

RINGKASAN

EVALUASI POMPA *SUCKER ROD* TERPASANG SUMUR "FZ-01" LAPANGAN "ABR" PT PERTAMINA EP CEPU

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Sumur kajian FZ-01 terletak di Lapangan "ABR" yang termasuk wilayah kerja PT Pertamina EP Cepu Regional 4 Zona 11 *Field* Cepu. Sumur FZ-01 berproduksi dengan *artificial lift* jenis *sucker rod pump* dengan tipe C-114D-143-64 dan *grade rod* API C. Pompa dipasang pada kedalaman 2615.39 ft, dengan kecepatan pompa 6 SPM, panjang langkah 54 in, dengan *water cut* 72.83% Sumur FZ-01 berproduksi dengan Q_L sebesar 70.04 Blpd dan Q_O sebesar 19.03 Bopd. Efisiensi volumetris pompa SRP yang terpasang pada Sumur FZ-01 sebesar 69.45 %. Evaluasi *sucker rod pump* pada Sumur FZ-01 dilakukan karena nilai efisiensi volumetris pompa terpasang kurang dari 70%.

Metode dalam penyusunan skripsi ini adalah melakukan evaluasi *sucker rod pump* terpasang berdasarkan data *dynamometer card*, beban-beban pada pompa, dan efisiensi volumetris pompa. Tahapan dalam pengerjaan skripsi ini adalah pengumpulan data, menganalisa produktivitas formasi, dan melakukan evaluasi pompa terpasang. Evaluasi pompa terpasang dilakukan menggunakan data *dynagraph*, data *well profile*, data pompa terpasang, dan data produksi.

Analisa secara kualitatif *dynamometer card* Sumur FZ-01 mengindikasikan adanya *problem* kebocoran pada *standing valve*. Evaluasi pompa *sucker rod* dilakukan dengan mengubah *stroke length* (S) sesuai dengan *pumping unit* terpasang dan kecepatan pompa (N) terhadap laju produksi. Berdasarkan hasil evaluasi, dapat dilakukan penggantian *stroke length* pada 64 in dengan kecepatan pompa 5 spm, sehingga didapatkan Q_L sebesar 73.8 Blpd dengan Q_O sebesar 20.05 Bopd dan efisiensi pompa sebesar 72.5 %.

Kata kunci: Evaluasi, *sucker rod pump*, *stroke length*

ABSTRACT

EVALUATION OF SUCKER ROD PUMP ATTACHED WELL "FZ-01" FIELD "ABR" PT PERTAMINA EP CEPU

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The FZ-01 study well is located in the "ABR" Field which is part of the working area of PT Pertamina EP Cepu Regional 4 Zone 11 Cepu. The FZ-01 well produces with an artificial lift type sucker rod pump with type C-114D-143-64 and grade rod API C. The pump is installed at a depth of 2615.39 ft, with a pump speed of 6 SPM, a stroke length of 54 in, with a water cut of 72.83% of the FZ-01 well which produces 70.04 Blpd of Q_L and 19.03 Bopd of Q_o . The volumetric efficiency of the SRP pump which was installed in the FZ-01 well is 69.45%. The optimization of the sucker rod pump in the FZ-01 well was carried out because the volumetric efficiency value of the pump installed was less than 70%.

The method used in this research is evaluating the installed sucker rod pump based on data from the dynamometer card, the loads on the pump, and the volumetric efficiency of the pump. The stages used in this thesis are collecting data, analyzing formation productivity, and evaluating installed pumps. The evaluation stage of installed pumps used dynagraph data, well profile data, installed pump data, and production data.

Based on the qualitative analysis of the well FZ-01 dynamometer card, it indicates there is a standing valve leak problem. The evaluation of the sucker rod pump was obtained by changing the stroke length (S) according to the installed pumping unit and pump speed (N) to the production rate. Based on the evaluation results, the replacement of the stroke length at 64 in with a pump speed of 5 spm produces 73.8 Blpd of Q_L with 20.05 Bopd of Q_o and 72.5% of pump efficiency.

Keywords: Evaluation, sucker rod pump, stroke length