

# Technical Talk on “Engineering Geology: Three Recent Case Studies”

GEOTECHNICAL ENGINEERING TECHNICAL DIVISION



by Ir. Chow Chee Meng

**THE** technical talk given by Mr. Tan Boon Kong on 14 July 2010 was held at the Tan Sri Prof. Chin Fung Kee Auditorium. Attended by 55 participants, the talk focused on three recent case studies on engineering geology for the following projects:

- Proposed Kuala Lumpur Outer Ring Road (KLORR)
- New Low Cost Carrier Terminal (LCCT)
- Sunway Lagoon

The first case study, *i.e.* KLORR, illustrated the role of engineering geology in the assessment of different construction methods in sensitive areas such as the existing Klang Gates Quartz Ridge. The study compared the viability of a tunnel against a viaduct based on the following factors:

- |                              |                             |
|------------------------------|-----------------------------|
| a) Slope instability         | f) Reservoir leak           |
| b) Rockfall                  | g) Environmental impact     |
| c) Construction difficulties | h) Scenic view              |
| d) Blasting                  | i) Security concern for dam |
| e) Damage to dam             | j) Cost                     |

While the first case study focused on technical considerations with respect to construction in rock, the second case study is on classification of soil according to Quaternary Sediment/Peat, Residual Soil and Bedrock. The determination of the thickness of the Quaternary Sediment/Peat

is important for the design of earthworks as the different thickness of the soft layer will affect the magnitude of settlement due to additional fill. As such, information from the geological assessment in the form of an isopach map as shown in Figure 1 will be useful.

The third and final case study involved the assessment of rock slope and limestone pinnacle at Sunway Lagoon where Mr. Tan illustrated the importance of a proper interpretation of critical joint sets in the stability assessment of rock slope and subsequent strengthening works.

At the end of the talk, there was a lively discussion between the participants and the speaker. The technical exchanges illustrate the inter-dependence of civil engineering works (especially geotechnical works) and engineering geology, and such exchanges between experienced engineering geologists and the civil engineering community will certainly benefit both professions. ■

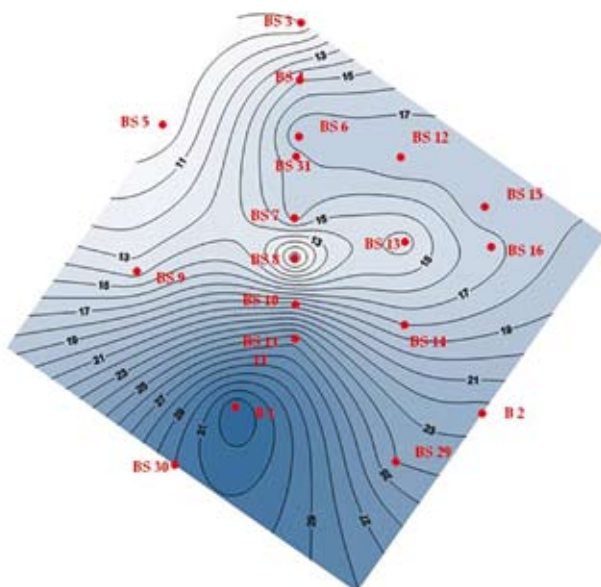


Figure 1: Isopach map of quaternary sediment/Peat for LCCT project

3rd International Wire, Cable, Tube & Pipe Trade Fairs for Southeast Asia

**wire**

**Southeast ASIA**

Incorporating:

**Tube**

**Southeast ASIA**

Industry partner:

**13 - 15 Sept 2011 • BITEC, Bangkok**  
Bangkok International Trade & Exhibition Centre

[www.wire-southeastasia.com](http://www.wire-southeastasia.com) | [www.tube-southeastasia.com](http://www.tube-southeastasia.com)

www.southeast-asia-2011 is organized by:

WIMA - International Wire & Machinery Association

WICA - International Wire & Cable Exhibitors Association

WISA - International Wire & Cable Exhibitors Association (WISA-France)

ACMAF - Asian Cable Machinery Manufacturers Association (ACMAF)

Industry Partner Association:

Officially supported by:

Supported by Messe Düsseldorf / Organizer of:

Messe Düsseldorf Asia