

## RINGKASAN

Pemboran sumur “FI-010” di Lapangan “TK” merupakan sumur eksplorasi, pada saat operasi pemboran berlangsung hingga target kedalaman tidak terdapat masalah, setelah mematikan pompa dan hendak mencabut rangkaian terjadi *problem well kick* di kedalaman 6218 ft TVD / 6812 ft MD yang ditandai dengan tetap adanya aliran walaupun pompa telah dimatikan.

Dalam melakukan evaluasi ini, langkah awal yang dilakukan adalah pengumpulan data lapangan, meliputi data rencana pemboran dan data pelaksanaan menggunakan *grafik pressure window* dan *masterlog*. Selanjutnya menentukan tekanan formasi, menentukan tekanan hidrosttik, menentukan pressure loss untuk menentukan tekanan hidrodinamik, menentukan volume lumpur untuk mencapai KMW dan jumlah sack barite yang digunakan, menentukan tinggi jumlah stroke pompa untuk membunuh kick, menentukan interval waktu pengontrolan selama penanggulangan *well kick*, menentukan (ICP) *Initial Circulation Pressure* dan (FCP) *Final Circulation Pressure*, menentukan *pressure drop* per stroke pada pompa, menentukan (ECD) *Equivalent Circulating Density*, menentukan (BHCP) *Bottom Hole Circulating Pressure*, menentukan Harga *Maximum Allowable Mud Weight* (MAMW), menentukan *Maximum Allowable Casing Pressure* (MACP), menentukan harga SIDP setelah sumur dimatikan. Selanjutnya dilakukan penanggulangan *well kick* menggunakan metode *Engineer*.

Berdasarkan hasil perhitungan, tekanan formasi pada kedalaman 6218 ft sebesar 3522 psi sudah cukup ditanggulangi dengan KMW sebesar 10.9 ppg sehingga dibutuhkan penambahan barite sebesar 1443.355707 sack. Dari hasil perhitungan didapatkan *Initial Circulating Pressure* (ICP) sebesar 633 psi dan *Final Circulating Pressure* (FCP) sebesar 174 psi. Jumlah stroke pompa yang dibutuhkan untuk mematikan kick sebesar 6958 strokes dengan waktu sirkulasi selama 117.94 menit. *Well kick* berhasil ditanggulangi yang ditandai dengan tidak adanya aliran pada saat pompa lumpur dimatikan dan harga SIDP yang menunjukkan nilai 0 psi.

Kata Kunci : *Wellkick, Blow out, Metode Engineer, SIDP*

## ABSTRACT

*The drilling of the "FI-010" well in the "TK" Field is an exploratory well, during the drilling operation there were no problems with the target depth, after turning off the pump and about to remove the circuit there was a well kick problem at a depth of 6218 ft TVD / 6812 ft MD marked flow even though the pump has been turned off.*

*In carrying out this evaluation, the initial step taken was field data collection, including drilling plan data and execution data using pressure window charts and masterlogs. Next determine the formation pressure, determine the hydrostatic pressure, determine the pressure loss to determine the hydrodynamic pressure, determine the volume of mud to reach KMW and the number of sacks of barite used, determine the height of the number of pump strokes to kill the kick, determine the control time interval during well kick countermeasures, determine (ICP) Initial Circulation Pressure and (FCP) Final Circulation Pressure, determine the pressure drop per stroke on the pump, determine (ECD) Equivalent Circulating Density, determine (BHCP) Bottom Hole Circulating Pressure, determine Maximum Allowable Mud Weight (MAMW) Price, determine Maximum Allowable Casing Pressure (MACP), determines the SIDP price after the well is shut down. Then the well kick countermeasures are carried out using the Engineer's method.*

*Based on the calculation results, the formation pressure at a depth of 6218 ft of 3522 psi is sufficient to overcome with a KMW of 10.9 ppg so that an additional barite of 1443.355707 sacks is needed. From the calculation results obtained Initial Circulating Pressure (ICP) of 633 psi and Final Circulating Pressure (FCP) of 174 psi. The number of pump strokes needed to turn off the kick is 6958 strokes with a circulation time of 117.94 minutes. The well kick has been successfully resolved which is indicated by no flow when the mud pump is turned off and the SIDP value shows a value of 0 psi.*

*Keywords: Wellkick, Blow out, Engineer Method, SIDP*