

ABSTRACT

STUDY OF PILE FOUNDATION BEARING CAPACITY BASED ON SPT AND PDA TEST ON OIL TANK CONSTRUCTION

by

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Foundation is a part of construction that used to build up and transfer the upperstructure load to the ground support. In this research, the type of foundation that used are driven pile and bored pile, then the upperstructure is oil tank.

The process of analysis used secondary data from Standard Penetration Test (SPT) boring log and the results of Pile Driving Analyzer Test (PDA). The calculation started from analysed the loading with SAP 2000 programme, calculated bearing capacity from soil investigation data, made comparisons between the results of the analysis with the field test, and analysed foundation stability with calculated the settlement foundation.

The calculation of bearing capacity foundation used Meyerhoff method. With the diameter 60 cm, driven pile foundation has bearing capacity ultimate 805,232 kN and bored pile 684,225 kN. From PDA Test bearing capacity ultimate obtained 3.638 kN. Therefore, the bearing capacity ultimate obtained from the calculation did not exceed the limit from PDA Test so the foundation safe to used. Pile foundation did not experience big settlement so it has safe stability.

Keywords: driven pile, bored pile, bearing capacity