

A Novel Conveyance Approach to Decrease Capital Expenditure in Deviated Wells

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Abstract

The scope of this project was to intervene in highly deviated wells without the use of wire line electric tractors. The main objective of this case study is to provide a technology which allows operators and service companies to optimize their intervention strategy by lowering cost and increasing flexibility within the intervention planning process. This technology has verified that extended target depth is feasible with slick line operations, minimizing the use of expensive electrically powered conveyance systems and also the operational risk. This novel UK Patented technology enables all types of operations to be carried out with a universal design for any down hole tool-string, offering an agile supply chain opportunity to the well intervention industry. This novel conveyance roller used, requires neither screws to assemble nor any special tools to service and redress between runs in the well. A patented interlock system was designed to retain all the components safely to reduce risk of human error and also allow field service during each operation, as required. With its automotive design characteristics and its high conveyance performance, this technology can deploy tool-strings faster and safer. Its integrated novel stabilization rollers prevent the tool-string scoring or damaging the tubing during deployment, but also enable more runs per day to be completed. The results obtained in this case study have clearly demonstrated that this novel technology has fully delivered on the objectives set through a series of operations in Africa, India and also South East Asia. In summary, the target depth was reached in all the deviated wells without the assistance of powered tractor(s). Operations were carried out using slick line tool strings, which kept operational cost to minimum. The operators involved, completed operations with minimal use of e-line operations, saving up to approximately 90% in rental equipment and significant cost in operational time.

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Biography

A lead design engineer and inventor with a background firmly anchored in technical manufacturing & production engineering. Creative engineer, driving technologies from

hand raft to commercial global products. Particularly skilled in leadership and knowledge transfer within teams and able to tactfully address industry key issues and challenges.