

## RINGKASAN

### ***WORK PROGRAM AND BUDGETING PERMANENT PLUG & ABANDONMENT SUMUR “YL-88” LAPANGAN “ANS”***

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Sumur “YL-88” merupakan sumur yang dibor secara *vertical* dengan kedalaman akhir 2.400 mMD/ 7.874 ftMD. Pada sumur ini dilakukan perencanaan *permanent plug and abandonment*, karena sumur tersebut termasuk didalam *screening criteria* sumur yang dapat dilakukan *permanent plug & abandonment* yaitu tidak ditemukannya hidrokarbon (*dry hole*). Selain itu sumur ini juga memiliki kandungan *sour gas* tinggi dari kontaminasi gas CO<sub>2</sub> dan gas H<sub>2</sub>S.

Metodologi yang digunakan dalam skripsi ini yaitu kuantitatif. Pada kegiatan *permanent plug & abandonment* pada sumur “YL-88” dilakukan dengan menyusun rencana *work program* yaitu menghitung dan menentukan interval-interval kedalaman sumur yang di *plug*, *volume additives*, dan *platform* yang akan digunakan. P&A dilakukan sesuai dengan regulasi yang digunakan yaitu SNI 6910:2022 dan NORSOK *Standard D-10*.

Berdasarkan hasil perhitungan dan perencanaan yang dilakukan, terdapat 3 *section* yang akan di *plug* yaitu *section 1*, *section 2*, dan *section 3*. Jumlah *sack* semen yang dibutuhkan sebanyak 984 *sack* dengan densitas *section 1* yaitu 15,86 ppg, *section 2* yaitu 15,69 ppg dan *section 3* yaitu 15,61 ppg. *Additive* semen yang digunakan yaitu enhancer 923 (*microblock*), D Air-2L (*defoamer*), halad-344 (*fluid loss*), *Silicalite Liquid*, SCR-100 (*retarder*), CFR-3L (*dispersant*), halad-413L, *gel modifier* dan SSA-1 (*strength stabilizer agent*). *Mud* yang digunakan secara keseluruhan yaitu bentonite, barite, PAC-L, KCL, dan KOH. P&A dilakukan menggunakan *rigless* jenis *Coiled Tubing Unit* (CTU). Estimasi biaya yang dibutuhkan menurut perhitungan penulis sebesar 523.396,38 USD atau Rp8.463.319.443,79 pada 1 Mei 2024.

Kata kunci: CO<sub>2</sub>, CTU, *dry hole*, H<sub>2</sub>S, *plug and abandonment*, WP&B

## ABSTRACT

### **WORK PROGRAM AND BUDGETING PERMANENT PLUG & ABANDONMENT OF WELL “YL-88” FIELD “ANS”**

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*Well “YL-88” is a vertical well with a total depth of 2.400 mMD/7.874 ftMD. This well was planned for permanent plug and abandonment (P&A) because the well was included in the screening criteria for P&A, including the absence of hydrocarbons (dry hole) and high sour gas content with CO<sub>2</sub> and H<sub>2</sub>S contamination.*

*The methodology used in this thesis is qualitative and quantitative. The P&A activities on Well “YL-88” involved developing a work program that included calculating and determining the wellbore interval to be plugged, the volume of additives, and the platform that will be used. The P&A was carried out in accordance with SNI 6910:2022 and NORSOK Standard D-10 regulations.*

*Based on the results of calculations and planning carried out, 3 sections will be plugged, namely section 1, section 2, and section 3. The number of sacks of cement required is 984 sacks with the density of section 1 being 15, 86 ppg, section 2 which is 15.69 ppg, and section 3 which is 15.61 ppg. The cement additives used are enhancer 923 (microblock), D Air-2L (defoamer), halad-344 (fluid loss), Silicalite Liquid, SCR-100 (retarder), CFR-3L (dispersant), halad-413L, gel modifier and SSA-1 (strength stabilizer agent). The muds used overall are bentonite, barite, PAC-L, KCL, and KOH. P&A is carried out using a rigless Coiled Tubing Unit (CTU) type. The estimated costs required according to the author's calculations are 523.396,38 USD or Rp8.463.319.443,79 on 1<sup>st</sup> of May 2024.*

*Keywords: CO<sub>2</sub>, CTU, dry hole H<sub>2</sub>S, plug and abandonment, WP&B*