Analisis keekonomian perluasan fasilitas produksi migas di lapangan X = Economic analysis of oil gas production facilities expansion in field X

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Abstrak

[ABSTRAK
Produksi gross existing Lapangan X sekitar 4500 bpd (barrel per day). Rencana jangka panjang Lapangan X adalah infill drilling, work over, serta optimasi lifting minyak dan gas dengan target produksi gross 9000 bpd. Karena kapasitas maksimum dari fasilitas yang telah terpasang tidak mampu memenuhi target produksi jangka panjang, maka diperlukan penelitian penambahan peralatan produksi. Tujuan dari penelitian ini adalah untuk mengetahui alat-alat yang perlu ditambahkan serta kapasitasnya dengan memperhatikan sisi keekonomiannya. Pada penelitian ini dilakukan simulasi produksi dengan variasi laju produksi. Penelitian dilakukan dengan menggunakan 3 skenario, Skenario I dengan laju produksi 15 MMscfd; Skenario II dengan laju produksi 20 MMscfd; Skenario III dengan laju produksi 25 MMscfd. Penambahan kapasitas fasilitas produksi dilakukan jika kenaikan laju produksi mencapai 30%. Hasil yang diperoleh menunjukkan bahwa skenario terbaik ialah Skenario III. Peralatan yang perlu ditambahkan pada Skenario III adalah separator HP, separator LP, scrubber HP dan kompresor. Dari Analisis keekonomian yang dilakukan pada skenario III menunjukkan bahwa nilai IRR sebesar 44%, NPV pada 12%DF sebesar MUS$ 5.852,94 dan payout time 3,2 tahun.
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ABSTRACT
Gross existing production of Field X is around 4500 bpd (barrel per day). The long-term plan of Field X are infill drilling, work-over, as well as optimization of oil and gas lifting with gross production target of 9000 bpd. Because the capacity of the existing facilities are unable to fullfill production target, then a research to investigate the addition of facilities is needed.This research will be carried out by doing simulation with varying production rate.Three scenarios have been investigated, i.e. Scenario I with production rate of 15 MMscfd; Scenario II of 20 MMscfd; Scenario III of 25 MMscfd. Capacity production facility is uprated if the increase in the rate of production reaches 30%. The results show that the best scenario is Scenario III. Equipment to be added in the Scenario III are HP separator, LP separator, scrubber HP and compressor. The economic analysis show that Scenario III is attributed to IRR of 44%, NPV of MUS $ 5,852.94 at 12% DF and the payout time of 3.2 years., Gross existing production of Field X is around 4500 bpd (barrel per day). The long-term plan of Field X are infill drilling, work-over, as well as optimization of oil and gas lifting with gross production target of 9000 bpd. Because the capacity of the existing facilities are unable to fullfill production target, then a research to investigate the addition of facilities is needed.This research will be carried out by doing simulation with varying production rate.Three scenarios have been investigated, i.e. Scenario I with production rate of 15 MMscfd; Scenario II of 20 MMscfd; Scenario III of 25 MMscfd. Capacity production facility is uprated if the increase in the rate of production reaches 30%. The results show that the best scenario is Scenario III. Equipment to be added in the Scenario III are HP separator, LP separator, scrubber HP and compressor. The economic analysis show that Scenario III is attributed to IRR of

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