

## RINGKASAN

### **PERENCANAAN CEMENTING PLUG & PERMANENT ABANDONMENT METODE BALANCE PLUG CEMENTING PADA SUMUR “RS-01” LAPANGAN “EN”**

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Sumur RS-01 merupakan tipe sumur *directional* yang pengeborannya dilaksanakan pada tahun 2010, dengan kedalaman akhir 5300 ftMD/ 4848 ftTVD. Sumur RS-01 terdapat *problem* kepasiran yang tergolong tinggi dan menyebabkan terjadinya *stuck pipe* dimana tertinggalnya rangkaian *BHA (Bottom Hole Assembly)*. Penanggulangan dengan *fishsing job* telah dilakukan namun tidak mendapat hasil yang diharapkan. Kondisi dari sumur RS-01 yang memiliki kerusakan dan lahan yang digunakan merupakan lahan sewa maka diambil keputusan untuk *plug & abandonment*.

Metodologi yang digunakan dalam penelitian ini merupakan metode kualitatif dan metode kuantitatif. Metode kualitatif dimaksudkan untuk menganalisa masalah pada sumur dan metode kuantitatif dimaksudkan untuk melakukan *work program* perancangan *slurry* yang digunakan untuk *plug & abandonment*. Metode yang digunakan pada perencanaan *plug & abandonment* adalah *balance plug cementing* dimana perencanaan *plug & permanent abandonment* sumur RS-01 mengikuti regulasi SNI 13-6910-2002 dan NORSOK D-010.

Berdasarkan hasil perencanaan *plug & abandonment* dibutuhkan semen sejumlah 496 *sack* dengan densitas 15,8 ppg. Jenis aditif yang ditambahkan berupa *defoamer* (CAF-070), *friction reducer cement* (CDP-040), *fluid loss control liquid* (CFL-010), *bonding agent* (CBA-030), dan *gelling agent*. *Completion fluid* yang digunakan secara keseluruhan yaitu NaCl, *soda ash*, dan *barite*. Perencanaan *plug & abandonment* sumur RS-01 menggunakan *rig* dengan kapasitas *power rating* 450 HP yang dilakukan selama 9,4 hari operasi. Estimasi biaya yang dibutuhkan sebesar Rp 8.463.015.411,37- dimana merupakan keseluruhan biaya yang dibutuhkan dalam perencanaan *plug & abandonment* Sumur RS-01.

Kata kunci : *Plug & Abandonment, Work Program, Balance Plug, dan Metode Rig*

## **ABSTRACT**

### ***PLANNING OF CEMENTING PLUG & PERMANENT ABANDONMENT OF BALANCE PLUG CEMENTING METHOD IN WELL “RS-01” OF FIELD “EN”***

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*The RS-01 well is a directional type well that was drilled in 2010, with a final depth of 5300 ftMD / 4848 ftTVD. The RS-01 well had a high sand problem that caused a stuck pipe where the BHA (Bottom Hole Assembly) was stuck. Countermeasures with fishing jobs have been carried out but did not get the expected results. The condition of the RS-01 well that has damage and the land used is leased land, the decision is made to plug & abandonment.*

*The methodology used in this research is qualitative method and quantitative method. The qualitative method is intended to analyze the problems in the well and the quantitative method is intended to carry out a slurry design work program used for plug & abandonment. The method used in plug & abandonment planning is balance plug cementing where the RS-01 well plug & permanent abandonment planning follows the SNI 13-6910-2002 and NORSOK D-010 regulations.*

*Based on the plug & abandonment planning results, 496 sacks of cement with a density of 15.8 ppg were required. The types of additives added were defoamer (CAF-070), friction reducer cement (CDP-040), fluid loss control liquid (CFL-010), bonding agent (CBA-030), and gelling agent. Completion fluid used as a whole is NaCl, soda ash, and barite. The RS-01 well plug & abandonment planning uses a rig with a power rating capacity of 450 HP which is carried out for 9,4 days of operation. The estimated cost required is Rp 8.463.015.411,37- which is the total cost required in planning the RS-01 Well plug & abandonment.*

*Keywords: Plug & Abandonment, Work Program, Balance Plug, and Rig Method*