

## ABSTRACT

*Every drilling activity is expected to run smoothly without any problems that can hinder the drilling process. However, it is undeniable that drilling problems exist in every drilling process, one of which is a pinched pipe. Pinched pipe is one of the main challenges in the world of drilling that is almost always encountered. This incident resulted in the loss of most of the drilling time and costs. In general, there are three types of pipe stuck, namely mechanical pipe sticking, differential pipe sticking and key seats.*

*What will be analyzed in this research is the pipe sticking problem that occurs in the ASK-01 well when the 8 3/8" route reaches a depth of 8291 ftMD. Where at that depth is still the Upper Cibulakan Formation with rock lithology consisting of 40% shalestone, 25% siltstone, 20% sandstone, 10% limestone and 5% coal. The analysis is carried out to determine the type and factors causing pipe sticking and to determine the clamping mechanism that occurs by taking into account several aspects, namely from the rock lithology aspect, borehole geometry, drilling parameters, drill pipe circuit load and drilling mud.*

*The results of the analysis that was carried out at a depth of 8100 – 8291 ft MD obtained a CEC value of 28 meq/100 gram which was included in the soft shale category. At this depth there are also siltstone and limestone rocks with coal inserts that are brittle and can cause the formation to fall and settle. From the results of the dog leg survey analysis, nothing is greater than the price of dog leg severity. The results of the analysis of the drilling parameter aspect show that the actual WOB value is still below the maximum allowable WOB limit, which is 12000 lbs < 55305 lbs. The results of the pull analysis performed at 300 klbs, are still safe to do because the maximum pull or margin of overpull that can be carried out is 308858 lbs. The results of the analysis of the pressure difference obtained are 211 psi which indicates differential pipe sticking. Then the analysis of cutting removal obtained a Ft value of 76.25%, Ca of 0.75%, hole cleaning percentage of 63% and a PBI value of 1 which indicates the cutting almost settles because it is not lifted properly to the surface. The initial effort made to free the series of stuck pipes was to perform a tensile test and the clamping point was found to be at a depth of 8142.9 ftMD and the attempt to free the stuck pipe was successful after the third attempt by pumping 15% HCl acid as much as 10 bbls + 15 bbls and Jar Up.*

**Keywords:** Pipe Stuck, Differential Pipe Sticking, Mechanical Pipe Sticking