geological society of hong kong

NEWSLETTER

CONTENTS

Vol. 3 No. 6 November, 1985

GEOLOGICAL SOCIETY OF HONG KONG

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NOTES FOR THE GUIDANCE OF CONTRIBUTORS TO THE NEWSLETTER

General : Typescripts, enquiries and all correspondence should be addressed to the Secretary, Geological Society of Hong Kong, c/o Dept. of Geography and Geology, University of Hong Kong. The Society does not assume copyright of material published in the Newsletter. Any other previous, current or expected future use of such material by the author must be stated at the time of submission.

Articles of a technical nature, as well as reports of interesting events, reviews and other topical items are welcome. Contributions must be short. 1,200 words is regarded as the normal acceptable length, although exceptions may be made at the discretion of the Society. Figures, tables and half-tone plates must be kept to a minimum and must all be on separate sheets.

Typescripts must be accurate and in their final form. Two complete copies should be sent to the Secretary. Typescripts should be double-spaced, including references, on one side of the paper only with a 2.5 cm margin on each side. A4 paper is preferred. All pages should bear the author's name and be numbered serially.

Send only photocopies of illustrations, retaining the originals until the Society asks for them. Originals should bear the author's name. Diagrams should be in black on tracing material or smooth white paper or board with a line weight and lettering suitable for reduction. A metric scale should be included, and north point (or where relevant, coordinates of latitude and longitude) on all maps.

References : The author is responsible for ensuring that the references are correct and that Journal abbreviations comply with those in the List of Serial Publications held in the Library of the Geological Society of London (Geological Society, 1978).

Offprints : The society does not provide authors with free offprints of items published in the Newsletter, but will obtain quotations on behalf of authors of technical articles who may which to purchase offprints from the printer.

Cover Photograph : Dipping strata (mudstones and siltstones) on the south coast of Ping Chau, Mirs Bay.

PAST AND FUTURE OF THE NEWSLETTER

With this issue, the nineteenth, we complete three volumes of the Newsletter. There were seven issues in the first volume, November 1982 to November 1983, and six each in the second and third, spanning 1984 and 1985 respectively. The Newsletter has changed little from its first issue and such feedback as we have had suggests that members have been satisfied with it the way it is. Are you? If not, let the Editor know your views.

We believe the Newsletter has provided, and can continue to provide, a very useful means of disseminating information about earth science topics of current interest in Hong Kong. We think the list of articles and technical notes published to date, included in this issue, bears this out. It is an excellent way of getting ideas or news into print quickly. We would like to see more technical articles by our members, in English or Chinese, so please let us have your contributions. Equally welcome are news items and book reviews.

The General Committee has decided that, to ensure continued improvement of the overall standard of the Newsletter, the aim will be for four quarterly issues in 1986, in March, June, September and December.

News circulars will be mailed in between issues of the Newsletter, as necessary, to give adequate notice of meetings and other news of a transient nature.

Editor

ENGINEERING GEOLOGY GRADUATE TRAINING PROGRAMME

Dr A.W. Malone, Government Geotechnical Engineer/Development, asked the Society to bring to the attention of members that the Geotechnical Control Office operates an Engineering Geology Graduate Training Programme for local geology graduates. The first two entrants, recent graduates in geology from a UK and a Canadian University, commenced training in September 1985. The programme is expected to last three years and prepares trainees to apply for Assistant Geotechnical Engineer posts in Hong Kong Government. The next entry will probably be September 1986 and advertisements should appear next Spring (1986). Members who know of local undergraduates reading geology who are likely to obtain a good honours degree in 1986 are asked to notify the GCO.

Editor

SYMPOSUM ON THE ROLE OF GEOLOGY IN URBAN DEVELOPMENT IN SOUTHEAST ASIA
15-20 DECEMBER 1986

ANNOUNCEMENT AND CALL FOR PAPERS

The society has now finalized plans to host a regional symposium on the role of geology in urban development in Southeast Asia. The dates will be 15-20 December 1986.

The principal sponsoring organization is the Association of Geoscientists for International Development (AGID). Support has also been indicated by the International Association of Engineering Geologists, and by the UNESCO regional office in Jakarta. This support is expected to include arrangements for guest speakers and financial assistance to regional participants. It is hoped that among the regional contributions there will be theme papers for major cities by leading geologists in each country.

AGID is handling regional publicity and mailing, and has recently issued the first circular. This notice contains the essential contents of the circular. Anyone wishing to obtain copies of the first circular for themselves or colleagues, especially colleagues outside Hong Kong may not be reached by the AGID mailing, should contact the secretary of the Geological Society.

The meeting has been designed to fit an AGID programme styled LANDPLAN (see below). Being the third meeting in the programme, it is being called LANDPLAN III.

LANDPLAN

The LANDPLAN series of meetings began with an international conference - LANDPLAN I - held in Bangkok in 1982 on the impact of soil, geology and land forms on land use planning in developing countries. In the aftermath of this meeting a proposal was formulated by AGID for a programme of activities focussing attention on the role of geology in urban development in Southeast Asia and the environmental problems which are commonly encountered, such as slope stability, ground subsidence, construction materials, coastal erosion, waste disposal, water supply, and seismic hazards.

The aims are to promote awareness of the role of geoscience and allied fields in urban land use planning; increase the effective application of geoscience and related disciplines to urban problems, and initiate inter-disciplinary research applied to problems common to many cities. It is hoped that this will provide a stimulus toward the strengthening of local and regional groups, including government departments, research institutions and professional societies.

LANDPLAN II, held in Kuala Lumpur in April 1984, was a workshop on the role of geology in planning and development of urban centres in Southeast Asia. LANDPLAN III will continue and develop this theme.

THEMES OF THE SYMPOSIUM

All aspects of Geology related to Urban Development including

- Land Use Planning
- Construction Materials
- Site Investigations
- Slope Failure and Ground Subsidence
- Marine Studies for Harbours, Reclamations and Foundations
- Use of Underground Space
- Waste Disposal
- Hydrogeology and Water Supply
- Coastal Management
- Seismic, Volcanic and Other Hazards
- Education of Geologists for Urban Planning and Construction

SEMINARS AND TRAINING COURSES

Subject to the regional response to the first circular, seminars and training courses will be organized during the symposium on a selection of the following topics:

A Geological mapping in the urban environment
B Geotechnical area studies and terrain evaluation for urban development
C Weathering profiles and subsurface excavations in tropical areas
D Geological aspects of slope stability
E Site investigation and laboratory testing
F Marine studies for harbours, reclamations and foundations
G Applications of geology in environmental protection
H Education of geologists for employment in civil engineering

EXHIBITIONS

Indoor and covered outdoor space will be available at the main conference venue for exhibitions of posters and equipment of any kind relevant to the theme of the symposium. Offers and enquiries should be addressed to the Conference Secretary, Geological Society of Hong Kong, c/o Dept of Geography & Geology, University of Hong Kong.

VENUE, ANTICIPATED TIMETABLE AND REGISTRATION FEE

The symposium will be held at the University of Hong Kong and workshops/seminars/training courses at the University, the Hong Kong Polytechnic or other venues.

It is expected that Days 1 and 2 will be devoted to workshops and training courses, Days 3, 5 and 6 to open (symposium) sessions and Day 4 to field and site visits.

The anticipated registration fee for Hong Kong residents, to include attendance at the symposium and open seminars/workshops, abstracts and other conference documentation, the proceedings of the symposium and daily refreshments, is HK$390 (training courses, field trips, reception and conference dinner optional extras).

CALL FOR PAPERS

Papers for presentation and/or publication in full or in abstract form are invited on any of the topics listed. Case histories will be most welcome. Titles of proposed papers should be sent to the Conference Secretary as soon as possible, preferably on the return slip included in this Newsletter. Two copies of the Abstract (200-500 words) should be sent not later than 31 March 1986. Authors will be informed of the acceptance of their abstract by 31 May 1986. The collected Abstracts will be published for distribution at the symposium.

It is intended to set a deadline of 31 October 1986 for receipt of the text of papers for presentation. Instructions on the preparation of manuscripts will be sent to the authors together with the notice of acceptance of their abstracts. A file containing all papers accepted for presentation will be issued to each registrant at the conference. Papers accepted for publication will be published by the Society as the proceedings of the symposium in the first half of 1986.

LANGUAGE

The language of the Symposium and Proceedings will be English.

REGISTRATION

All those hoping to attend the symposium are requested to complete the preliminary registration form enclosed in this Newsletter and mail it now to: The Conference Secretary, Geological Society of Hong Kong, c/o Dept of Geography & Geology, University of Hong Kong, Hong Kong. The Second Circular will be sent, in about May, to all who respond, giving updated information.

MEMBERSHIP NEWS

The Society welcomes the following new members who joined in the period 1 November - 31 December 1985:

Chan Wai Chung, Cheung Yiu Fai, Cheung Chan Ching Ying (Mrs), Peter Daley, Hung Wai Yin (Miss), Leung Sau Yee (Miss), Lo Yuk Har (Miss), A.A. Malone (s), Ng Yee King (Miss), Yu Pik Heung (Miss)

On 31st December 1985, membership stood at 311, an increase of 29 since 31st December 1984. There was a net increase of 30 in the Resident membership, to 268, while Non-resident membership fell by 2, to 15, and student membership rose by 1, to 19.

The number of Honorary members remained 9.

THE ASSOCIATION OF GEOSCIENTISTS FOR INTERNATIONAL DEVELOPMENT

AIMS & OBJECTIVES

The Association of Geoscientists for International Development (AGID) is a worldwide non-governmental organization founded in 1974. It was established to provide a forum for the exchange of ideas and information concerning the role of the geosciences and of geoscientists in international development.

Training courses and workshops are key elements in AGID's program. Most are held in developing countries, for younger professionals and in cooperation with local, national and regional geoscience organizations. By the end of 1984 more than 35 workshops, training courses, seminars and symposia had been held around the world.

AGID operates a geoscience information service and a fund to support geoscience publications in developing countries. It also sponsors a book and journal distribution scheme.

AGID has published a number of reports on subjects of interest in developing countries, details of which are regularly published in its Newsletter, AGID News. AGID News is distributed free to all members. Most of the regional newsletters are distributed free to members within the region.

ORGANIZATIONAL STRUCTURE

AGID has about 2,000 members in some 115 countries. The Association is governed by a Council elected by the membership. Most councillors are resident in developing countries and they work for governments, universities and the private sector, in mining, groundwater, geophysics and many other disciplines within the earth sciences.

After an initial period with a temporary secretariat in Canada, the Association first established a Headquarters in Caracas, Venezuela. In 1981, the Headquarters was moved to the Asian Institute of Technology, Bangkok, Thailand. Regional offices have been established in S. America (Bogota, Colombia, and Cochabamba, Bolivia), Africa (Lusaka, Zambia), Asia (Kanpur, India) and Europe (Nottingham, England). AGID is formally affiliated to the International Union of Geological Sciences.

FINANCES

The funds necessary to run the activities of the Association have come from local, national and international agencies and organizations, with membership dues and publication sales amounting to about 6% of the total cash revenue. Between 1978 and 1980, for every US$1 contributed in cash, about US$1.3 was generated in volunteer services and in facilities provided mainly by developing countries.

A NEARSHORE COLLUVIAL DEPOSIT IN WESTERN DISTRICT, HONG KONG ISLAND

Michael D. Howat, Hong Kong Mass Transit Railway Corporation

INTRODUCTION

Three classes of colluvium have been recognised in the Mid-levels area of Hong Kong Island (Anon, 1982). Lai and Taylor (1984) suggest the ages summarised in Table 1. Yim (1984) suggests the existence of two marine units in three nearshore locations in Hong Kong. Radio-carbon dating of the upper unit suggests that it was deposited after the Holocene marine transgression which occurred about 8,500 years B.P. (Goudie, 1983). No dates have been obtained from the lower marine unit, but those from the overlying and underlying terrestrial deposits suggest that it was deposited during a Mid-Würm transgression and regression which peaked at 30,000 years B.P. (Curray, 1965). Radio-carbon dates from marine deposits from the Pearl River Estuary suggest that the sea level maximum occurred some 5,000 years later (Howat, 1985).

A colluvial unit found between two marine units would therefore provide an interesting case study of these two areas of Quaternary geology.

SHEUNG WAN STATION

The site of this station consists of five excavations and two tunnels. In three of the excavations, shown on Figure 1, a terrestrial deposit was found between two marine units.

The upper marine unit was a typical grey silty sand rich in shell debris. It appeared quite homogeneous and was no doubt considerably disturbed by the formation of mud-waves, illustrated on Figure 1, caused by the reclamation. The underlying unit was extremely complex. The range of matrix particle size distribution is shown on Figure 2. It was not possible to zone the soils with granitic and volcanic grading in any consistent way, nor the cobbles and boulders of granite or volcanic rock. Both turbulent and near-laminar flow patterns were apparent and one vortex cylinder about 100 mm in diameter was found oriented North-South, which could be a smaller form of a debris flow culvert structure as defined by Ruxton (1985). The larger, fresher boulders were generally concentrated at the top of the unit. The general impression was of a single large, near-laminar debris flow with local eddies, the larger boulders having been rafted near the surface. In some locations, soft uniformly pale Class 3 soils with fresh cobbles were found underlying stiff mottled Class 1 soils with completely weathered cobbles.

The underlying lower marine deposit was remarkable in several ways. The occurrence of marine debris was very sporadic. The unit also contained leaves, twigs and other floral debris. These are currently being studied by the Department of Zoology of Hong Kong University. Figure 2 shows that the soil is very poorly sorted compared with the Chek Lap Kok silts of the upper marine deposit (Yim & Li, 1983). There was no evidence of layering even on microscopical analysis after drying. Where structure was visible it was invariably turbulent, as if it had been deposited in rolling waves. The base of the unit was generally a lighter grey fine quartz gravel which was clearly separated from the underlying residual soil and granitic saprolite. Most surprisingly, there was no lithological

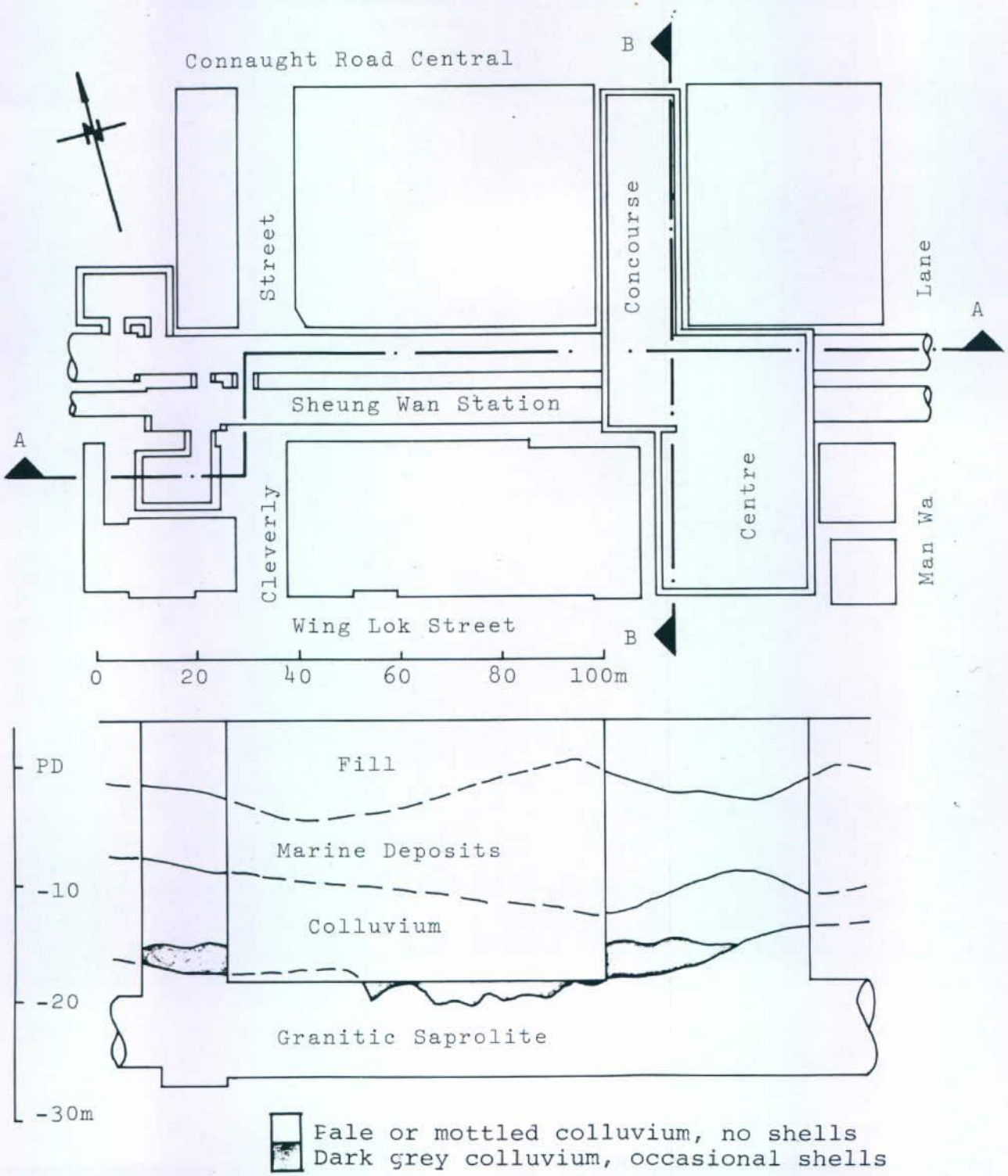
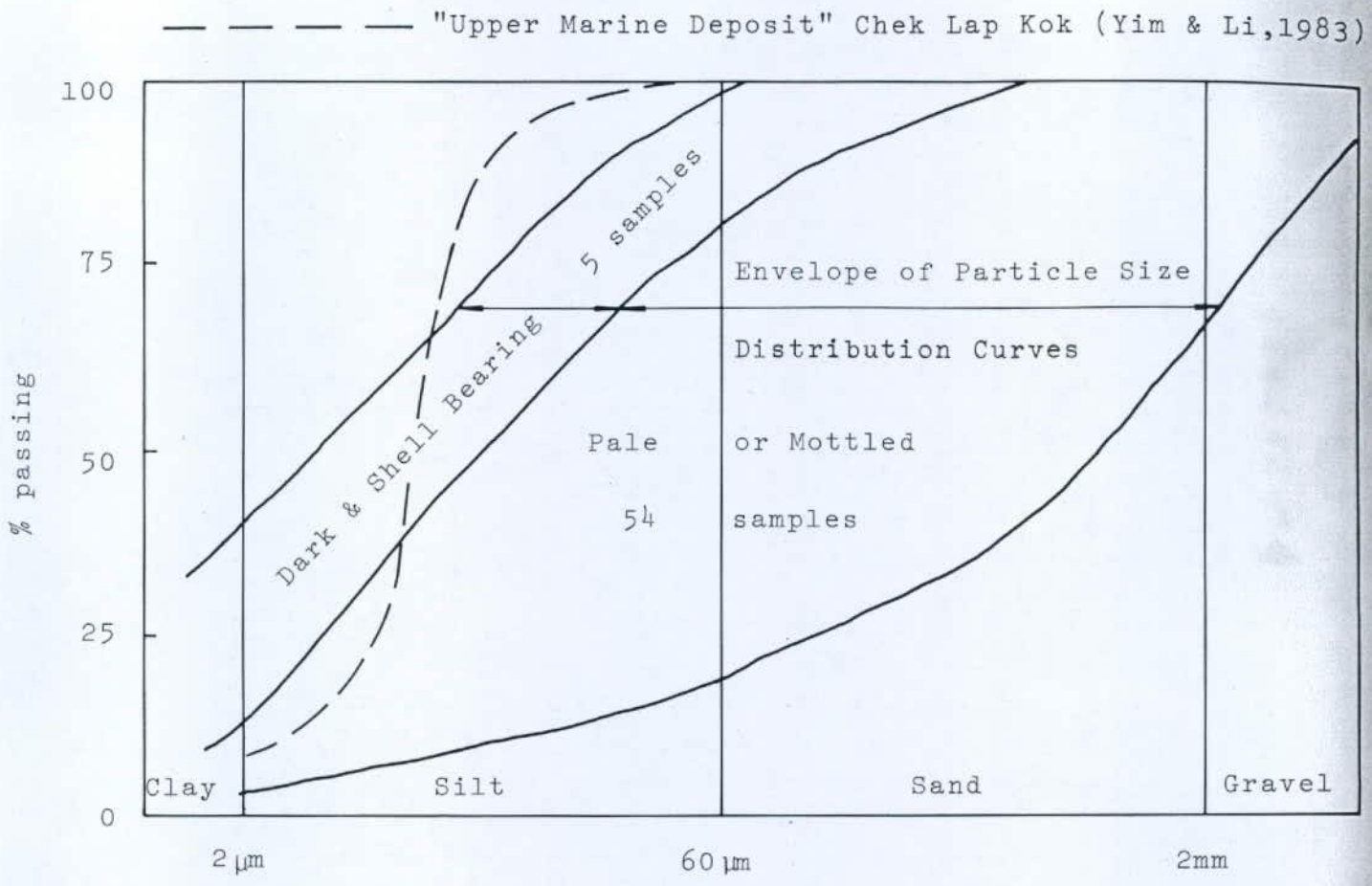


Fig. 1 - Sheung Wan Station - Plan and geological section AA.



Particle size distribution of colluvial soils found in Sheung Wan Station excavations and tunnels.

boundary between the grey lower marine unit and the overlying pale colluvial unit.. The boundary was a locally erratic discolouration of the soil which overall followed a level of about 15 m below Principal Datum. At one location, a third unit of pale soil, grading into grey soil, was found but this was only one metre thick and no floral or faunal debris was found in it.

RADIO-CARBON DATES

A sample of timber was dated by the South China Sea Institute of Oceanography, Guangzhou, at 8,600 ± 270 years B.P., and an adjacent sample of peaty soil was dated at 8,520 ± 270 years B.P. (Wu, Z.-J., personal communication). This was found at the base of the lower marine deposit.

About one hundred well preserved oysters, clearly recognisable as *CRASSOSTREA GIGAS (THUNBERG)*, were found clustered on a relatively fresh core boulder projecting from the saprolitic bedrock. One of these has been dated by Zhongshan University at 30,560 ± 580 years B.P. (Yim, W.W.-S., personal communication).

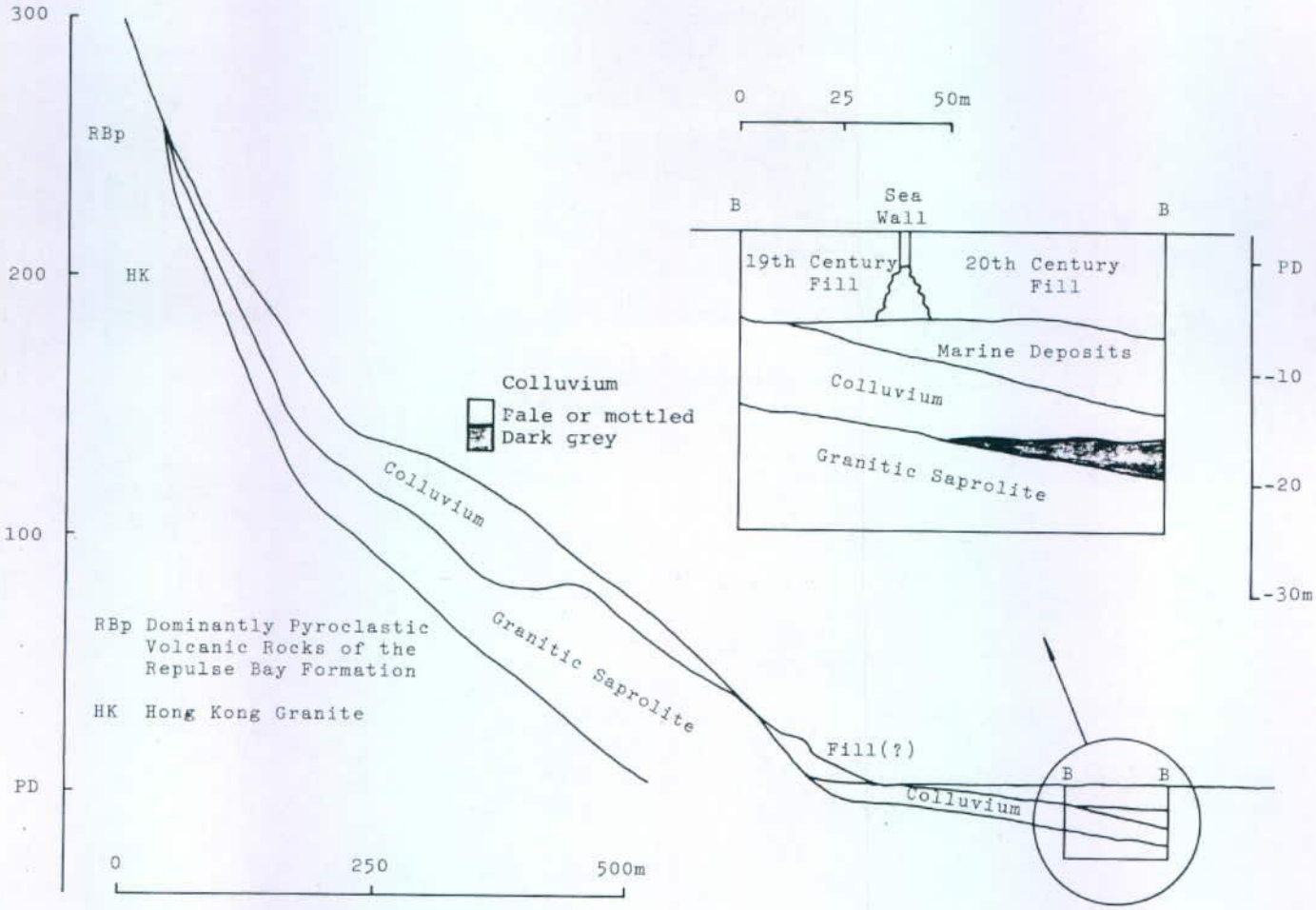


Fig. 3 - North South geological section BB - Mid Levels geology from Public Works Department (Anon, 1982).

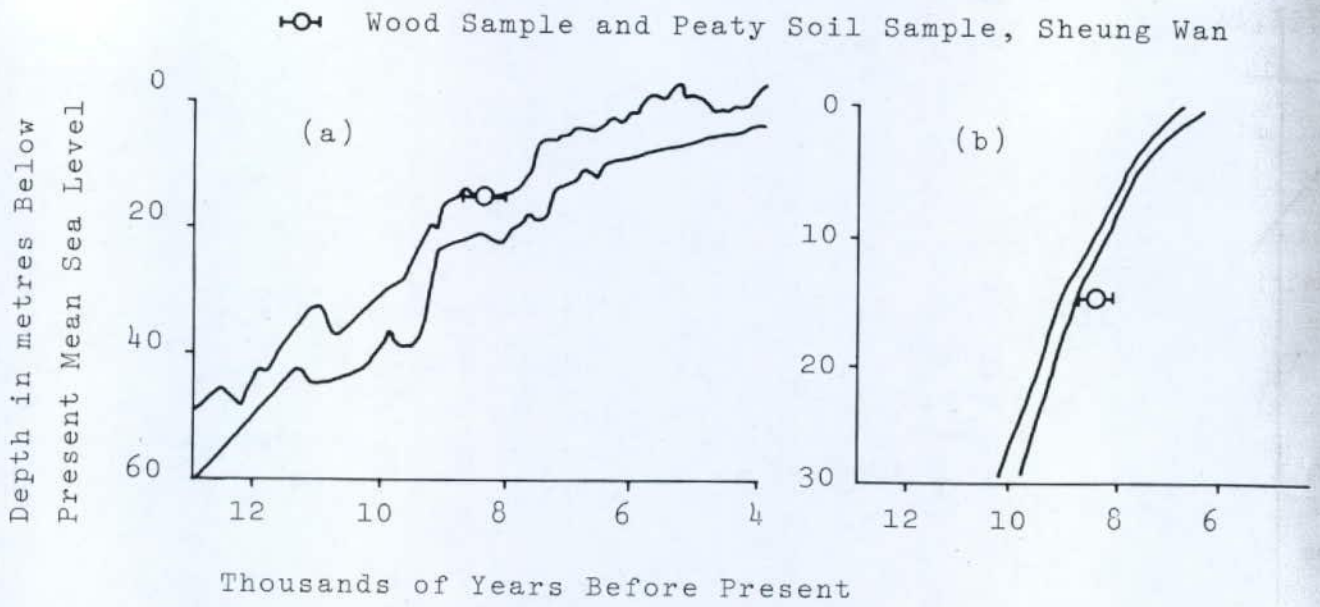
INTERPRETATION

The absence of a lithological boundary between the colluvial unit and the underlying marine deposit, the turbulent structure of the "lower marine deposit" and the presence of terrestrial floral debris within it argues that the grey lower marine unit is simply a stratigraphic extension of the debris flow as shown on Figure 3. The grey colour and sporadic presence of marine faunal debris argue that the debris flow encountered and mixed with a pre-existing marine deposit. The radio-carbon date of 31,000 to 30,000 years B.P. obtained from one of the specimens of *CRASSOSTREA GIGAS* indicates that this could have been a marine deposit formed during the Mid-Würm interstadial.

The discolouration boundary of 15 m below Principal Datum corresponds well with the radio-carbon dates of 8,500 years B.P. found on the samples from the base of the deposit and six world-wide estimates of sea level during the Holocene transgression as shown on Figures 4a and 4b. It is therefore probable that the debris flow occurred 8,500 years ago.

The Author therefore believes that, in this location at least, no stratigraphic significance should be attached to the presence of different classes of colluvium. It is more likely that the mottled stiff soils are the product of preferential deposition of iron oxides leached from the paler, softer soils surrounding them.

Fig. 4 - Envelope of Holocene sea-level curves from (a) Goudie (1983) (b) Thom and Roy (1983).



IMPLICATIONS FOR OTHER NEARSHORE DEPOSITS

Howat (1985) has already pointed out the 5,000 year discrepancy between the Mid-Würm sea level high inferred from samples from Chek Lap Kok (Yim, 1984) and from samples from the Pearl River Estuary. The geology of the area where one sample of "upper alluvial deposit" at Chek Lap Kok yielded a date of 27,660 ± 590 years B.P. is shown on Figure 5. It seems quite likely that this sample comes from a colluvial unit very similar to

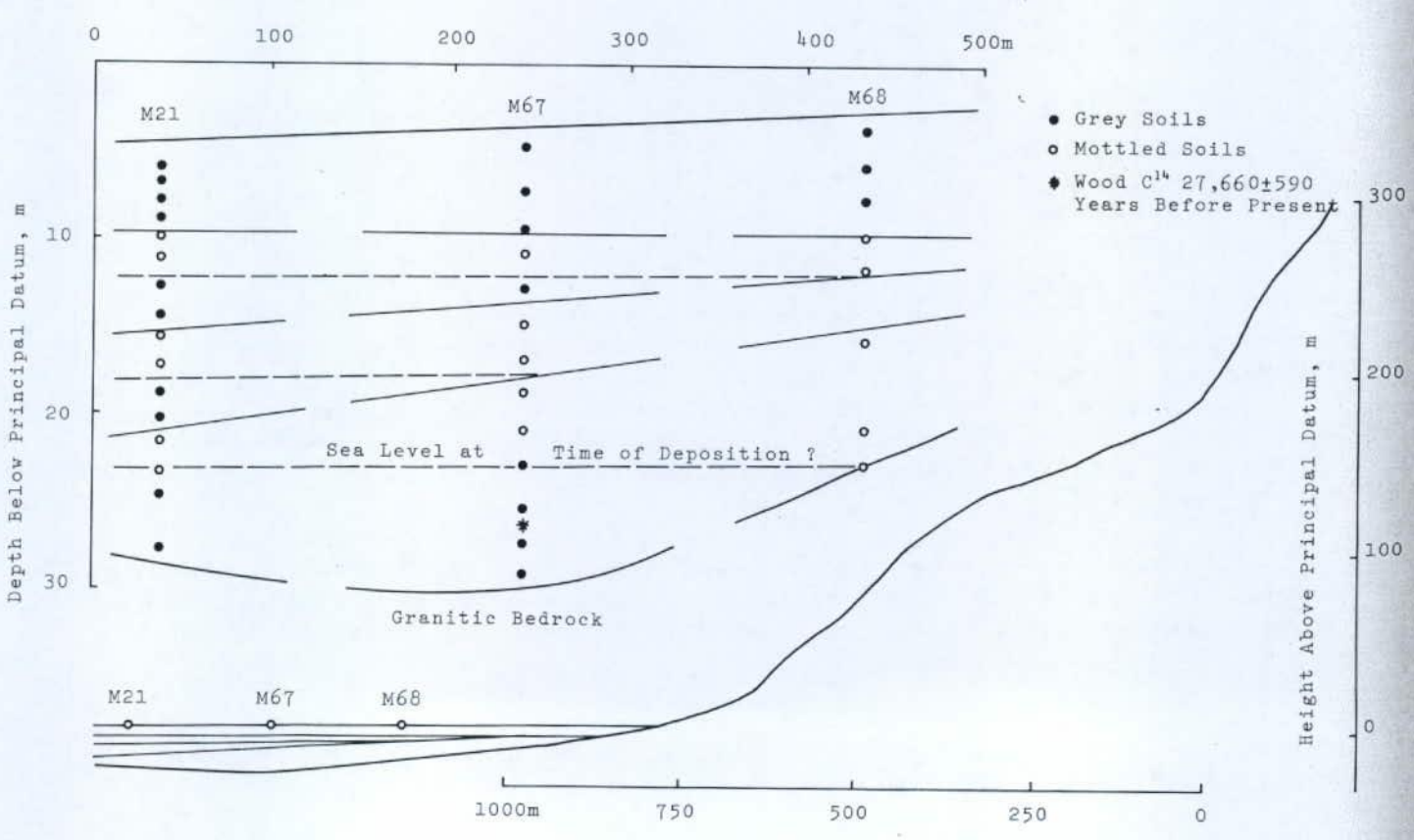


Fig. 5 - Nearshore geology of Chek Lap Kok, Lantau Island. Data from Yim (1984) and Gammon (HK) Ltd report (Anon, undated).

that found at Sheung Wan Station. If the level separating pale from dark soils is taken to be the sea level at the time of deposition, as shown on Figure 6, then it is further evidence in favour of the later Mid-Würm interstadial sea-level suggested by the Pearl River Estuary data.

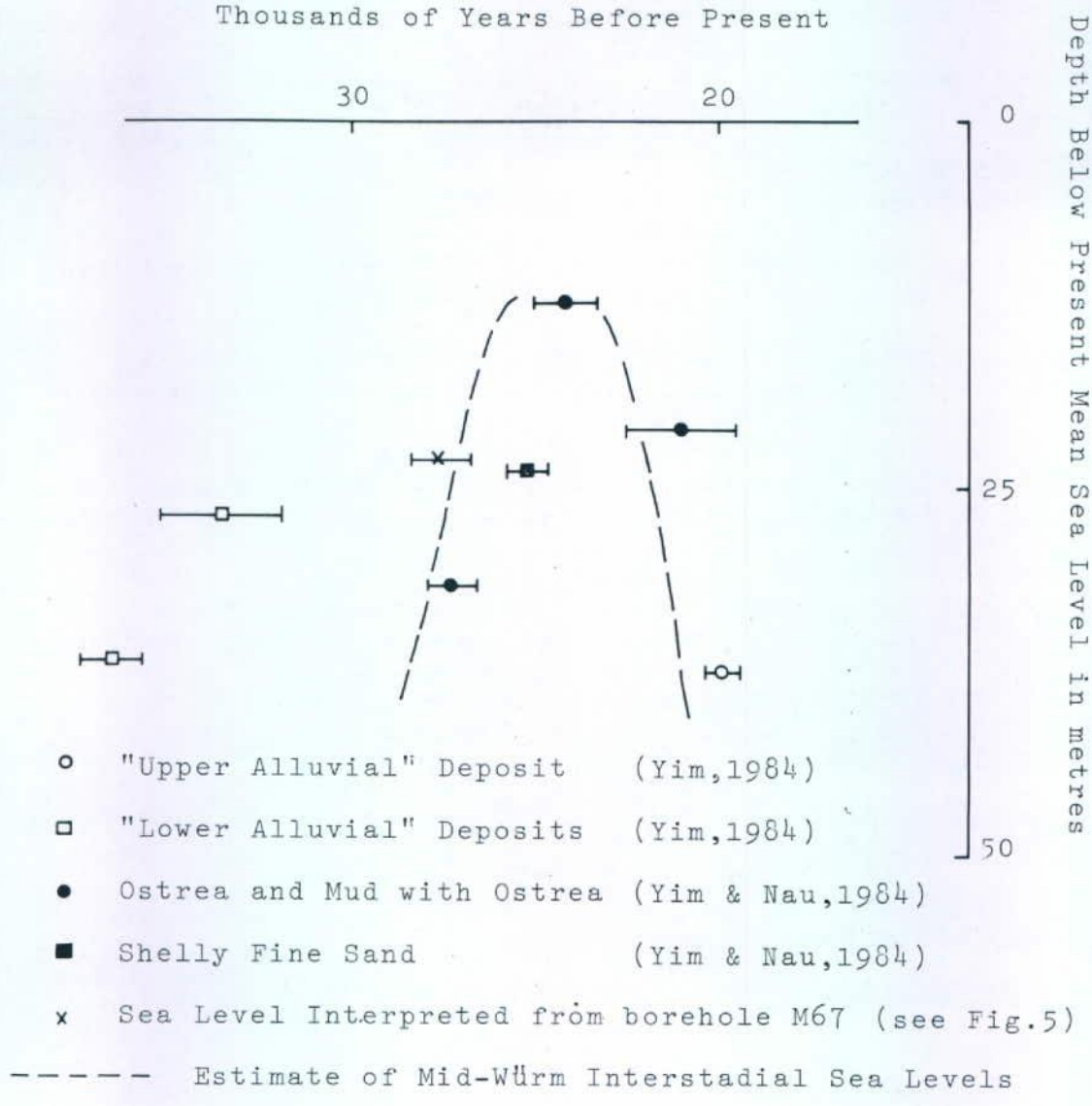


Fig. 6 - Radio-carbon dates of terrestrial, nearshore and marine deposits - Pearl River Estuary and Chek Lap Kok. From Howat (1985).

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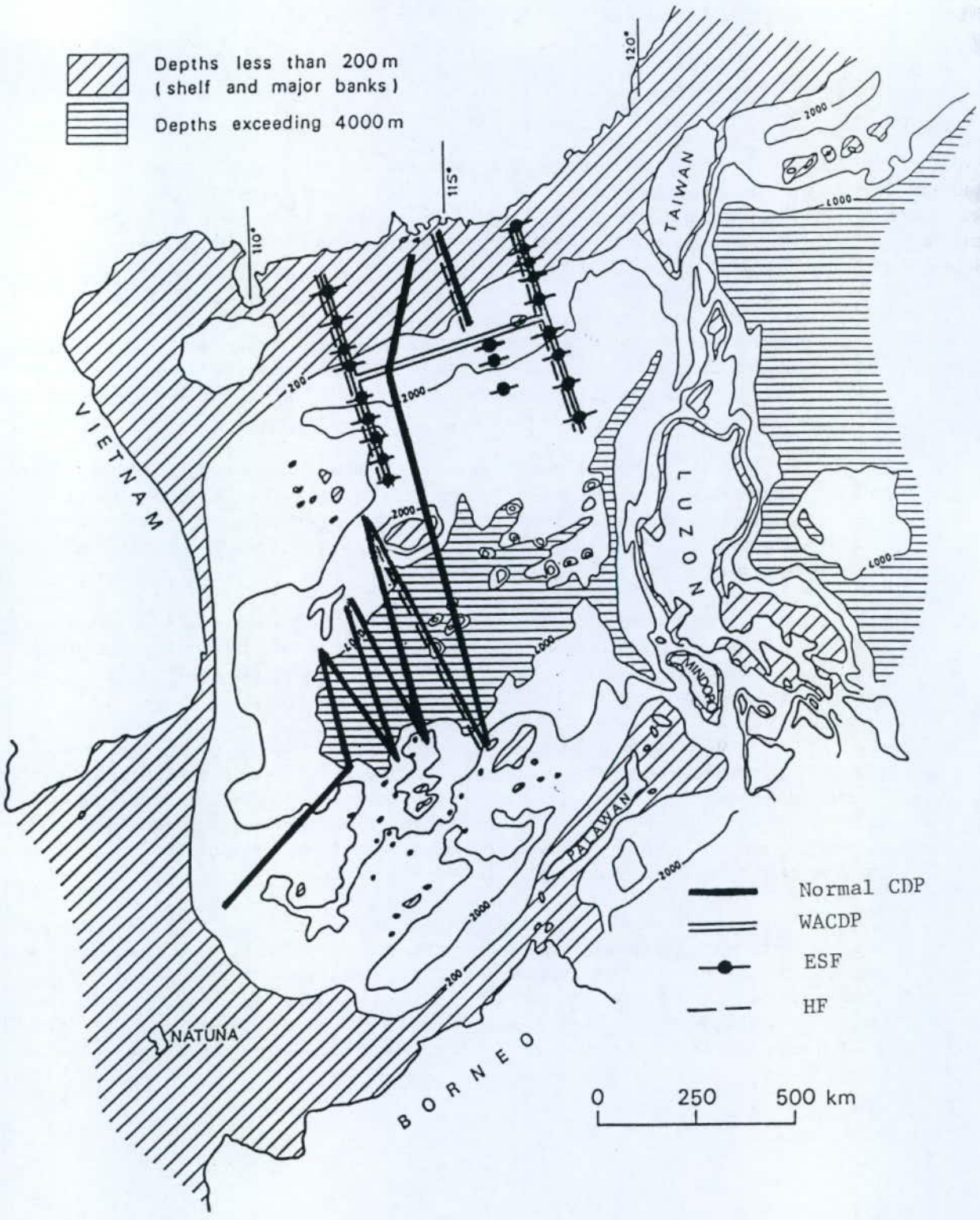
Table 1 - Age and class of colluvium compiled from Lai & Taylor (1984)

Class	Consistency	Mottling	Weathering Grade of Boulders	Age, thousands of years B.P.
1	Stiff to very stiff	Present	IV - V	128 - 700
2	Firm to stiff	Occasional	III - IV	12 - 128
3	Soft to firm	Absent	II - III	12

NEW DEEP-SEA GEOPHYSICAL RESEARCH PROGRAMME IN THE SOUTH CHINA SEA

The deep central basin of the South China Sea, where water depths exceed 4000 m, is one of the least studied areas of the east Asian peri-continental seas. A significant development recently has been the first joint venture scientific research expedition in this area involving Chinese and American scientists. This was a comprehensive geophysical survey mounted in October and November of this year, news of which was announced in the September issue of Geotimes. The following are extracts from the Geotimes report.

> "The Robert D. Conrad, the world-ranging scientific ship of Lamont-Doherty Geological Observatory, will sail transects across the basin's continental margin at key places. China's fully equipped digital seismic ship Fendou 1 will join the Conrad for reflection and refraction work in the northern area..... The scientists will also scout promising sites for future Ocean Drilling Program work.
>
> The South China Sea basin was formed by normal sea-floor spreading processes in middle Tertiary time. Rifting began about 32 million years ago and drifting stopped about 17 million years ago. The continent-ocean boundary (COB) around the sea divides normal oceanic crust from fault-bounded blocks that are believed to be underlain by crust transitional in thickness and, composition, between oceanic and continental.
>
> The southwestern part of the basin's deep area is much narrower than the eastern part, but there is no obvious structural discontinuity between them. Reconstruction of the crustal arrangement before the ocean basin formed, by moving the crustal pieces "backwards", results in a large overlap in the southwestern part of the basin.
>
> Models describing the development of passive continental margins try to predict relationships among continental rifting, subsidence, drifting, sediment deposition, thermal history and hydrocarbon-maturation potential. The hypothesis for the evolution of the South China Sea basin uses a model of differential extension of continental crust that accommodates the early opening and deepening of the eastern basin by additional continental crustal stretching in the southwestern basin (by about twice as much) before drifting and the formation of new oceanic crust began.
>
> The model predicts significant differences between the 2 areas in thermal history and hydrocarbon maturation potential. Three kinds of information needed to complete the model will be gathered: detailed heat-flow measurements, various geophysical measurements (magnetic, gravity, depth, seismic reflection and refraction) of the crust taken while the ship is underway, and seismic measurements of changes in crustal thickness as deep as the Mohorovicic discontinuity (at the base of the crust) measured on 6 or 7 tracks across the zone of transitional crust in the southwestern part of the basin."



Map Showing Locations of Transects Across South China Sea
(Adapted from Lamont-Doherty Geological Survey)

The transects cross both shallow and deep parts of the basin .... (see map).

On the southwestern transects the Common Depth Profile (CDP) technique, which constructs an acoustic stratigraphic section, will measure the thickness of sediments and parts of the crystalline crust. On the northern transects the Chinese seismic ship Fendou 1 will join the Conrad to gather Expanded Spread Profile (ESP) and Wide-Aperture Common Depth Profile (WACDP) data. In the ESP technique, the 2 ships steam in opposite directions with 1 making explosive sounds and the other receiving signals. That increases greatly the crustal depth that can be seismically imaged, compared to what 1 ship could accomplish. The 2 ships follow each other in the WACDP technique, each shooting in turn, to magnify the effective length of the individual streamers by several kilometers. Heat-flow measurements (HF) will be taken on each transect.

OBITUARY

Dr Charles Chi-jui Peng

It is with deep regret that we record the death in September of Dr Charles Peng, for many years a leading geologist in Hong Kong and China.

Charles Peng is survived by his wife, Chung-Hua Lee, his son and daughter-in law, James and Carol, daughter Margie, and grandchildren, Julie and Michael.

Dr Peng was born in Hunan Province on September 22, 1917 and went to school in Changsha. In 1938 he graduated with a B.Sc. in Geology from Hsing Hua University in Kunming and joined the Geological Survey of China. He travelled extensively in Western China on mineral resources exploration surveys.

Shortly after the war, he went to the United States for further study. He received an M.Sc. (Economic Geology) from the University of Arizona in 1948 and a Ph.D. from Columbia University in 1951. Before returning to China in 1956 to join the Academy of Sciences in Peking, Dr Peng was an Associate Professor in the Universities of New Mexico, Southern Illinois, and Wisconsin.

In 1961 Dr Peng joined the University of Hong Kong where he remained until his retirement as Reader in Geology in 1979. His main interest was in mineralogy and he published numerous papers in this and other fields in the international and Chinese scientific literature. He was the author of the popular book "Minerals of Hong Kong" published by the Hong Kong Urban Council.

Following his retirement Dr Peng remained active in geological research and consulting. With his passing the geological community of Hong Kong has lost a valued colleague and a kindly man who was ever ready to help a friend. His fortitude in the face of mortal illness and his determination to do his best whatever the circumstances should be a model to us all.

C.J.G.

FIELD EXCURSION TO LEDGE POINT

On October 13 and November 9 the society made excursions to Cheung Pai Tau (Ledge Point) at the extreme northeastern tip of the New Territories mainland. A brief stop was also made at Ap Chau (see Newsletter v. 2 no. 3), on both occasions.

Ledge Point is geologically interesting for its exposure (at low tide) of reddish-brown conglomerates (breccias) of the Kat O formation which have a partly calcareous cement and contain some clasts of limestone among the predominant angular boulders of acid volcanic rocks.

On the hillside immediately to the south of the outcrop of conglomerate, bedded pyroclastic and sedimentary rocks of the Repulse Bay Group are exposed. These dip north at about 50^{o}, in marked contrast to the conglomerates which dip, also northwards, at angles of 10^{o} or less. Ruxton (1960, p. 255) gives the following succession, based partly on earlier reports (beds 6, 5 and most of 4 not seen):

		Thickness (feet approx.)	
7.	Red calcareous breccia	10	
	Unconformity		
6.	Limestone breccia	20)	
		)	Not now seen
5.	Black shale with limestone	20)	
4.	Quartzitic breccia	20	5 feet now exposed
3.	Silty quartzite with pebbles	100	
2.	Siltstones and shales	150	
1.	Rhyolitic welded tuffs	greater than 1000	

At the foot of the hillside is a flooded pit where limestone was excavated for a cement works in Kowloon before the turn of the century. Float of this brecciated limestone (horizon no. 6 of Ruxton's succession) can still be found, and it remains the only place in Hong Kong where samples of reasonably pure limestone can be collected at the surface.

Palaeontology Of considerable interest is the report by the distinguished Chinese geologist J.S. Lee, quoted by Williams (1943), that limestone boulders "probably from this locality" (Williams, 1943) sent to Lee from Hong Kong by Dr Heanley, contained Permian fusulinids (note that the limestone in the pit, lithologically similar to the limestone clasts in the conglomerate, structurally overlies rocks believed to belong to the Repulse Bay Group).

References:

Ruxton, B.P. (1960). The Geology of Hong Kong. Quart. Inl. Geol. Soc. Lond. Vol. 115, pp. 454-457.

Williams, M.Y. (1943). The Stratigraphy and Palaeontology of Hong Kong and the New Territories. Trans. Roy. Soc. Canaca, Vol. 37, pp. 93-117.

ANNOUNCEMENT BY THE MARINE STUDIES GROUP

The Marine Geology of Hong Kong and the Pearl River Mouth

The GSHK publication "The Marine Geology of Hong Kong and the Pearl River Mouth" is now available. This one hundred page volume includes over forty pages of sections, plans, tables etc and consists of the detailed presentations made by participants of the one day seminar organised by the Marine Studies Group, and held at Hong Kong University in September 1985. The papers included are by workers from the South China Sea Institute of Oceanology in Guangzhou and by authors from Hong Kong. This is the first such publication on the subject and is an important step forward in understanding the nature of the local offshore Quaternary geology.

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Peter Whiteside
Secretary, Marine Studies Group

CHRONOLOGICAL LIST OF TECHNICAL ARTICLES IN VOLUMES 1-3 OF THE NEWSLETTER

VOL. 1, 1983 (commencing November 1982)

- Field Description of Pyroclastic Rocks (D.R. Workman)
- An Angular Unconformity near Lai Chi Wo, Crooked Harbour (W.W.-S. Yim)
- Geology of China (C.H. Tan)
- The Occurrence of a Devonian Placodermi Fish Fossil (C.M. Lee)
- The New Hong Kong Geological Survey Programme (A.D. Burnett and J.D. Bennett)
- A Summary Table of the Regional Stratigraphy and Mineral Deposits of Guangdong based on the work of Y. Nan (P.S. Nau and W.W.-S. Yim)
- Structure of the South China Sea Basin (D.R. Workman)

VOL. 2, 1984

- Rotten Relics Rule Residual Regolith (R. Harris)
- Occurrence of Axinite in a Granite Pegmatite at Lei Yue Mun Bay near Chai Wan (W.W.-S. Yim)
- Structure of the Hong Kong Granite (T.I. Gammon and R.P. Finn)
- An Occurrence of Silicified wood in the Repulse Bay Formation Sediments at Lai Chi Chong (M.J. Dale and J.M. Nash)
- Zhujiang Delta - Extracts from a Research Publication by the Guangzhou Institute of Geography (W.W.-S. Yim and P.S. Nau)
- Use of Point Load Test for Determination of Strength of Weathered Rocks in Hong Kong (T.I. Gammon)
- Marble and Sub-surface Karst at Yuen Long, N.T. (K.L. Siu and K.M. Wong)
- Radio-carbon Dates of the Zhujiang Delta and Their Implications for Hong Kong (W.W.-S. Yim and P.S. Nau)
- Lower Jurassic Fossil Assemblages at Sham Chung (C.M. Lee)
- Note on Ammonites (Arietites) from Sham Chung (P.S. Nau)
- Geological Tables and Maps of the Shenzhen District (Shenzhen Geological Bureau, transl. P.S. Nau and W.W.-S. Yim)

VOL. 3, 1985

- Preliminary Investigation of the Occurrence of Marine Microfossils in an offshore Drillhole at Lei Yue Mun Bay (P. Wang and W.W.-S. Yim)
- Lithostratigraphic Comparison of the Lok Ma Chau Formation of Hong Kong with Carboniferous strata of Shenzhen and Guangzhou (K.W. Lai and M. Mui)
- A Ring and Radial Structure in Rhyolite Forming Victoria Peak (B.P. Ruxton)
- Late Pleistocene Sea Levels in Hong Kong and the Pearl River Estuary (M.D. Howat)
- An Exposure of Welded Tuff at Mount Kellett (D.R. Workman)
- Correlation Table: Stratigraphic Column of Central-East Guangdong and Various Columns established for Hong Kong (C.M. Lee)
- Relations between the Faults of the Pearl River Delta and the Processes of Formation of the Delta (Y.K. Huang, F. Xia and G.N. Chen)
- A Nearshore Colluvial Deposit in Western District, Hong Kong Island (M.D. Howat)

Principal field excursion reports with geological descriptions and/or illustrations:

Report on a Field Visit to Shenzhen (A.D. Burnett)	1983/5
Report on Shenzhen Field Trip 12-13 November 1983 (J.D. Bennett, R. Addison and A.D. Burnett)	1984/2
Field excursion to Ping Chau (P.S. Nau, R.S. Arthurton and D.R. Workman)	1984/2
Field excursion to Kat O Chau, Ap Chau and Lai Chi Wo (R.S. Arthurton)	1984/3
Report on a 6-day Visit to Shaoguan (Anon)	1984/3
Report on the Third Visit to Shenzhen by GSHK Members (A.D. Burnett)	1985/2
Excursion to Guangzhou and Hainan, 5-13 April (R.L. Langford)	1985/3
Field Excursion to Ledge Point (D.R. Workman)	1985/6

FORTHCOMING EVENTS

1st March
Saturday

Leave Hankow Road
Tsim Sha Tsui
(side of YMCA)
at 9.00 a.m.
by hired bus
Time of return
to Kowloon to be
arranged

VISIT TO PLOVER COVE PROJECT
By kind permission of the Water Supplies Department, a visit has been arranged to the HK$400 million Plover Cove Project. Sites of major pumping stations at Tai Mei Tuk and Harbour Island will be visited and following this we shall traverse the coastal exposures along the northern shore of Tolo Channel.
Visitors will be required to sign an indemnity.

To book for the visit to the Plover Cove Project please send completed booking form and cheque payable to "The Geological Society of Hong Kong" to Mr P.S. Nau, Dept of Geography & Geology, Hong Kong University, (Tel.: H8592832).

節目預告

1986年二月二日

1986年二月二日 星期日上午九時卅分於尖沙咀漢口道青年會集合——馬鞍山野外考察。請向鈕柏燊先生查詢及預訂車位(電話：5-8592832辦公時間)。

1986年二月十九日 星期三下午六時於九龍公園香港博物館。
中文(粵語或國語)地質專題講演：
1.黎權偉先生：大鵬灣的形成和斷裂關係
2.李作明先生：香港地震地質
3.李坤榮先生：地下鐵道港島線建造過程中某些工程地質實例
歡迎各界人仕參加

1986年三月一日 星期六白沙頭洲 (Harbour Island) 野外考察。詳情請參閱本期英文版。

PLOVER COVE PROJECT: 1ST MARCH 1986

I/We wish to attend and enclose my/our payment ($30 for members and $40 for non-members)

Mr P.S. Nau
Dept of Geography & Geology,
University of Hong Kong

Name(s):

Contact Tel No.:

長排頭野外考察

香港大學鈕柏燊

在香港新界的北端，鴨洲之西，有一狹長的地段向北伸展進入沙頭角海中，地名長排頭。由於該地是香港唯一曾經開採過灰岩的地方，這吸引了香港地質學會的會員們於十月十三日及十一月九日到該地作野外考察。考察期間，亦曾到鴨洲短暫停留。

長排頭地勢低平，常爲海水淹沒，但在低潮時，可見較大範圍的岩石出露。Rusten 在 1960 年對長排頭的地層剖面描述如下(由上往下)：

	岩　　性	估計厚度(尺)
	7.紅色鈣質角礫岩	10
	不　整　合	
	6.灰岩角礫岩	20
	5.黑色頁岩及灰岩	20
	4.石英岩狀角礫岩	20
	3.粉砂質含礫石英岩	100
2	2.粉砂岩及頁岩	150
	1.流紋質熔結凝灰岩	＞1000

沿着長排頭的狹長地帶自北向南行，首先看到的是屬於吉澳組的紅色角礫岩。岩石中的角礫大部分爲酸性火山岩，間有相信是來自下部地層的灰岩礫石。岩石中的膠結物有鈣質成分(方解石)。岩層向北傾斜，傾角平緩約爲 10° 左右。它覆蓋在下部的較老岩層之上，爲不整合接觸。李作明先生根據岩石中的孢子花粉分析結果，認爲吉澳組的年代屬晚白堊紀(見地質學會通訊 1985 年第三卷第四期8－－9頁)。

在角礫岩的南側，未見灰岩出現於地表。但沿着靠近山坡的一個被水淹沒的廢棄石礦坑的邊緣，仍可找到以前採挖出來的灰岩岩塊。Williams在1943年的著作中曾對長排頭附近的火山碎屑岩（集塊岩）中的灰岩巨礫作過描述。當時由Heanley 博士所採集的灰岩標中含有紡錘鏇化石（由著名的地質學家李四光鑑定），因此推測與之類似的長排頭灰岩可能屬於二疊紀。

在石礦坑的南側，沿着山邊分佈有碎屑岩(以砂岩爲主)。岩石較堅硬，亦朝北傾斜，傾角約爲50°左右。碎屑岩下部屬於淺水灣組的火山碎屑岩(凝灰岩)則在更南的部位才見出露。由於石礦坑爲水淹沒，灰岩與碎屑岩之間的關係無法見到。而碎屑岩暫時相信是歸入淺水灣組。

投稿本會通訊簡則

概　則：請將所有稿件，查詢及通訊寄香港地質學會秘書收（煩香港大學地理地質系轉）。本會並不負責刊登在本通訊內文章之版權。如寄來的文章或資料有在過去曾引用過，或現時及將來可能會引用到的話，作者請於來稿時特別註明。

我們歡迎一些專門性的稿件，有趣事項的報導，書評或專題討論等。來稿以簡爲主。雖然有些時候本會可作出例外，但普通稿件請以一千二百字爲限。請盡量減少插圖及附表等，而所有圖表請另外分頁。

所有來稿必須清晰——英文稿用打字機打出，中文則以正楷謄寫。來稿需寄兩份。英文稿（包括援引）必須隔行，不可一紙兩面用；請用A4號紙張。中文稿則請用原稿紙。中英文稿每頁均必須有頁編號及作者姓名。

所有插圖請只寄影印本，待本會通知時始可將原版寄來，而必須註有來稿者姓名。圖表必須用黑色繪在描圖紙或滑面白紙或紙板上；所有綫條或字體之粗幼必須能縮影後仍可保持清晰，所有地圖必須附有公制比例，正北指向及如適用的話附有經緯綫座標。

援　引：來稿者須負責確定所有援引的準確性，而公報之簡寫須以現藏於倫敦地質學會圖書館內倫敦地質學會1978年出版之定期出版物目錄爲準。

單行本：經本通訊刊出之稿件，本會不負責供免費單行本給作者，但可代向承印商洽商，使作者可向承印商購買單行本。

封面圖片：蒙Dr. D.R. Workman借出
香港大鵬灣平洲南岸之傾斜泥岩及粉砂岩

香港地質學會

通　訊

目錄

第三卷第六號　一九八五年十一月