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Stop, Drop And Circulate, An Engineered Approach To Coiled Tubing Intervention in Horizontal Wells

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Complete Shale

Abstract:

In North America, the average cost of a coiled tubing intervention is $250,000. Experience shows that 30% of the wells will have cost overruns of more than $500,000. Additionally, 1 well in 16 has a stuck pipe event and consequently, the costs escalates to an average of $1.7 million per well.

This talk will share how and where coiled tubing is used around the world. Historical practices are reviewed and the issues associated with them.

Also, the need for engineering involvement to improve the coiled tubing intervention will be . This includes a road map for expected drag, detailed time modeling, fluid system planning and data capture. Planned short trips have been eliminated. Low viscosity fluids are used to provide superior hole cleaning. When overpull is observed, operators should stop pulling out of the hole, drop down, and circulate until the debris is removed.

This engineered solution has been performed on over 75 coiled tubing interventons. These procedural improvements reduced time on location by 50%, reduced cost by 50% and prevented any stuck pipe.

One take away: old, historical practices are not your friend in preventing stuck pipe. The solution: stop, drop and circulate.

Biography:

Charles Pope is the Completions Technology Supervisor at Devon Energy, where he leads a team focused on optimizing coiled tubing interventions. Charles has spent more than 35 years working on completions. He completed the first horizontal well in the Austin Chalk in the late 1980's. Charles serves on the SPE ATCE Well Completions Committee and SPE Workshop: Application of Integrated Diagnostics for Unconventional Resource Development Committee. He has authored multiple technical papers. Prior to joining Devon, he held various positions with Sun, XTO Energy and Pinnacle Technology. Charles has a Bachelor of Science in Petroleum Engineering from the University of Oklahoma.