

An Offline Approach Utilizing New Slickline Technology

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Abstract

The oil and gas industry continuously strives to develop tools and techniques to meet and exceed operational objectives with less cost. These efforts have brought about advancements in downhole tools that enhanced slickline technology, making it a more versatile means of providing accurate depth measurement so that more complicated services can be performed¹. Likewise, development of slickline deployed inflatable packers also exemplifies the on-going industry endeavors to conform to a business model that simplifies costs, operations, and logistics². This case study involves work done on the Rang Dong Oilfield located 160 kilometers offshore S.R. Vietnam. In operation since 1998, this field has produced oil and gas from sandstone and granite basement reservoirs since 1998. In all four existing wells in this field that were studied, a workover campaign was performed to install gas lift valves because of declining reservoir pressure. To prevent formation damage while pulling the existing completions and running the new completions, with gas lift mandrels, isolation plugs were chosen to isolate the producing intervals. This technique was used because of its ability to minimize rig time by working offline and because the plugs could pass through a small restriction and set in the tubing joint of the tail pipe without requiring a landing nipple profile. The innovative techniques for well workovers used in this project utilized slickline deployed inflatable technology to provide economic alternatives traditionally reserved for more costly options. Borrowing from computer age terminology, this approach is known as the “offline” approach which conveys the meaning that well preparation work takes place before the rig is placed on location. As implemented, the plug isolated the formation from kill weight fluid before the rig was needed so that production tubing could be removed and reinstalled with gas lift mandrels. The use of this method reduced rig cost by an average of eighty-four hours per well and realized a savings of \$2MM for the entire project. Not addressed in this report is the incremental revenue generated by eight additional days of early production achieved by completing the project ahead of schedule.

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