Innovative Pumpdown Solutions Improve Operational Efficiencies

Downhole Tool Eliminates CT Run and Reduces Overall Fluid Volumes

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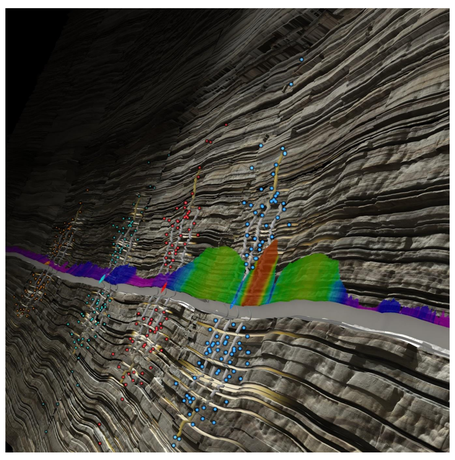

- In the case of a horizontal plug-and-perf style completion, one potential source of costs comes from unforeseen circumstances affecting wireline conveyed gun string that requires a coiled tubing (CT) unit or workover rig to correct. Some of these circumstances are caused by the tortuous path a wellbore takes through the formation.

- To help prevent unforeseen events down hole and to subsequently avoid any unnecessary costs, a downhole tension tool that is compatible with perforating gun strings was manufactured. This tool measures the tension or compression of the cable head in real time and relays the data to surface.

- With real-time downhole data, engineers at the surface can make proactive decisions about the tool motion down hole, eliminating the delay and muffled response caused by surface tension readings. These proactive decisions can help eliminate preset plugs down hole, unintentional pump offs, and many other costly unplanned events.

- In several instances, there has been definitive evidence that having a downhole tension tool has reduced the risk, and subsequently the cost, of a completion. In this case study, a costly CT conveyed perforating job was avoided based on the real-time information provided by the tool.

- Oil and gas is produced from more than 375 wells in the Denver-Julesburg basin, and more than 145 of those have been drilled since 2009.

- After experiencing problems completing wells on one pad in 2014, new pumpdown technologies were used to help avoid similar problems in a zipper frac on the next pad.

- Controlled comparisons provided insight into the value of using downhole visualization software and a downhole tension tool. Together, they sped up pumpdown operations, saved money and water, reduced nonproductive time, and helped place more proppant compared to traditional technologies used on the previous pad.

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