

NEXT STEP: INCREASING PRODUCTION BY USING A 2-STAGES FILTRATION SYSTEM WITH A GAS SEPARATOR IN ROD PUMP

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To deal with gas and sand problems in their conversion and rod pump wells an operator in south Texas started introducing a combined technology of two-stages solid filtration with a modified poor boy gas separator obtaining excellent results. This paper explains the technology used and shares the information used to design the tools and the results achieved in the first wells completed.

The screening process to choose the best technology started trying different technologies for gas and sand control below the rod pump. Different technologies were revised sharing data like sand particle size, pump design, fluid production expected and wellbore configuration to get the best design from different companies. The technical and economic evaluation determined the combined system with two-stages filtration and gas separation was the best technology among all the installations. The results were spread to other wells, changing the configuration based on the well conditions but maintaining the same principle of operation.

After the installation of this technology in each well, it was clear a substantial increase in production among the wells was caused by the improvement in the pump cards after the installation. The downhole equipment has been able to handle better gas production and no sand problems have been reported so far. The success of this technology has extended the operational capabilities of the pumps, allowing the engineers to operate their wells better. Pump cards before and after the installation are summarized in the presentation to show evidence of the good results obtained.

After the wells are converted from ESP to rod pump or when the gas represents an issue in the rod pumped wells, the production engineers are limited in the drawdown and the production they can get out of the wells. We are presenting an alternative for the operators to optimize the production's BHA and overcome sand and gas problems that limit the ability to increase the income of the oil fields.