

Horizontal Well Journey to Increase Oil Recovery and Flatten the Oil Production Decline in the Gulf of Thailand

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Abstract

Horizontal wells have played an increasingly important role in the oil production of the Gulf of Thailand (GoT). The number of the horizontal wells accounts for 5% of the total oil wells. However, they deliver 30% of the GoT oil production with the best horizontal wells producing more than 1,000 BOPD. There are two main types of reservoir where the potential benefits of horizontal wells are observed: thin reservoirs and contact reservoirs. Horizontal wells drilled in thin reservoirs provide larger and more efficient drainage patterns leading to increased overall reserves recovery. In addition, Horizontal wells drilled in contact reservoirs helps to reduce the amount of water and/or gas coning within the reservoirs.

Operating strategies Horizontal Well Standard Operating Procedures (SOP) have been developed to ensure consistency in optimizing ultimate recovery. Inflow Control Devices (ICD) are commonly installed to balance inflow throughout the length of completion. A horizontal well surveillance project was initiated to gain better understanding of horizontal well performance in the Gulf of Thailand. This additional data will be analyzed to create a more robust operating strategy for the future. Horizontal Well Community of Practice (CoP) has also been initiated to disseminate knowledge and promote innovative application of horizontal well technology in Chevron Thailand. Through the CoP, continuous improvement in horizontal well design and operation will continue to flatten the production decline in the Gulf of Thailand.