85-94 (1999) and part 2 in Warta Geologi 29 (No. 2), 33-40 (2003).

Work in the quarry was unbearably hot and we borrowed a cut-open hessian bag sun-shade from the quarry workers, their bodies burnt black in the daily hot sun. They used such sun-shades while breaking up the rocks with a sledge hammer fitted with flexible bamboo shaft. Upon graduation, Law Wei Min and Ignatius Wong both joined the Government soils survey and Jaafar Ahmad became the first Malay to join the Geological Survey in Ipoh.

FIRST FIELD TRIP TO PERLIS

Professor Charles S. Pichamuthu was soon to retire and return to Bangalore. He asked me to organise a student field trip to Ipoh, Penang, Kedah and Perlis. I requested Sandy Renwick, the Deputy Director of the Geological Survey, to introduce us to the geology of the Kinta Valley. Sandy was an outstanding organiser. He had previously sent out a field assistant to select mines to visit and to write up a description of each. Sandy was a pukka English colonial gentleman. He was a generous man and good friend and had once invited me to be his house guest in Scrivenor Road, off Tiger Lane. His amah told me that even when dining alone, he was wont to dress formally with jacket and tie on Friday nights. I had dinner with him on such a night and he told me I was at liberty to dress as I wished. Only he felt it necessary to keep up the standards as befitted a senior English government servant working in the tropics. On the field trip he wore a light brown homburg hat, carried a shooting stick and bugle swung over his shoulder. At each mine, he comfortably seated himself on an outcrop or on his shooting stick and read out the description to the students (Fig. 2). He then directed them to look at the rocks on their own. At an appropriate time, he summoned them back to the vehicle with his bugle. Liu and Kwek were highly amused by this caricature performance, but showed great restraint in suppressing laughter. Upon Malaysianisation, Sandy became deputy director in Papua New Guinea, later transferred to Canberra. His outstanding administrative skills resulted in appointment as Secretary General of the Sydney International Geological Congress. I was to meet him again at the subsequent Congress in Moscow.



Figure 2. Visit to an opencast tin mine in the Kinta Valley. From the left: the late Professor Charles S. Pichamuthu, Sandy Renwick, the late Liu Chang Lan (standing).

We then went on to Kangar, Perlis, where we were shown round a tin mine at Kaki Bukit by the owner Mr. Low (Fig. 3). Liu Chang Lan was well known in these parts and Low's father invited us for lunch in his house at the end of the visit. On the return journey we made a visit to the ancient Hindu temple on Kedah Peak that was being reconstructed by a French archaeologist from Ankor Wat. In Penang we stayed at the recently opened Peking Hotel on Penang Road. When I look at the group photograph (Fig. 4), I cannot believe that we all fitted into the University Bedford minibus. We must also in addition have used my car, though I have forgotten this detail. Soon after this field trip, Professor Pichamuthu was to retire and return to Bangalore. In retirement, he was to visit Malaysia once more on his way back from the aborted International Geological Congress in Prague. A keen photographer, he took a wonderful portfolio of the Russian invasion of Czechoslovakia, which he sold to an English newspaper. About this time he was honoured by the Presidency of the Geological Society of India.



Figure 3. At the Kaki Bukit tin mine, Perlis. Extreme left: the late Liu Chang Lan. In front of him Mr. Loh the mine owner. Extreme right: the late Professor C. S. Pichamuthu.



Figure 4. In front of the Peking Hotel, Penang Road. Far left: the author. Far right: Kwek Kay Swee; on his right Mrs and Professor C.S. Pichamuthu. On his right: the late Liu Chang Lan.

LIU CHANG LAN

The early university was dominated by a mature student Liu Chang Lan. He had previously worked for the government in Kedah and was well known to senior government administrators there and in Perak and Perlis. His uncle was Liu Shaoqi, a former President of the People's Republic of China. Liu and Kwek Kay Swee were both geology students. Liu was president of the students' union and Kwek in charge of sports. Together with the Vice Chancellor Sir Alexander Oppenheim and the registrar Foo Yeow Yoke, they virtually ran the whole university.

The students' charity week culminated with a parade and public collection around central Kuala Lumpur. A special student newspaper called 'Blah-Blah' was sold to the public. Its front cover was dominated by a large photograph of the gigantic Queen Salote of Tonga, her face overprinted by that of Liu Chang Lan. She was holding the hand of a small street urchin dressed in ill-fitting shorts, his face replaced by that of Sir Alexander Oppenheim. I am sure that the V.C. enjoyed the fun, but such liberties with university authorities did not appeal to the council, and we were unfortunately never again to see Blah-Blah.

Liu was accustomed to taking charge. During field excursions in Perak, Kedah and Perlis, he would arrange for the students' lunch or dinner to be provided by the Menteri Besar. Rarely did we have to find our own meals.

Unfortunately Liu was not the most academically outstanding and his presidential duties left little time for study. At the end of the third year examinations, the board of examiners had a long and tortuous discussion. He did not have enough marks to qualify for entry into the fourth (honours) year, nor did he have enough to clearly obtain a Pass degree. The examiners would have dearly loved to allow his marks to stand, so that he would have to repeat the year. The University would thereby not lose this outstanding leader. But this would be an injustice, for the board of examiners habitually struggled to find the few additional marks necessary to pass a deserving student. Clearly Liu was the most deserving of all that year's students. So justice prevailed, the board awarded him the necessary extra marks, he passed, graduated and was lost to academia. The University of Malaya was never again to have such a golden era when elected students ruled side-by-side with the administration.



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CATATAN GEOLOGI (Geological Notes)

Physical and mechanical properties of a meta-rhyolitic tuff from the Dinding Schist

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Abstract: Meta-rhyolitic tuff from the Lower Palaeozoic Dinding Schist shows a distinct foliation with quartz, microcline and albite porphyroblasts set in an aligned fine grained matrix of quartz, sericite, muscovite and biotite. Laboratory tests show the meta-tuff to have average dry, and saturated, unit weights of 25.61 and 25.75 kN/m³, and dry, and saturated, densities of 2,614 and 2,627 kg/m³, respectively. The meta-tuff has an average effective porosity of 1.4 %; its mineral grains having a specific gravity of 2.65. Ultrasonic pulse velocities of compression waves through the meta-tuff show it to be an anisotropic material with average velocities of 5,616, and 3,973, m/sec, parallel, and perpendicular, to the foliation respectively. Unconfined compression tests also reflect the anisotropy with uniaxial compressive strengths of 78.8 MPa, and 191.9 MPa, determined parallel, and perpendicular, to the foliation. Point load tests on air dried, block samples of the meta-tuff yield strength indices [$Is_{(50)}$] of 3.8 MPa, and 10.7 MPa, parallel, and perpendicular, to the foliation respectively. These strength indices were calculated from regression analyses of the log-log plots of loads at failure (P) versus the squared equivalent core diameters (De^2) of the several tetrahedral blocks of different sizes that were tested. The point load strength index [$Is_{(50)}$] and uniaxial compressive strength parallel to foliation are related by a multiplication factor of 20.7, whilst the similar values perpendicular to foliation are related by a multiplication factor of 17.8.

INTRODUCTION

Standard geological descriptions and classification fulfill an important role in the appraisal of rock material for engineering purposes, though such qualitative data often needs to be confirmed and augmented by quantitative data which allow a more precise description. Several laboratory testing procedures have therefore, been formalized to determine the quantitative data which includes both physical and mechanical properties (Lama and Vutukuri, 1978; ISRM, 1979).

In this paper are presented the results of several laboratory tests that have been carried out on samples of a meta-rhyolitic tuff in order to determine its physical and mechanical properties. The physical properties determined include density, unit weight, effective porosity and ultrasonic pulse velocity of compression waves, whilst the mechanical properties include the uniaxial compressive strength and point load strength index [$Is_{(50)}$]. Correlation of the different strength properties is also discussed.

SAMPLING SITE - GEOLOGICAL SETTING

In the Kuala Lumpur area are found Lower and Upper Palaeozoic rocks that have been mapped as four separate units by Gobbett (1964). The Lower Palaeozoic comprises mainly quartz-mica schists (Dinding Schist) that are conformably overlain by graphitic schists (Hawthornden Schist) and these in turn by carbonate rocks of Silurian age (Kuala Lumpur Limestone). The Upper Palaeozoic comprises sandstones, phyllites and shales of the Permian Kenny Hill Formation that unconformably overlies the Lower Palaeozoic (Yin, 1965; Abdullah Sani, 1986).

Recent outcrops furthermore, show the Dinding Schist to mainly consist of quartz-biotite-muscovite schist, quartz schist and meta-volcanic rocks; many of the schists having relict volcanic textures as embayed quartz, relict microcline and plagioclase phenocrysts and rock fragments (Khoo, 1994). All rocks of the Dinding Schist are also reported to have been contact metamorphosed with biotite in particular, developed by contact metamorphism from very low grade regionally metamorphosed schistose rocks devoid of biotite (Khoo, 1994).

The Lower Palaeozoic rocks in the general area have given rise to a tectonic basin formed by two successive periods of folding. The Kenny Hill Formation is folded into a broad syncline with a north-northwest axial trend; this folding being superimposed on an earlier, more intense deformation of the Lower Palaeozoic rocks which had a trend at about right angles to the strike of the superimposed fold (Gobbett, 1964). Surrounding the Lower Palaeozoic rocks are Late Triassic to Jurassic granitic intrusions that are broadly contemporaneous with, or younger than, the second folding phase. Quartz dykes, post-dating the granitic intrusions, also intrude the granitic, sedimentary and Lower Palaeozoic rocks. Quaternary alluvial deposits constitute the youngest sediments and are found mainly overlying the Kuala Lumpur Limestone, which shows a subsurface karstic terrain. These alluvial sediments are over 60 m thick and have been mined extensively for their tin placers (Khoo, 1994).

METHOD OF STUDY

In connection with a study on the geotechnical properties of the Dinding Schist, several unweathered rock blocks were collected at a slope cut in Taman Melawati (Fig. 1) and then sawn into smaller tetrahedral blocks of up to some 200 cm³ in size. The sides of these blocks were then finely ground before their individual, visible textural and structural features were described. Densities, unit weights and effective porosities of these small blocks were then determined according to the saturation and buoyancy technique of ISRM (1979), whilst specific gravity determinations were carried out on crushed samples of four of the blocks.

In order to investigate the influence of foliation on the uniaxial compressive strength and point load strength index [$I_{s(50)}$], several blocks were cut with their long axis parallel, and perpendicular, to the inherent foliation. All the blocks were then air dried for two weeks before the ultrasonic pulse velocities of compression waves through them were measured with an OYO Corporation New Sonic Viewer (Model 5217A).

Several of the blocks were then tested with an ELE Point Load Test Apparatus to determine the point load strength index [$I_{s(50)}$], parallel and perpendicular to foliation. Other blocks, with approximately square cross-sections and height to breadth ratios of 2:1, were tested

in an ELE 1100 kN Compression Machine to determine uniaxial compressive strengths; a loading rate of 25 MPa per minute being employed.

PETROGRAPHY OF INVESTIGATED ROCK MATERIAL

At the sampling site, the bedrock shows a well developed foliation marked by the parallel alignment of alternating, thin (<5 mm) dark, and light, greenish grey coloured layers. The foliation strikes some 140° to 160° with moderate dips (>40°) towards the southwest. These rocks, mapped as the upper part of the Dinding Schist by Gobbett (1964), contain several small quartz and feldspar fragments (up to 5 mm in size) that are sometimes elongated with a sub-parallel alignment. At the outcrop, and in hand specimens, the schistose rocks are cut by numerous, thin quartz veins (<1 cm wide) of variable orientations that are often tightly folded and deformed.

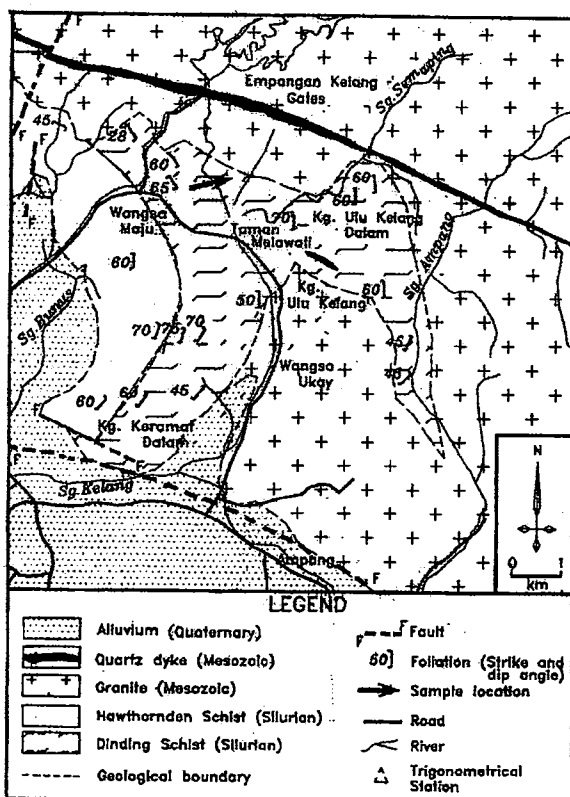


Figure 1. Geological sketch map of the Ulu Kelang area, Wilayah Persekutuan (After Gobbett, 1964; Yin, 1974)

In thin-sections, quartz, microcline and albite porphyroblasts are seen as individual grains or aggregates within an aligned matrix of alternating, thin layers (<5 mm wide) of fine grained quartz and micas (muscovite, sericite and biotite). The porphyroblasts are of very irregular shapes with the quartz porphyroblasts being some 2 to 5 mm in size and showing undulatory extinction. The microcline porphyroblasts are 1.5 to 4 mm in size, whilst the albite porphyroblasts are smaller and up to 3 mm in size. Biotite usually occurs as small flakes (<0.1 mm size) in the matrix inter-layered with muscovite and sericite, though it sometimes occurs as larger aggregates and forms porphyroblasts. Quartz occurring as aggregates shows flattened, rounded or curved shapes. The foliation may be due to segregation during metamorphism, but may also be a relict structure representing heterogeneity in the original bedrock (Chuah, 1973).

The rocks at the sampling site have been termed quartz-mica schists by several workers as Gobbett (1964), Hamzah Mohamad *et al.* (1986) and Ibrahim Komoo *et al.* (1986), though by virtue of evidence supporting an original pyroclastic bedrock, as the presence of bipyramidal quartz fragments and alternating textural layers, they would be better termed meta-rhyolitic tuffs (Chuah, 1973).

RESULTS AND DISCUSSION

Table 1 shows the meta-rhyolitic tuff to have unit weights ranging from 25.56 to 25.78 kN/m³, with average dry, and saturated, values of 25.61, and 25.75, kN/m³, respectively. Density values also show a fairly narrow range from 2,608 to 2,631 kg/m³, with average dry, and saturated, values of 2,614, and 2,627, kg/m³ respectively. The crushed rock material has an average specific gravity of 2.65 whilst the average effective porosity of the rock material is 1.4%.

Sample No.	Dry Unit Weight (kN/m ³)	Saturated Unit Weight (kN/m ³)	Dry Density (kg/m ³)	Saturated Density (kg/m ³)	Effective Porosity (%)
24	25.67	25.78	2,619	2,631	1.2
17	25.67	25.78	2,619	2,631	1.2
3	25.65	25.77	2,617	2,630	1.2
4	25.63	25.76	2,615	2,628	1.3
20	25.62	25.75	2,615	2,628	1.3
26	25.60	25.74	2,612	2,626	1.4
2	25.59	25.74	2,612	2,626	1.5
5	25.57	25.72	2,610	2,625	1.5
8	25.57	25.72	2,610	2,625	1.5
18	25.56	25.71	2,608	2,624	1.6
Average	25.61	25.75	2,614	2,627	1.4

Table 1. Physical properties of the meta-rhyolitic tuff

In view of the inherent foliation, the meta-tuff is expected to be strongly anisotropic and this is shown by the ultrasonic pulse velocities of compression waves; there being average velocities of 5,616, and 3,973, m/sec, parallel, and perpendicular, to the foliation, respectively (Table 2). The preferential alignment of minerals parallel to foliation is considered to be the main reason for the higher velocity parallel to foliation. Ultrasonic pulse velocities of shear wave velocities through the meta-tuff were also determined, though they are not discussed as they were much lower than expected with a mean value of around 2,000 m/sec.

In view of the low effective porosity, the meta-rhyolitic tuff can be expected to have a high compressive strength, as the presence of pores in the fabric of a rock material decreases its strength and increases its deformability (Lama and Vutukuri, 1978). The inherent foliation, however, will influence determination of the compressive shear strength. Unconfined compression tests on block samples of the meta-rhyolitic tuff thus yield uniaxial compressive strengths of 78.8 MPa, and 191.9 MPa, with compression parallel, and perpendicular, to the

Sample No.	Unit Weight (kN/m ³)	P Wave Velocity (m/sec)	Orientation platens relative to foliation
11a	25.53	5,860	Parallel
11b	25.53	5,670	Parallel
15a	25.71	5,755	Parallel
15b	25.71	5,471	Parallel
21a	25.92	5,401	Parallel
21b	25.92	5,536	Parallel
Average	25.72	5,616	Parallel
11c	25.53	3,859	Perpendicular
13c	25.39	4,174	Perpendicular
15c	25.71	3,747	Perpendicular
21c	25.92	4,226	Perpendicular
24c	25.70	3,858	Perpendicular
Average	25.63	3,973	Perpendicular

Table 2. Ultrasonic pulse velocities through the meta-rhyolitic tuff

Sample Number	Dry Unit Weight (kN/m ³)	Uniaxial compressive strength (lbf/in ²)	Uniaxial compressive strength (MPa)	Orientation relative to foliation	Mode of failure (after Hawkes & Mellor, 1970)
11	25.69	26,772	184.8	P'endicular	2 diagonal shear planes
12	25.50	29,038	197.5	P'endicular	2 diagonal shear planes
B	25.39	27,863	193.4	P'endicular	2 diagonal shear planes
Average	25.53	27,891	191.9	P'endicular	
8	25.58	12,247	84.4	Parallel	Shear & slabbing
33	25.63	11,632	78.9	Parallel	1 set shear planes
25	25.73	10,635	73.3	Parallel	1 diagonal shear plane
Average	25.65	11,505	78.8	Parallel	

Table 3. Uniaxial compressive strength of the meta-rhyolitic tuff

foliation respectively (Table 3). The unconfined compressive strength parallel to foliation is thus only 41% of that perpendicular to foliation.

Point load tests carried out on the air dried blocks of different sizes show, as expected, a range of values, though the loads at failure of blocks tested parallel to foliation are consistently lower than those of blocks tested perpendicular to foliation (Table 4). In order to introduce shape and size corrections to these block tests, as recommended by ISRM (1985), the loads at failure (P) of the different blocks were plotted against the squares of their equivalent core diameters (D_e^2) in log-log graphs. Regression analyses of assumed linear plots with zero intercepts, then gave, for a squared equivalent core diameter of 2500 mm², loads at failure of 9.5 kN, and 26.75 kN, for blocks tested parallel, and perpendicular, to foliation respectively. The point load strength index [$Is_{(50)}$] parallel to foliation is thus 3.8 MPa, whilst that perpendicular to foliation is 10.7 MPa. As with the unconfined compressive strength, the point load strength index parallel to foliation is about 36% of that perpendicular to foliation.

Sample Number	Height (mm)	Width (mm)	Length (mm)	Equivalent core diameter (mm ²)	Load at failure (kN)	Orientation relative to foliation
51	41	36	29	1,329	5.1	Parallel
54	43	38	30	1,452	5.1	Parallel
55	47	33	31	1,303	5.2	Parallel
60	45	40	34	1,732	6.0	Parallel
61	58	33	31	1,303	5.0	Parallel
14	65	35	29	1,292	5.5	Parallel
52	38	33	27	1,135	11.5	P'endicular
53	43	35	32	1,426	14.5	P'endicular
56	40	34	29	1,256	12.7	P'endicular
58	54	40	25	1,273	13.2	P'endicular
31	46	35	34	1,515	16.0	P'endicular
14a	35	34	29	1,256	15.2	P'endicular
14b	36	31	30	1,184	14.0	P'endicular

Table 4. Results of point load tests on blocks of meta-rhyolitic tuff

Several laboratory tests that shown that the point load strength index $[I_{s(50)}]$ is related to the uniaxial compressive strength by a multiplication factor of between 18 and 25 (ISTM, 1985). The results of tests on blocks of the meta-rhyolitic tuff also yield closely similar values, though the role of the inherent foliation always needs to be considered.

CONCLUSION

Arising from the above discussion, it can be concluded that the meta-rhyolitic tuff from the Dinding Schist has average dry, and saturated, unit weights of 25.61 and 25.75 kN/m³, and dry, and saturated, densities of 2,614 and 2,627 kg/m³, respectively. The meta-tuff has an average effective porosity of 1.4 %; its mineral grains having a specific gravity of 2.65. Ultrasonic pulse velocities of compression waves through the meta-tuff show it to be an anisotropic material with average velocities of 5,616, and 3,973, m/sec, parallel, and perpendicular, to the foliation respectively. Unconfined compression tests also reflect the anisotropy with uniaxial compressive strengths of 78.8 MPa, and 191.9 MPa, determined parallel, and perpendicular, to the foliation. Point load tests on air dried, block samples of the meta-tuff yield strength indices $[I_{s(50)}]$ of 3.8 MPa, and 10.7 MPa, parallel, and perpendicular, to the foliation respectively. These strength indices were calculated from regression analyses of the log-log plots of loads at failure (P) versus the squared equivalent core diameters (De^2) of the several tetrahedral blocks of different sizes that were tested. The point load strength index $[I_{s(50)}]$ and uniaxial compressive strength parallel to foliation are related by a multiplication factor of 20.7, whilst the similar values perpendicular to foliation are related by a multiplication factor of 17.8.

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PERTEMUAN PERSATUAN (Meetings of the Society)

Ceramah Teknik (Technical Talk)

ORGANIC FACIES IN THE LATE CRETACEOUS TO TERTIARY COAL MEASURES SECTIONS OF THE GIPPSLAND AND BASS BASINS, SOUTH EASTERN AUSTRALIA

20 September 2004
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Report

On 20th of September 2004, Dr. Alan Cook gave a talk entitled "*Organic facies in the Late Cretaceous to Tertiary coal measures sections of the Gippsland and Bass Basins, South Eastern Australia*" at the Department of Geology, University of Malaya. Dr. Cook is presently the president of the International Committee for Coal Petrology (ICCP). He has a wealth of experience on maturation and source rock facies from most of the world's major petroleum bearing basins, and presently he is a consultant to major oil, coal and coke making companies. He is a Fellow of the Australian Academy of Technological Science and Engineering (FTSE), and in 2003 he received the Commonwealth Centenary medal for "service to Australian Society on Energy and Mineral Resources". The talk that he gave was well attended by more than 20 staff, students, and industry personnel and triggered an interesting discussion, whereby some seemed amazed by coal seam thickness while others were new to coal maceral terminologies that were repeatedly mentioned by Dr. Cook. The students certainly had a good revision session on their maceral identification that evening.

Wan Hasiah Abdullah

Abstract**ORGANIC FACIES IN THE LATE CRETACEOUS TO TERTIARY COAL MEASURES SECTIONS OF THE GIPPSLAND AND BASS BASINS, SOUTH EASTERN AUSTRALIA**

ALAN C. COOK

Sedimentary basins developed along the southern rift margins of the Australian continent show a Cretaceous to Recent section with the development of coal measures sections being more prominent in the more eastern basins. The coals have been extensively mined onshore, and the offshore areas have been subject to intensive exploration for oil and gas. Gippsland Basin was the first major oil province developed within Australia and contains two giant fields, Kingfish and Halibut. The oils and associated gas are clearly derived from the coal measures sections, although there is still debate concerning the contribution of the coals as opposed to that from the dispersed organic matter (dom).

The sections drilled range down to the upper part of the Cretaceous. The coals show three distinct organic facies and these can be related to the progression of climatic conditions that were associated with the opening of the seaway between the Australian and Antarctic continents and the development of the circumpolar current. This current is still a major factor in the present climate of southern Australia and its initiation coincides with a major change in organic facies.

Extensive analyses have been made on the coals that are mined within the Latrobe Valley (E of Melbourne) and at Bacchus Marsh (SW of Melbourne). Approximately 2000 samples have been examined from oil and gas exploration wells, mainly in the offshore areas. Most of the samples have been cuttings, but about 25% are sidewall cores, and a smaller proportion is from conventional cores.

The oldest of the facies is termed the Lower Eastern View Facies and is found within the upper part of the Cretaceous section, the Paleocene and the lower part of the Eocene. It is characterised by coals that have an aspect similar to that of most older coals such as those from the Carboniferous and the Permian. Liptinite contents are typically moderate and inertinite content ranges from low to high, but all of the populations represent inertinite derived from higher plants, being dominated by semifusinite, inertodetrinite and fusinite. Micrinite tends to be rare. Two subfacies are recognised, one with >50% inertinite and one with <50% inertinite. It is probable that these subfacies show a systematic distribution, but the lateral coverage of data is insufficient to show this. Cutinite and sporinite are the main liptinite macerals in these coals.

Within the lower part of the Eocene, the Upper Eastern View Facies constitutes a transitional facies. The diverse inertinite population characteristic of the Lower Eastern View Facies is present but, in addition, funginite is also present. Liptinite is locally a major component and the main components are sporinite and resinite.

The uppermost facies is termed the Latrobe Valley Facies and the coals that outcrop within the Latrobe Valley belong to this facies. These coals are dominated by vitrinite and resemble the maceral compositions of most other coals of Tertiary age. The overall content of liptinite is moderate, averaging about 8%. However, the range is high with some relatively thick plies of seams containing up to 45%. Suberinite and resinite are the most prominent liptinite macerals, although sporinite and cutinite are locally prominent. Apart from the organic facies within the Latrobe Valley Facies, it is also associated with the presence of ultra-thick coal seams – some over 100 m in thickness. In part, this change may be related to the changed peat conditions, but a lower overall rate of basin subsidence is likely to be an additional factor in this change.

Vitrinite reflectance ranges from about 0.30% in the shallower part of the section up to about 1.20% in some of the deeper sections. The relationship between depth and vitrinite reflectance is complicated by the existence of a relatively early phase of coalification that mainly affected the nearshore parts of the sedimentary basins. In the

deeper offshore parts of the basins, relatively low vitrinite reflectance values persist to considerable depths. Thus at about 3,400 metres in the near-offshore Tuna field reflectances reach about 1.00% whereas at similar depths in the deep-water Hapuku field, vitrinite reflectance values are about 0.45%. Some complexities in the distribution of vitrinite reflectance are also due to zones with overpressuring.

Some of the sections are sufficiently thick for rank-driven transitions to be seen between the textures typical of brown coals (such as textinite and attrinite) through intermediate textures (such as ulminite or texto-ulminite and densinite) to those typical of bituminous coals (telocollinite and desmocolinite).

The oils are probably derived in the main from the Lower Eastern View Facies coals. In this respect, the oilfields differ from those of provinces such as the Mahakam Delta in Indonesia, or the NW Jawa Basin where the coals are all similar in facies to the Latrobe Valley Facies. The significance of this is that the major sources of the oils are coals that are similar in organic facies to those of many of the older coal measures sequences.

A number of fallacies have been "read into the literature" and it is worth highlighting some of these. The coals are not marine coals (concept proposed by a major oil company at one stage). Indeed, marine influence is generally minor and pyrite is usually not prominent. Although a small number of layers with lamalginite are known, most of the coals contain no alginite. Thus, the proposal that the coals are an unusual algal rich facies is also untrue. Although some layers have a high content of liptinite, overall liptinite contents are similar to those from older coal measures such as those from the Carboniferous.

Many features within the coals indicate that oil generation is relatively early in the maturation history. Exsudatinitite is present, but possibly only in the few areas where igneous intrusions are found. Certainly, meta-exsudatinitite is restricted to contact altered aureoles.

The transition from the Lower Eastern View Facies to the Latrobe Valley Facies is associated with the establishment of the circumpolar current and the development of a wet Mediterranean type of climate. This permitted the development of forest communities similar to those found nowadays in the wetter parts of western Tasmania and the SW part of the South Island of New Zealand.



Ceramah Teknik (Technical Talk)

**2004-05 AAPG Distinguished Lecture
Geology Department, Universiti Malaya
8 October 2004**

(In cooperation with the Dept. of Geology, Universiti Malaya)

ALLUVIAL BASIN FILLING PROCESSES AND QUANTITATIVE DETERMINATION OF CHANNEL AND CHANNEL-BELT DIMENSIONS USING CORED AND LOGS

ROBERT S. (BO) TYE

PetroTel, Inc. Plano,
Texas, USA

Report

The talk on "Alluvial Basin Filling Processes and Quantitative Determination of Channel and Channel-Belt Dimensions Using Cored and Logs" by Dr. Robert S.(Bo) Tye of Petro Tel Inc, Plano, Texas was attended by about 20 members of the society including students, academic staff and petroleum industry professionals. The very interesting lecture was held at 10 am in the Department of Geology lecture hall of the University of Malaya on the 8th of October 2004.

Lee Chai Peng

Abstract

Alluvial Basin Filling Processes and Quantitative Determination of Channel and Channel-Belt Dimensions Using Cored and Logs

Channel-belt, crevasse-splay, and lacustrine-delta deposits comprise the most common sand-prone depositional settings in alluvial basins. Subsidence, sediment supply, and avulsion processes are primary controls on a basin's alluvial architecture. Avulsion starts the process of channel-belt formation, but prior to the development of a mature channel belt, depositional lows on the floodplain and lakes must be filled. This is accomplished through crevasse-splay and lacustrine-delta deposition. Splay and delta geometry and sediment-distribution patterns are controlled by the river-mouth processes, basin shape, and bathymetry. Thickest splay and deltaic sandstones occur in linear, dip-elongate and upward-coarsening distributary-mouth bar and levee lobes that are separated by mud-filled channels and interdistributary troughs. As the channel belt lengthens and widens, much of the floodplain, crevasse-splay, and lacustrine-delta deposits are reworked and incorporated into channel belt. Thus, channel belts are the primary reservoir targets.

An objective in exploration for and development of fluvial reservoirs is determination of the thickness and width of sandstone-conglomerate bodies (mainly channel-belt deposits). This problem is addressed using theoretical, experimental and field studies. The approach involves: (1) models for the lateral and vertical variation of lithofacies and petrophysical-log response of river-channel deposits, with explicit recognition of the different superimposed scales of strata; (2) distinction between single and superimposed channel bars, channels and channel belts; and (3) interpretation of maximum paleochannel depth from the thickness of channel bars and the thickness of sets of cross strata formed by dunes.

Fluvial reservoirs from the Travis Peak Formation were reinterpreted using this approach. In the original interpretation, channel-belts width and connectivity of channel-belt sandstone bodies were overestimated because of over-zealous well-to-well correlation, and inappropriate use of width/thickness data from supposed analogs. The value of this new approach to quantifying channel-belt dimensions and its impact on reservoir characterization and management is demonstrated with examples from Alaska and Venezuela.



Ceramah Teknik (Technical Talk)

GSM-IEM Forum

“The Roles of Engineering Geology and Geotechnical Engineering in Construction Works”,

21 October 2004

Dept. of Geology, Universiti Malaya

Report

The GSM-IEM Forum on “The Roles of Engineering Geology and Geotechnical Engineering in Construction Works” was jointly organized by the Working Group on Engineering Geology & Hydrogeology of GSM, and the Geotechnical Engineering Technical Division of the Institution of Engineers Malaysia (IEM). This forum was the 12th in the series of such forums organized by GSM/IEM, initiated by GSM since 1992.

This 12th forum was made very general in nature in order to encourage more paper contributions. It covered practically any topic, and was targeted as a compilation of local case histories of construction projects. A total of 16 papers were presented at the forum – 3 by geologists and 13 by engineers. Topics range from engineering geology, soil and rock slopes, slope failures and stabilization, karts, foundations, ground improvement, construction problems, etc., all illustrated by various case studies. The list of papers presented and detailed programme is attached.

Response to the forum was overwhelming, with ~100 participants. Due to constraints of space at the lecture hall, several later requests had to be turned down. Fortunately, extra copies of the proceedings were prepared for the “late comers”. Ample time was allocated for questions and discussions, and these were fully utilized, resulting in very lively and fruitful discussions after every presentation.

Tan Boon Kong
Chairman,
Working Group on Engineering Geology & Hydrogeology

Footnote: Limited copies of the proceedings are available for sale at RM30 (thirty) only. Please enquire at GSM secretariat. (Tel.: 03-79577036, Fax: 03-79563900, E-mail: geologi@po.jaring.my)

PROGRAMME

8.15 – 8.45 am: Registration

8.45 – 9.00 am: **Opening Remarks** by Tan, B.K., Organizing Chairman

Session I – Chairman: Tan, B.K.

9.00 – 9.20 am: Liew, S.S. (*Gue & Partners*)

Mutual complementary roles of engineering geologists and geotechnical engineers in value adding to civil engineering projects – two case studies.

- 9.20 – 9.40 am: Tajul A.J. (*UM*)
Slope failures in a hilly terrain and the recommended solutions – examples from the access road to the Andaman, Teluk Datai, Langkawi, Kedah.
- 9.40 – 10.00am: Lee, E.C. (*Emaskiara*)
A case study of slope protection in difficult ground conditions.
- 10.00-10.20am: Jason Khor, L.C. (*Nehemiah*)
Repair of road embankment failure using reinforced soil wall.

Session II – Chairman: Tan, Y.C.

- 11.00-11.20am: Simon Tan, S.M. (*SSP Geotechnics*)
On karstic features of Kuala Lumpur Limestone.
- 11.20-11.40am: Ooi, L.H. (*Gamuda*)
The shaft resistance of concrete-sandstone interface from model socket tests.
- 11.40-12.00pm: Kenny Yee (*Menard*)
An update on the developments of ground improvement techniques in Southeast Asia.
- 12.00-12.20pm: Tan, B.K. (*UKM*)
Engineering geology of rock slopes – some recent case studies.

Session III – Chairman: Simon Tan, S.M.

- 1.30-1.50pm: Neoh, C.A. (*E-Geo Consultant*)
Quality controls for soil nailing and guniting.
- 1.50-2.10pm: Mokhtar S.M. (*Consultant*)
Appreciation of the Garinono Mudstone, Sandakan, consequent to the failure of an anchored bored-pile retaining wall – a case study.
- 2.10-2.30pm: Suhaimi Jamaludin (*JKR*)
Evaluation of slope assessment systems in predicting landslide.
- 2.30-2.50pm: Iqraz N.K. (*UiTM*)
Group behaviour of circular footings on sand.

Session IV – Chairman: Yee, Y.W.

- 3.30-3.50pm: Tan, Y.C. (*Gue & Partners*)
Design of piled raft foundation on soft ground.
- 3.50-4.10pm: Mun, K.P. (*Tesonic*)
The use of dynamic load test to investigate broken pile problems – a case study.
- 4.10-4.30pm: Rodeano B. Roslee (*JMG*)
Slope failures assessment along Bundu Tuhan to Kundasang area, Sabah, Malaysia.
- 4.30-4.50pm: Lee, E.C. (*Emaskiara*)
A case study of building foundation design & construction in limestone formation in Kuala Lumpur.
- 5.00-5.15pm: **Closing Remarks** by Tan, Y.C., Organising Co-Chairman

Photos from GSM-IEM Forum



BERITA-BERITA PERSATUAN (News of the Society)

Pertukaran Alamat (Change of Address)

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

- | | |
|---|---|
| <p>1. Yeap Cheng Hock
18-1, Jalan Damar S D 15/4,
Bandar Sri Damansara,
52200 Kuala Lumpur,
Malaysia</p> | <p>2. Patrick Gou
Lot 1575, St.Edmund's Garden,
Jalan Kubong,
98700 Limbang,
Sarawak
Malaysia</p> |
| <p>3. Jeremy Dyer
Director, PT OPAC Barata,
Wisma Staco, 7th Floor,
Jalan Casablanca Kav 18,
Jakarta 12870,
Indonesia</p> | <p>4. Tam, Tommy
188, Lot 668,
Ketitir Rd. 3A,
Batu Kawa,
93250 Kuching
Sarawak</p> |

Contacts Needed

The Geological Society of Malaysia is interested to contact the following people concerning loans. Anyone knowing their whereabouts, please inform the Society.

1. Abdul Halim Abdul
2. Abdul Majid Abdullah
3. Ahmad Jamani Samat
4. Azman Yahya
5. Badrul Hisham Ibrahim
6. Balamurali
7. Haro Krishna
8. Ismail Tawnie
9. Kasmawati Abdul Rahman
10. Kesaran
11. Mahat Hj. Sibon
12. Mohd. Faizal Tajul Baharuddin
13. Mohamad Faizul Saat
14. Mohd. Nazri Ishak
15. Mohd. Tajuddin Abdul Ghani
16. Norddin Mohamad Nasir
17. Nordin Mat
18. Raguram B
19. Saidi Ideris
20. Supian Suntuk
21. V Ramesh Viswambharan
22. Wan Mohd. Zaizuri W. Embong
23. Yusri Yusof
24. Zulhisham Mohd. Saad

Current Address Wanted

The Geological Society of Malaysia is seeking the address of the following members. Anyone knowing the new address, please inform the Society.

1. Dr. Mohd. Kassim Kinchu
2. Dr. Jonathan Redfern

Penambahan Baru Perpustakaan (New Library Additions)

The Society has received the following publications:

1. Geological Survey of New South Wales, Quarterly Notes no. 117, 2004
2. Natural History Research, vol. 8, no. 1, 2004
3. Journal of the Natural History Museum and Institute, Chiba:
- vol. 8, no. 1, 2004
- special issue 6, 2003 and special issue 7, 2004
4. Seminar Geofizik 2004 - Collection of papers
5. Geoscience Journal, vol. 8, no. 2, 2004
6. Geological Survey of Japan, Bulletin, vol. 55, no. 1/2, 2004
7. AAPG Explorer: - September 2004 & October 2004
8. AAPG Bulletin - vol. 88, no. 9 & 10, 2004
9. U.S.G.S. Professional Paper:- nos. 1411-A, 1672, 1677, 1681 (2003)
10. U.S.G.S Circular : no. 1268 (2004)
11. Malaysian Science & Technology Congress 5-7 October 2004: Souvenir Programme & Abstracts
12. Geologica Belgica, vol 7, nos. 3-4, 2004

BERITA LAIN (Other News)

Interviews

A series of interviews will be conducted with well-known geoscientists in Malaysia. The objectives of these interviews are to see geoscientists as real living people and to learn about the geoscience experience of these geoscientists.

For this issue, the editor has interviewed two well-known geoscientists in Malaysia. They are Dr. Peter H. Stauffer and Mr. Leong Khee Meng. Both geoscientists are past Presidents of the Geological Society of Malaysia. Views expressed by these geoscientists are entirely their own and do not in any way reflect those of the Geological Society of Malaysia.

Interview with Dr. Peter H. Stauffer

What made you enroll in geology/geoscience courses in university?



When I went to university, I wasn't supposed to become a geologist. In secondary school I excelled in mathematics and won a mathematics scholarship to Stanford, where I enrolled in physics. After two years, however, I realized that I did not want to spend my career in a laboratory, and so switched my major subject to geology. It helped that my father was a geologist (his whole career was in oil exploration, including Kalimantan and Sumatra). When I was growing up, geology was always part of our family life—on vacation trips we stopped at interesting outcrops rather than gift shops! Despite the late start, I was able to shift my university courses and graduate only three months later than the rest of my class. This flexibility is one good feature of the American education

system—it allows for “late bloomers.” One of my geology professors at Stanford, in fact, had been a fine arts major until his third year at university, when he accidentally discovered geology and was able to change direction and pursue a successful professional career.

What are your challenges as a geoscientist?

One of the beauties of traditional geology is that it presents one with messy datasets—incomplete, confusing, even contradictory evidence. In contrast to physics and chemistry, the subject matter of geology—the rocks, sediments, and structures of the Earth—is endlessly varied. Every outcrop is unique. The challenge to the geoscientist is to be able to evaluate such datasets and draw out patterns of meaning and sense from fragmentary and inconsistent information. Geologists become good at “connecting the dots” even when there aren't many dots. The mental habits and skills built by repeatedly facing such challenges prove valuable in other areas, such as forensic analysis and even making sense of politics.

Another challenging aspect of geology is that it is a historical science. It is set in a framework of deep time, giving the geoscientist a unique perspective on process and change. Processes are key in Earth history, and *when* something happened can be as important as *how* it happened.

Of late the challenge too often has been to continue finding challenges of the traditional outdoor kind. Geoscience has increasingly become a computer and lab science, and not so much a field science. Nonetheless, there are still challenges in geoscience. Despite the comprehensive frameworks of plate tectonics and the remarkable advances in technology (satellites, radar, GIS, GPS, and the like), not all the answers have been found. Many of the challenges are more complex now. They deal very largely with the involvement of human societies and Earth processes: analyzing how humans and geology interact; trying to assess and predict natural hazards; finding socially acceptable solutions to problems like water pollution; and somehow helping the public understand the science behind geology-related aspects of human culture and societal problems.

What is your greatest moment of joy as a geoscientist?

I have to admit that the sharpest actual moment of joy in my career was not really geoscience so much as historical sleuthing. It came in the early 1980's, when I discovered that several localities of alleged tektite finds shown on published maps of Borneo were in fact erroneous "phantoms" and figured out how they got there. While compiling information on tektite localities in Malaysia, I wanted to include these localities shown in nearby parts of Indonesian Borneo (Kalimantan). Searching the literature to find out more about them led to a blank—until one morning I suddenly realized that it was all a series of mistakes by a succession of past workers working in several different languages who misinterpreted place names in earlier works. In minutes the whole story fell into place. I remember I was so pleased and excited I went straight next door to Professor Charles Hutchison's office to show him what I had found. My results were published in *Meteoritics* in 1983. Maybe it wasn't really geoscience, but was it ever fun!

What is your advice to the younger generation of geoscientists to be a good geoscientist?

I think the first thing I would suggest to young geoscientists is to step back mentally and try to see geology as an integral part of the complex web of the Earth, including very importantly the multiple strands of organic life and of human cultures. Secondly, I would encourage them to keep an open mind—use multiple working hypotheses. Few geologic questions are so simple that the first answer you think of is necessarily the right one. Don't try to avoid controversy and disagreements; rather, relish them as possible pointers to new understanding. Finally, I would ask them to remember that geologic investigation is very much like detective work—the satisfaction of successfully connecting the dots is often very great. A career in geoscience can be enormously enjoyable and rewarding.



Interview with Mr. Leong Khee Meng



What made you enroll in geology/geoscience in university/college?

Visiting Rocky Mountains and Niagara Falls was my dream, and the ticket was a Colombo Plan geology degree scholarship offered by Canada. Fortunately for me, these beautiful sceneries are also spectacular geological phenomena.

As a temporary field assistant (post Form 6 and pre-U) in early 1963 (pre Malaysia), in the then (British) Borneo Region Geological Survey, Sabah, I was 'hooked' on igneous and metamorphic rocks from the very first time my boss, later mentor and very good friend, the late Dr Henry J.C. Kirk (Memoir 14,

Semporna area; Bulletin 5, Igneous Rocks of Sarawak and Sabah) mentioned 'harzburgite, troctolite and amphibolite'.

My interest in 'hard' rocks had its rewards-I 'discovered', while working for the Geological Survey of Canada, a new locality of sapphirine-bearing granulites in Labrador, eastern Canada, which became the topic for my Honours thesis, and later a paper published in the *Canadian Mineralogist*. The other reward was it equipped me in my first regional mapping assignment of the Upper Segama Valley and Darvel Bay area, Sabah (Memoir 4 Revised) from 1967-70. Having lived in Ottawa, nearby to PreCambrian granulites, I was thrilled to read a published account of granulite facies rocks in Sabah, but unfortunately the initial thrill turned to disappointment.

Switching to 'soft' rocks? There was a feeling of frustration knowing very little about the offshore geology of Sabah. I thought the way to overcome this sense of incompleteness, geologically speaking, was to get into petroleum exploration. The second breakthrough ticket came from a British scholarship in 1976, to do MSc in petroleum geology at Imperial College, London. By design or fate, my dissertation was on the Petroleum Potential of Sudan. At that time, except for the Red Sea area, not a single well had been drilled in interior Sudan. Recently it was reported that Sudan plans for oil production of over 500,000 barrels/day by end 2005! And Petronas has a share in it.

What are your challenges as a geoscientist?

Pre-U, surviving hardship of fieldwork and 'leeches', a pre-requisite for final award of geology degree scholarship

Doing well in U, as entry to Division One geologist position in Geological Survey Dept., Sabah was upper 2nd or 1st class Honours degree.

Meeting high standards in field work and publications- geological maps, reports, Bulletins and Memoirs- following a long held 'quality' tradition and 'branding' of the Borneo Region Geological Survey, as someone remarked about the 50s and early 60s - 'the cream of the British Empire geologists were all in Kuching and Jesselton (KK)'

In Petronas, many challenges, including enhancing geological capability of staff on a fast track so that they could talk the language of major multinational oil companies; making sound operational decisions and creating value; heading Petronas team of geologists in the top management-supported project to produce the book **The Petroleum Geology and Resources of Malaysia**, as part of Petronas 25th anniversary achievements.

The Petronas book, available at RM380 a copy, has received very good reviews in regional and international geoscience journals.

August 2003, retired at 60, playing golf and taking things easy (retirement is a challenging phase of life, don't underestimate it!!), but recalled in January 2004 to spread petroleum geosciences education at UTP (Universiti Teknologi Petronas).

Faced first academia challenge in pioneering Petroleum Exploration course, a combination of fundamental petroleum geosciences topics and the business aspects of exploration. By end 2004, close to 100 final year UTP Mechanical and Chemical Engineering students would have taken the 3-credit course.

2005 and beyond - looking forward to new challenges and more life-enriching experiences, and keep on doing things that one is happy doing, I guess.

What is your greatest moment of joy as a geoscientist?

Many great moments, many dreams fulfilled, but the greatest is yet to come, I am sure!

The most recent great moment of joy was to dip my hands, feet and legs into the pristine and cool waters of the Danum River and examining the rock outcrops nearby, and walking on the smooth river pebbles and cobbles, fronting the Borneo Rainforest Lodge. The previous occasion was 35 years ago as a young geologist mapping the upper Segama area including the Danum valley (no 5-star lodging though!). It took 3 days by open boat with an outboard motor on the mighty Segama River to reach mouth of its tributary the Danum River; now it is 2 hours from Lahad Datu by 4-wheel drive.

A double joy when I saw a copy of Memoir 4 (Revised) in the reference library of the Danum Valley Field Centre (DVFC), and when a DVFC Conservation and Research Officer expressed plans to improve on dissemination of geosciences education to the thousands of visitors including students to the research centre every year.

What are your advice to the younger generation of geoscientists to be good geoscientists?

Both Professor Emeritus Drs H. D. Tjia and C. S. Hutchison have already given many sound advice (see previous issue of *Warta Geologi*). I just add one, that is, interpersonal skills and problem-solving capacity are what employers look for nowadays.

However, I can give two 'guarantees':

- when you do something well and go the extra mile, great opportunities will come your way
- new or young geologists will accelerate their learning by having a mentor (and a friend)

In closing, I would like to recall the words literally carved in stone at Walt Disney World, Orlando, Florida, USA, which go something like this:

"We are where we are and what we are because somebody helped us".



Opinions

To further promote experience sharing within the geoscience community, a new section in the Other News of *Warta Geologi*, entitled Opinions, is established. GSM members are encouraged to share their opinions in any matter that has an impact to the geoscience community, particularly in Malaysia.

For this issue, En. Abdul Rasid Jaapar, the current Secretary of the Society, is sharing his opinions regarding issues in the redefinition of GSM. Views expressed by the contributors of this section are entirely their own and do not in any way reflect those of the Geological Society of Malaysia.

ISSUES IN REDEFINITION OF GSM: Part I: Past Achievement and Complacency

ABDUL RASID JAAPAR
e-mail: secretary@gsm.org.my

“New opinions are always suspected, and usually opposed, without any reason but because they are not already common” – John Locke, English philosopher (1632 – 1704)

The above quote is still very much valid today even though it was recorded four centuries ago. Maybe four centuries were too short in geological time scale. However, as human beings we always forget past history even within short period of time. My article tries to explore some issues in redefinition our beloved society, the Geological Society of Malaysia (GSM) from my view point. I divided my article into three parts, namely: Part I: Past achievement and complacency (this article); Part II: Our responsibilities and strategic plans and; Part III: SWOT analysis and branding GSM. My article attempts to explore and highlight certain issues on the current status of the society as well as future strategies.

I hope members would consider reading this article until the end as we can share some of the ideas. If you don't bother to read these series of articles, then my articles will be just like another *monologue*. On the other hand, if you read and feel nothing, then GSM may become just another *monolith*. Based on dictionary in the web (<http://www.dictionary.com>), *monologue* has at least three definitions. However, I choose one definition that is relevant in this context. *Monologue* is defined as “a continuous series of jokes or comic stories delivered by one comedian”. Based on the same purposes, *monolith* is defined as “something, such as a column or monument, made from one large block of stone”. Anyway, let us go through the whole article and perhaps we can share something at the end of this article.

Past achievement

GSM's past achievements were well documented by N. S. Haile and G. H. Teh in a publication entitled “History of the Geological Society of Malaysia” published in 1997 for the 30th anniversary of the Society. In two years time, i.e. in 2007, GSM will be celebrating its 40th anniversary. GSM must continue its legacy started by previous achievers by documenting another history of our Society after 40 years. GSM formed in 1967 will become one of the oldest surviving scientific and professional society in Malaysia. Life begins at 40. So, GSM should be a very mature, professional and successful society by then. That is the expectation. The fact is “Are we progressing and improving well as what is expected?” or “Are we?”

Looking at one bigger organisation

I would like to share with you some of the issues that are worrying the President of the Institution of Engineers Malaysia (IEM). (IEM is currently one of the biggest professional association in Malaysia). The IEM President in the President's Corner column entitled “The IEM – A Dinosaur?” in the IEM monthly bulletin *Jurutera*, Issue April 2004 touched many internal issues, similar to what GSM are facing now. Some of their issues are highlighted as follows:

“From its small beginnings in 1959, IEM has grown into the biggest professional group in the country with some 15,000 members. This is certainly an achievement but this number is only about 23% of the total population of engineers in the country, estimated at 64,000...”

“The number of activities has grown out of proportion, resulting in a clear drop in quality of some of the activities organised as well as poor attendance. Even office bearers are not regularly attending major functions, never mind the many activities. The Institution appears to lack foresight and dynamism with the majority of Council and Executive Committee (Excomm) members showing more interest in internal controversies than indulging in major issues that concerns the membership at large or nation.”

“The Institution’s organisational and administrative structure has to be reengineered to provide effective leadership and administrative support to the Institution. And we have to reach out and revitalise the membership at large in order to inject new life and dynamism amongst IEM members, who have often expressed deep dissatisfaction with the performance of IEM in the past”.

“Of late, a number of initiatives have indeed been undertaken, towards this end but the inertia against change is still strong in the Council, Excomm as well as Secretariat. It has been said that there are a few who still believe in maintaining the status quo, positioning themselves as guardians of the classical ways and derailing efforts towards change.”

“Of course there are those who are uninitiated and unwilling to do much despite being elected to Council and Excomm. And there are those who are said to be largely using IEM for their personal interests, sometimes at the expenses or to the detriment of the Institution”.

So, even a bigger organisation like IEM also faces similar problems as what we are facing now. I would say it happens to all societies and associations. In fact, Geological Society of America (GSA) had undergone major reengineered until their logo became very much different from original logo. However, I believe GSM has no necessity to undergo such revolution.

Is GSM complacent?

The rest of this article is basically based on an article entitled ‘Dangers of complacency’ by Victor Tan in the Appointments Section of the News Strait Times, Saturday, March 13, 2004. However, the article was re-organised to reflect its relevance to our Society. The article highlighted that the greatest threat encountered by any organisation today is not competition. Neither is it increasing demands placed by members. Nor is it pace of change brought about by globalisation. The greatest threat to the survival of organisation is complacency of people inside organisation. It is the No.1 enemy in any successful organisation today.

When an organisation is small and thriving, leaders are active in addressing member service issues, quality problems and productivity challenges. They are committed to do everything and grow the organisation.

But as the organisation starts to grow by leaps and bounds, and achieves considerable success, people begin to get comfortable for their own good. They begin to lull into complacency in every area which they once placed great importance. And it is this sense of complacency that leads to the eventual downfall of an organisation.

Complacency in an organisation is defined here as a sense of excessive comfort coupled with a lack of urgency to address organisational issues or areas that need improvement and growth.

They are six (6) grave dangers of complacency:

- 1. Complacency leads to blind spots.** One of the greatest dangers of complacency is that it creates blind spots in people towards the need for change and growth. Blind spots refer to those critical areas that need to be addressed but are not as people are not aware of them or refuse to acknowledge them.

2. **Complacency leads to poor quality.** Many have taken the attitude that in view of the good time, even if the organisation loses some members, that's fine as they still have other members. It is the sense of complacency that leads to poor quality of products (such as publications, activities, etc.) and services. The danger of poor quality is that its impact is strategic and long term. Members who are not happy with an organisation's products or services will not only stop being members but will inform 10 other people they know about their dissatisfaction.
 3. **Complacency leads to excessiveness.** One of the great ills that come from complacency is the tendency towards excessiveness. Organisation that doing well become lax in their control of resources. Unnecessary claims shoot up. Organisations acquire a lot of unproductive assets such as excessive office renovations and décor. Granted society image is important to keep up with the success a society has achieved, but going overboard with luxurious head office, unnecessary expenses, etc. will certainly increase the overall cost of the society.
 4. **Complacency leads to inaction.** Success is often achieved as a result of taking the necessary actions. In fact, one of the hallmarks of successful society is that they take a lot of actions. They undertake member satisfaction survey and take quick action to address any member complaints. They undertake study and continuously improve their products and services to meet the changing needs of members.
 5. **Complacency leads to strategic vulnerabilities.** One of the greatest dangers of complacency is the building up of strategic vulnerabilities. Strategic vulnerabilities refer to the weaknesses or flaws in which expose the society to risks of failure or collapse. Thus a society which do not undertake market survey to understand the changing member need, may continue to produce the same products, publications, activities and services which member may no longer need. This is a strategic flaw in which in time will lead to the collapse of the society. A society which has poor cash management may also find itself become insolvent.
- When leaders are complacent, they no longer think strategically about the future of the society. They become too comfortable with their past and current success. Their thinking has become short-term, inward looking and narrow. By not taking actions or addressing strategic issues fast enough, they are exposing the society to the grave dangers.
6. **Complacency leads to deteriorating bottom line performance.** Complacency affects the bottom line performance of the society in many ways, both in the short term and long term. Being complacent, people may not explore new activities, new services or new memberships. The missed opportunities affect the potential revenue growth the society. Complacent societies which no longer put emphasis on addressing quality problems and member complaints will lose members revenue. In a very competitive and fast-changing environment, remaining *status quo* is the surest path to losing memberships. Organizations that become complacent and do not take fast actions to change and grow the society will see their financial evaporates quickly.

So, till we meet again, please consider what have written in this article. I welcome all comments from members. You may send your comments to me but remember all comments made must be done professionally and gentlemanly.



Up Coming Events

2004, December, 15-16

PETROLEUM GEOLOGY CONFERENCE & EXHIBITION 2004

Hotel Istana, Kuala Lumpur

Call for papers: (1) Deadline for presentation of paper or poster: 21st August 2004, (2) Deadline for extended abstracts : 25th September 2004.

Call for sponsorships / exhibitors: Donation or funding of the Conference & Exhibition functions.

Contribution and exhibit of products and services can be done by contacting the Organising Chairman directly.

Contact: Organising Chairman, **Petroleum Geology Conference & Exhibition 2004**, Geological Society Malaysia, c/o Department of Geology, University of Malaya, 50603 Kuala Lumpur. **Attn: En. Md Yazid Mansor**

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

e-mail: geologi@po.jaring.my

2005, August 3-6

INTERNATIONAL SCIENCE CONGRESS 2005 - Science for Humanity

Malaysian Scientific Association

Call for papers (oral/ poster)

Contact: Chairman, Scientific Committee, ISC 2005, Malaysian Scientific Association, Room 2, 2nd Floor, Bangunan Sultan Salahuddin Abdul Aziz Shah, 16, Jalan Utara, 46200 Petaling Jaya, Selangor.

website: <http://www.msa.org.my>

2006, September, 6-10

IAEG2006, ENGINEERING GEOLOGY FOR TOMORROW'S CITIES

The 10th IAEG Congress, Nottingham, United Kingdom

First Announcement and call for abstracts.

The 10th International Congress of the IAEG will be held in Nottingham, United Kingdom, 6-10 September 2006, hosted by the Engineering Group of the Geological Society of London. The IAEG2006 Congress will debate the subject of Engineering geology for tomorrow's cities within the four-day core of lectures, presentations, discussions and poster sessions.

Further information visit www.iaeg2006.com

The congress Office can be contacted by e-mail at info@iaeg2006.com

Enquires related to the Technical Programme should be e-mailed to programme@iaeg2006.com

Erratum

The Editor regrets for the error in the last paragraph in page 162 of *Warta Geologi* 30(4), Jul-Aug 2004. Only part of the last paragraph was printed. The full paragraph is as follows:

Dr. Hutchison has served the University of Malaya for more than 30 years and his association with the University has extended over 45 years. He is still active in thought and deed and his influence on the geology of Southeast Asia is profound, as countless former students will testify. He is an acknowledged authority on the geology of Malaysia and neighboring countries and it is with the support of his peers that Dr. Charles Strachan Hutchison was considered a worthy recipient of Professor Emeritus at the University of Malaya.

G.H. Teh & R.B. Tate

GEOLOGICAL SOCIETY OF MALAYSIA PUBLICATIONS

General Information

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

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

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

Unless with the consent of the Editor, papers which have been published before should not be submitted for consideration. Authors must agree not to publish elsewhere a paper submitted and accepted.

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

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

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Script Requirements

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

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

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

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

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

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

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

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

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

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

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

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

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

