ABSTRACT

To improve the efficiency of the surface preparation process prior to oil, gas drilling in East Kalimantan using methods previously clampshell Excavation with capacity 200 m$^3$/hours, then planned an analysis by using the backhoe dredger method. The selection method by backhoe dredger because it having characteristics similar to clampshell Excavation methods.

Work recently performed the task with multiple stages arranged in a method. Some of these stages is the study of literature, survey data mengumpulan, election backhoe type excavators, bucket mud modifications to the calculation of cycle capacity, backhoe center of gravity calculation excavator, planning pontoon boat as a dredger ship, and stability calculations. Results of the survey data analysis of soil type, initial depth, final depth of maximum, maximum area and tidal conditions.

Backhoe dredger was planning to use the type excavator Liebherr 995 with a maximum P Dredging depth 27 meters. Mud replacement modifications made to the excavator bucket to achieve the target cycle better than clampshell Excavation methods. Lines for planning and general plan of arrangement will be undertaken by considering the condition survey data and performed calculations that include stability and extends transverse stability. Based on the planning made backhoe dredger was found that more productive and efficient with a capacity of 1252 m$^3$/hours. Operational stability is very good with 3 fruit Spud as anchoring system.

Keyword: clampshell excavation, backhoe dredger, mud bucket, anchoring system, stability