

# **Exploring New Opportunities in Low Productive Horizontal Wells by Effective Well Utilization and Improving Productivity in Greater Burgan Field a Case Study**

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## **Abstract**

The Greater Burgan Field lies to the South east of Kuwait and has been producing consistently for more than 60 years. The majority of the production comes from Burgan reservoirs. The objective of this study was to analyze the potential of low productive horizontal wells and develop a process to improve their productivity. The horizontal wells in Greater Burgan Field are producing more than a decade. Initially the production rate of these wells were three to four time than the vertical wells, which helped to sweep faster oil in a record time. However, with time water cut started to increase with less oil production. The normal approach for such type of wells are to complete these wells with artificial lift, however, with high water cut the oil rate is not high. Another issue for these wells are artificial lift involves more expenditure and constant care. In the new process, cased hole logs were recorded in the shallower section and sometimes against two casings. Based on the potential, the wells completed in the shallower highly productive Burgan reservoir. This process implemented in four wells and the production rate of the wells increased by two to three times than the present rate. The horizontal wells were completed in a stacked fluvial-deltaic sand bodies of excellent reservoir quality, whereas the shallower reservoir is a mixed interval with a clear return to deltaic progradation marked by BGSU channel sandstones. The novel process effectively helped to utilize the wells for getting optimum dry production. In these wells, a deviation from classic bottom up approach considered by targeting dry oil first. New approach helped in increasing the life of well. The new process does not require any maintenance, which helped in the cost optimization. It also helped to achieve the production target and helped in cutting the cost of new well. This paper deals with the prolonging well surveillance activities like artificial lift and reducing water handling from the well. By using a novel process to complete the well in shallower reservoirs in BGSU channel sandstones, with improved productivity with dry oil production.