Innovative Design of a Packerless Gas Separator for Mitigating Gas Issues in ESP to Rod Pump Conversion and Enhancing Well Performance

This presentation describes the challenges faced by an operator in the Midland basin in the early conversion from electrical submersible pumps (ESPs) to rod pumps due to gas issues. Some examples are shown where the gas issues cause significant production losses of more than 150 BFPD after conversion, affecting the cashflow of the field. To address this challenge, a new packerless gas separator with an innovative design was evaluated and tried in this field located. The design allows for gas separation even in small casings, which has optimized wells and reduced, and in some cases eliminated, the loss of fluid production after conversion. The new gas separator has been tested in wells with gas productions as high as 800 MCFD and has shown promising results. This presentation provides technical details on the design, testing, and field application of the new packerless gas separator together with the pump parameters and setting points, which can be a valuable solution for the oil and gas industry in mitigating the gas issues in rod pump and improving well productivity.