

The Trade-Offs in Drilling the Perfect Horizontal Well: “Hone the Zone” or “Just Drill It”

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The personalities of engineers and geoscientists are often very different. And when it comes to corporate risk assessment and reward systems, company incentives for these individuals can be counter to the overall corporate objectives: highest IP and superior well performance among their peer group. For example, drilling team metrics and service company personnel objectives may be counterproductive to pinpoint strata entry and maintaining geological target objectives (i.e. staying in zone); therefore the asset team misses the corporate goal for achieving the best possible productivity from their investment.

As a result of these sometimes divergent drivers and inherent dichotomies between asset team members, and other well operations participants, the results can sometimes become very evident. These noted conflicts can be due to many factors including individual incentives, different personas and simply, personal motivation. The ultimate outcome can be conflict between otherwise closely aligned asset team and service company participants.

We will explore the trade-offs of staying in the targeted zone (sweet spot) by carefully steering the well and monitoring every move along the way versus drilling ahead for maximum ROP (rate-of-penetration) and the least possible NPT (non-productive time). Several examples of recommended best practices for enhanced communications between team members and a better understanding of individual goals and compromises that can improve the overall outcome of a horizontal drilling program will be presented.

The goal of the paper is to provide a basis for better understanding what makes the drilling team itchy and uncomfortable versus the overall benefits of staying in zone ... sometimes

the extra deliberations or seemly costly modifications in a drilling plan do in fact pay big dividends ... or do they?

What both engineers and geologists need to know!

About the author:

KC Oren has been in the Oil and Gas E&P industry for over 30 years in both the drilling and geosciences sectors of the business. Early in his career Oren was a technical trainer for directional drilling and sub-surface surveying at Eastman-Whipstock and held technical roles in drilling engineering and formation evaluation R&D at Smith International, Teleco and Halliburton.

Next in Oren's maturing career he held technical sales positions for both drilling tools and steerable systems internationally and then later marketing software solutions for drilling engineering, production economics and G&G solutions at Munro-Garrett International, GeoGraphix, Landmark and Halliburton. Throughout Oren's career he has maintained roles for international business development at all levels including Managing Director for Asia Pacific operations based in Perth, Western Australia. He now resides in Frisco Colorado and is employed by Horizontal Solutions Int'l as Vice President for Sales and Marketing of HSI's TrueTime™ Solutions.

Oren has BA degrees in Chemistry and Mathematics (Michigan State University, '79, '80) and holds a teaching certification for secondary education (1980). Oren is a member of AAPG and SPE as well as many local chapters of the same organizations.