

VALIDATION OF YJACK PILE TEST AS ALTERNATIVE PILE TESTING METHOD



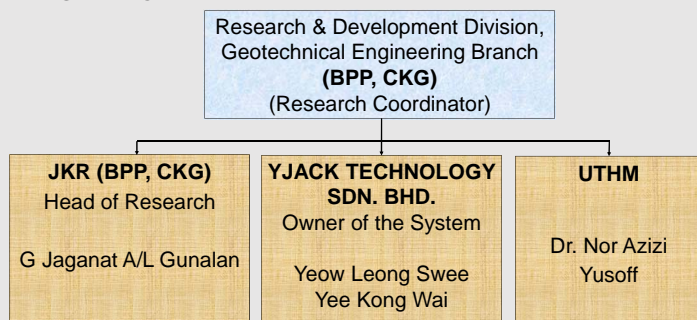
NAME : Ir. MOHD FAIZ BIN MOHD FAUDZI
NRIC/ ID :
ORGANIZATION :
GEOTECHNICAL
ENGINEERING BRANCH
PUBLIC WORKS
DEPARTMENT
EMEL : mohdfaiz@jkr.gov.my
TEL: 03-40518748
FAX: 03-40412024

NAME : G JAGANAT A/L GUNALAN
NRIC / ID : 811225-02-5727
ORGANIZATION :
MINISTRY OF WORK
EMEL :
TEL :
FAX :

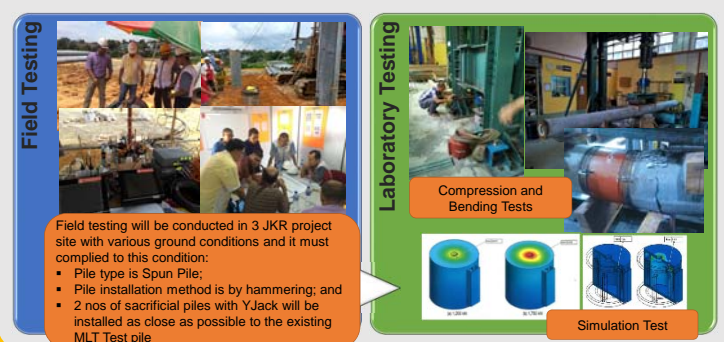
ABSTRACT

There are numerous load testing methods currently in use, such as the kentledge blocks, reaction piles and bi-directional load cell methods. All these methods of testing is fall under the category of Static Load Test (SLT) of piles (United Kingdom Specification, Federation of Piling Specialists, Handbook of Pile Load Test, 2006, Table 4.1). Traditionally, the kentledge method is most commonly used to test driven piles and cast in-situ piles. However, the kentledge method has a number of drawbacks, such as requires large working platform, mobilization of kentledge blocks is too costly, preparation for testing is too long and so on. To overcome this problem, especially to carry out SLT on spun piles, YJACK cell was invented in 2007 by Malaysian and has won several innovation awards. Since then, YJACK cell was used in several private projects for spun piles with Bi-Directional (BD) method. To enabling this system to be used in JKR project, where the proposed foundation system is spun piles, a validation test is required. This validation test was proposed to assess the practicability of using this system on spun piles, encompasses of system performance, material durability and as well as cost aspect.

RESEARCH TEAM



METHODOLOGY



OBJECTIVE

- This research is to validate YJACK Pile Test method as an alternative pile testing method in JKR project.

SCOPE

The scope of this research, encompasses of the following task:

1. To determine suitable sites for conducting field testing;
2. To carry out a laboratory testing on the YJACK cell;
3. To evaluate / compare YJACK field test results with MLT test; and
4. To prepare summary report and submission.

IMPACT

- The discovery of an alternative method for spun piles testing subjected to compression loads, which expected that by using this method of testing, it could reduce the project construction cost especially when the project sites located at remote areas or has accessibility issues.
- Facilitate CKG to develop standard or specification for BD testing on driven piles.

REFERENCES

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- Osterberg, J.O., (1989), "New device for load testing driven piles and Drilled Shafts separates friction and end bearing", Proceedings International Conference on Piling and Deep Foundations.
- Published Paper in IBS Digest Issue 1/2015 Industrial Building System Publication Construction Industry Development Board (CIDB), Malaysia.
- Singapore Standard (CP4:2003), "Code of Practice for Foundations".

PHOTOS

