

INTISARI

Penggunaan alat berat dalam pelaksanaan pondasi Bore Pile sangat penting untuk mempermudah pekerjaan dalam skala besar. Pemilihan jenis, ukuran, dan jumlah alat berat harus tepat guna. Namun, proses pengeboran menggunakan alat berat *Rotary Drilling Rig* di lokasi elevated 3 dan elevated 2 memakan waktu lama, menyebabkan hambatan pada pekerjaan lainnya. Dalam penelitian ini akan dilakukan analisis produktivitas, faktor – faktor yang memengaruhi, dan biaya pekerjaan pengeboran *bore pile* berdasarkan pengamatan langsung dilapangan.

Penelitian dilakukan pada proyek pembangunan jalan tol Jogja-Bawen Paket 1 seksi 1. Penelitian ini dilakukan dengan mencatat aktivitas pekerjaan pengeboran *bore pile* penggunaan mesin *rotary drilling rig*. Hasil pengamatan dianalisis untuk mendapatkan nilai produktivitas, faktor – faktor yang memengaruhi, dan estimasi biaya pelaksanaan dilapangan.

Hasil analisis menunjukkan bahwa nilai produktivitas pada P37 yaitu 7,28m/jam dan produktivitas pemasangan casing 5 casing/jam dengan estimasi biaya pelaksanaan pekerjaan pondasi bore pile yaitu Rp. 953.515.993,06, sedangkan nilai produktivitas pada P63A yaitu 4,78 m/jam dan produktivitas pemasangan casing 5 casing/jam dengan estimasi biaya pelaksanaan pekerjaan pondasi bore pile yaitu Rp. 1.438.907.395,61. Terdapat juga beberapa faktor memiliki pengaruh signifikan terhadap produktivitas mesin *rotary drilling rig*. Faktor-faktor tersebut antara lain karakteristik tanah, kondisi alat berat, pekerja, dan manajemen.

Kata kunci: bore pile, *rotary driliing rig*, produktivitas, durasi

ABSTRAK

The use of heavy equipment in carrying out Bore Pile foundations is very important to facilitate work on a large scale. Selection of the type, size and number of heavy equipment must be appropriate. However, the drilling process using Rotary Drilling Rig heavy equipment at the elevated 3 and elevated 2 locations takes a long time, causing obstacles to other work. In this study an analysis of productivity, influencing factors, and the cost of bore pile drilling work will be carried out based on direct field observations.

The research was conducted on the Jogja-Bawen Paket 1 toll road construction project section 1. This research was conducted by recording bore pile drilling work activities using a rotary drilling rig machine. Observations were analyzed to obtain productivity values, influencing factors, and estimated costs for field implementation.

The results of the analysis show that the productivity value at P37 is 7.28m/hour and the casing installation productivity is 5 casing/hour with an estimated cost of carrying out the bore pile foundation work of Rp. 953,515,993.06, while the productivity value at P63A is 4.78 m/hour and casing installation productivity is 5 casing/hour with an estimated cost of carrying out bore pile foundation work of Rp. 1,438,907,395.61. There are also several factors that have a significant influence on the productivity of the rotary drilling rig machine. These factors include soil characteristics, condition of heavy equipment, workers and management.

Keywords: *pile bore, rotary drilling rig, productivity, duration.*