

Malaysian Geotechnical Society

# Webinar – Talks On "Load Test on Caisson" and "Durability Assessment of Cenozoic Shales"

# by Ir. Leow Chee Sin, Nick and Ms. Fianita Anthony

5<sup>th</sup> January 2023 (Thursday) 4.00 p.m. to 6.00 p.m. Organised by Youth Wing of MGS (YMGS)

## **REGISTER**

### Presentation 1: Set-up and Limitations of Small-Scaled Verification Load Tests on Hand-dug Caisson Pile: A Malaysian Contractor's Experience

Full-scaled static load test for hand-dug caisson pile using dead weight or anchored reaction frame system may not be practical in terms of site safety, executive cost and time required to complete the set-up. In local foundation industry, caisson shaft load test and plate bearing load test are typically adopted as alternative for pile performance verification. The small-scaled verification load test set-up can be more versatile to achieve the load test objective.

This technical talk will cover the following:

- Typical full-scaled static load test set-up
- Caisson pile geotechnical design and design parameters
- Caisson shaft load test set-up; improvement and results
- Caisson plate bearing load test set-up; improvement and results
- Limitations of small-scaled verification load tests



### Speaker

**Ir.** Leow Chee Sin, Nick obtained his Bachelor Degree (Honours) of Civil Engineering with First Class Honours from Universiti Sains Malaysia (USM) in 2014 and won the Gold Medal award of School of Civil Engineering for academic session 2013/ 2014. He started his professional career to work as geotechnical engineer in Geotechnical department of Arup Jururunding Sdn Bhd for three years. He then pursued his engineering career by joining the technical team of Geohan Sdn Bhd, a local geotechnical specialist and currently holds the designation of Technical Manager.

### Presentation 2: Durability Assessment of The Cenozoic Shales in The Northern Sarawak, Malaysia

Multiple reports of landslides and road damage have been reported along the new constructed Pan Borneo Highway. Among the many factors that potentially contribute to these hazards are rock degradation, geological structure etc. The geology of Northern Sarawak is mainly composed of sedimentary rocks of the Cenozoic Age. Stability problems in slope cuttings are commonly associated with shale, even when shale only presents as a minor part of the geological formation. There is very little knowledge and understanding of the properties of shales in Sarawak. In order to predict the failure, the properties of the rock formation, in particular, shale is essential. This talk presents the research to assess the durability of shale, its properties (physical, mineralogy, geochemistry, and textural), and behaviour during physical and chemical weathering. The findings are insightful and deepen the understanding of the transitional nature of shale rock to soil-like materials. It is with the hope that this research can path the way to a new and cost-effective remedial method in reducing or preventing erosion of shale slopes.

#### Speaker

**Ms. Fianita Anthony** is a postgraduate student at Curtin University Malaysia. She is pursuing a doctorate in Engineering Geology (funded by the Sarawak Research and Development Council, SRDC and Curtin Malaysia Graduate School, CMGS). She completed her master's in Civil Engineering in 2022 (funded by the Fundamental Research Grant Scheme, Ministry of Education Malaysia and CMGS). Her research focuses on understanding the transitional nature of rock to soil-like material and their durability during weathering, particularly in the region along Pan Borneo Highway in Northern Sarawak.





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Ir. Dr. Choo Chung Siung Chairman Youth Wing of Malaysian Geotechnical Society



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