

ABSTRACT

COMPARATIVE STUDI OF 3 STAGE & 5 STAGE IN PLUG & ABANDONMENT BALANCED PLUG CEMENTING METHOD WELL “NOV-01” FIELD “VITA”

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NOV-01 well is a directional drilled well with a final depth of 5300 ftMD/ 4848 ftTVD. At the NOV-01 well, there was a problem with fish starting with a stuck pipe problem which caused several BHA sequences to be left in the well. Fishing job has been done, but to no avail. In addition, there is a land issue where to continue well operations requires a land lease of ± 1 billion/month. After an economic evaluation was carried out, the condition of the well which had a fairly high risk and used leased land, made the marginal economic side of the NOV-01 well uneconomical and it was decided to carry out P&A.

The methodology used in this research is qualitative and quantitative. In planning plug & abandonment activities on the NOV-01 well, it is carried out by making a work program plan such as determining the intervals for the depth of the well to be plugged, the volume of cement slurry, the volume of additives, and the method used, namely the rig method. The planning for plug & permanent abandonment is based on the existing standards and regulations in Indonesia, namely SNI 13-6910-2002 and NORSOK D-010.

Based on the results of a comparative study by comparing P&A calculations and planning, 279 sacks of cement were required for the 3 stages and 450 sacks for the 5th stage with a density of 15.8 ppg. The cement additives used were defoamer (CAF-070), friction reducer cement (CDP-040), fluid loss control liquid (CFL-010), bonding agent (CBA-030), and gelling agent. Completion fluids used as a whole are NaCl, soda ash, and barite. Implementation of P&A on the NOV-01 well uses a rig with a power rating capacity of 450 HP. For 3 stages it takes 9 days of operation and 5 stages for 11 days of operation. The total estimated cost comparison for P&A of the NOV-01 well is IDR 6,128,964,890.31 for 3 stages and IDR 8,587,947,718.62 for 5 stages. In the NOV-01 well, the recommended P&A is 5 stages by considering the safety aspects of the well when abandoned.

Keywords: fish , plug & abandonment, rig method, work program