ABSTRACT

The P-900 well is one of the reactivation wells, producing in the 165 MZ zone. The well was produced with a PCP (Progressive Cavity Pump) artificial lift, the average production of the well was: Gross 70 bopd, Oil 41 bopd and WC (Water Cut) 41%, so it immediately became a priority well in the TARAKAN field. However, the well has a low PI (Productivity Index) and sand problems so that the well's production is not optimal. The LPO (Loss Production Oil) figure is high, and the lifetime of well production is only 18 days due to frequent well servicing to overcome sand problems.

An alternative solution of injecting formation air through the annulus has been carried out on the P-900 well, evaluation from the operational and economic aspects to find out whether this alternative solution is appropriate and in accordance with the conditions of the Tarakan field. Injecting formation air through the annulus has the aim of increasing the fluid column (submergence) of the pump so that the PCP pump does not run short (pump off). Apart from that, it can have the effect of reducing the concentration of sand that is produced, so that the PCP pump can work more optimally and have a longer production lifetime.

The results of the evaluation of the solutions carried out on the P-900 well, the problem of low PI (Productivity Index) and the sand problem have been resolved, the performance of the PCP pump has become more stable, causing an increase in production of 4,100 bbls of oil per year or 11.24 bopd or 43%, due to the Low and Off numbers being significantly reduced. Apart from that, we succeeded in making savings of USD 184,558 or IDR 2,768,370,000,- due to reduced Well Service costs.

Key words: low PI (Productivity Index), Sand Problems, Pump Off, LPO (Loss Production Oil), Low and Off well, Formation air injection.