

# **QUANTIFYING PILE HEAD CONDITION BEFORE BASEMENT EXCAVATION BY CROSS-HOLE SONIC LOGGING TESTS**

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## **ABSTRACT**

In wet process bored piles construction, it is necessary that concrete is continued to be placed until good quality of concrete is formed above the design pile cut-off level to avoid contamination of slurry within the design pile length. Controlling the excessive overcast length to maintain the appropriate pile top level is one of the major problems particularly for the piles with low cut-off level. It is also impossible to check the quality of concrete at the top part of the piles prior to exposing the pile head for pile cap construction or basement excavation. If the pile head condition of recently cast bored piles could be justified in the initial stage of the project, it would be better and easier for the piling engineers to efficiently decide the optimum overcast length of the pile which in turn would provide effective saving of unnecessary concrete consumption. Application of sonic logging tests in justifying overcast pile length is demonstrated in this paper.

**Keywords: cross-hole sonic logging test, wet-processed bored piles, cut-off level, contaminated concrete, pile integrity**