NEW FIELD IN EAST SIBERIA: CHALLENGES OF PERFORMING CT OPERATION ON VANKORSKOE FIELD

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ABSTRACT
The search for commercially viable oil reservoirs has led to expanding the frontiers of oilfield development. A new field in Russia known as Vankorskoe, which is 100 km north of the Arctic Circle in Siberia has been placed on production. This field is extremely isolated with winter access only by ice road and summer access by barge. The primary means of transportation is by helicopter.

Production from this field comes from producing zones at TVDs of 1680 m and 2780 m. Most of the wells are horizontal with a screen completion in the producing section.

Coiled tubing has been used in the Vankorskoe field since July 2008 to perform clean outs, kick offs, stiff wireline logging and hydrate removal operations. To date (Sept 23, 2009), 68 coiled tubing well interventions have been performed on 40 different wells.

The well profiles are designed with a reverse bend in it allowing the horizontal section of the wellbore to be directly beneath the wellhead. This profile has led to some challenges in reaching TD inside the 114 mm completion screen assemblies. Horizontal sections of up to 1000 m exist in these wells, which required the introduction of vibrator technology to this field. There is an 800 m thick layer of perma-frost which is coupled with extremely low reservoir temperatures.

This paper reviews the engineering, operational and logistical issues related to utilizing coiled tubing in a frontier field and the innovative solutions required to overcome these issues. It also discusses the expanded role that coil tubing will have as the field matures and production enhancements are required.

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