

RINGKASAN

ANALISA DAN PENANGGULANGAN *PROBLEM* PENYEBAB CASING 9 5/8” STUCK PADA *HOLE SIZE* 12 ¼” SUMUR “B-6” LAPANGAN “KRAJAN”

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Permasalahan pipa atau *casing stuck* dalam operasi pemboran suatu sumur sering kali terjadi yang diakibatkan oleh faktor alami maupun faktor kesalahan mekanis perencanaan oleh *engineer* ketika waktu operasi. Masalah ini pasti akan menyebabkan hilangnya sebagian besar waktu dan biaya operasi sehingga dapat menambah NPT dan merugikan perusahaan. *stuck* yang sering terjadi ada dua jenis yaitu *Mechanical* dan *differential*. Kronologi yang terjadi pada sumur “B-6” yaitu ketika dilakukan *Running In Hole* (RIH) dan *reaming down* menuju kedalaman target 7886 MDft untuk *casing* 9 5/8” pada *hole* 12 ¼” sumur “B-6” pada lapangan “Krajan”, *casing* mengalami *stuck* pada kedalaman 5295 ftMD.

Pada skripsi ini akan menganalisa tentang penyebab inti serta penanggulangan *problem casing* 9 5/8” yang mengalami *stuck* pada *Hole Size* 12 ¼” pada kedalaman 5295 ftMD formasi Serevalian *Sand* sumur “B-6” lapangan “Krajan”. Tujuan dilakukannya analisa untuk menentukan jenis, faktor penyebab, mekanisme pembebasan dan pencegahan *problem pipe sticking*. Beberapa aspek yang diperhitungkan yaitu aspek lithologi batuan, geometri lubang bor, parameter pemboran, parameter rangkaian pipa bor dan lumpur pemboran.

Adanya kombinasi *problem* yaitu akibat *differential force* sebesar 1092,524 psi dan *mechanical* yang berjenis *pack off* akibat formasi *sand* dan *shale* yang *unconsolidated*, adanya riwayat *problem splintery caving*, dan *hole cleaning* yang buruk yang mengakibatkan adanya *settled cutting*.

Upaya penanganan dengan menurunkan tekanan hidrostatik lumpur tidak menjadi pilihan karena dapat memperburuk masalah *mechanical sticking*, sehingga dilakukan pemotongan *casing* dan metode *sidetrack* dengan inklinasi sebesar 26,86°. Langkah-langkah pencegahan seperti pengamatan terhadap *mud weight*, analisa *lithology* formasi dan evaluasi kondisi formasi secara berkala. Apabila *problem loss circulation* ini masih tidak dapat diatasi maka direkomendasikan dengan menggunakan metode *Manage Pressure Drilling (MPD)*.

Kata kunci: *casing stuck*, *differential force*, *pack off*, *cut pipe*, *sidetrack*

ABSTRACT

ANALYSIS AND TROUBLESHOOTING OF THE CAUSE OF 9 5/8" CASING STUCK IN HOLE SIZE 12 1/4" OF WELL "B-6" "KRAJAN" FIELD

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The problem of stuck pipe or casing in the drilling operation of a well often occurs due to natural factors or mechanical planning errors by the engineer during operation time. This problem will inevitably cause the loss of most of the time and operating costs so that it can increase NPT and harm the company. stuck that often occurs there are two types, namely Mechanical and differential. The chronology that occurred in the "B-6" well is that when Running In Hole (RIH) and reaming down to the target depth of 7886 MDft for the 9 5/8" casing in the 12 1/4" hole of the "B-6" well in the "Krajan" field, the casing got stuck at a depth of 5295 ftMD.

This thesis will analyze the core cause and problem solving of 9 5/8" casing stuck in Hole Size 12 1/4" at 5295 ftMD depth in Serevalian Sand formation of "B-6" well in "Krajan" field. The purpose of the analysis is to determine the type, causal factors, release mechanism and prevention of pipe sticking problems. Several aspects are taken into account, namely aspects of rock lithology, borehole geometry, drilling parameters, drill pipe circuit parameters and drilling mud.

There is a combination of problems, namely due to differential force of 1092.524 psi and mechanical pack off due to unconsolidated sand and shale formations, a history of splintery caving problems, and poor hole cleaning resulting in settled cutting.

Treatment by lowering the mud hydrostatic pressure was not an option as it could exacerbate the mechanical sticking problem, so a casing cut and sidetrack method with an inclination of 26.86° was employed. Preventive measures such as observation of mud weight, formation lithology analysis and regular evaluation of formation conditions. If the loss circulation problem still cannot be resolved, it is recommended to use the Manage Pressure Drilling (MPD) method.

Keywords: casing stuck, differential force, pack off, cut pipe, sidetrack