Saudi Aramco Implements New LWD Technology for Well Placement in complex Clastic and carbonate reservoirs

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Saudi Aramco regards well placement or geosteering as a key discipline within its organization. It plays an important role in maximizing recovery factor and optimizes the applications of real time technology. Consequently the application of new LWD technologies is fundamental in the continuous improvement of the geosteering process.

Traditionally, the steering of horizontal wells was based on LWD measurements which rely on the sensors to actually arrive at the formation and obtain a measurement which can be then used to make the correct steering decision. This approach is a reactive approach. The implementation of deep and directional electromagnet measurements that can detect approaching bed boundaries up to fifteen feet enabled us to implement a proactive steering approach.

In this presentation we will describe how the well placement team implemented new technologies and workflows to address challenges associated with placing horizontal wells in both complex clastic and carbonate reservoirs.

The second example is from offshore clastic environment. The challenges faced by the well placement team here were related to the lateral variations associated with deltaic depositional environment.

This presentation will describe the workflow of the new technique and the learning points from the case studies presented here.