PTTC-EFD Workshop

April 16, 2015
Lakeview Resort & Spa
Morgantown, WV

Navigating the Bumps in the Road on the way to a Successful Horizontal Well

WHO SHOULD ATTEND

This introductory course is for anyone who wants to gain insight into both the geological and drilling aspects of horizontal well placement and control. Both geoscientists and drilling engineers will benefit by attending to learn about, and gain a better understanding of, these two disciplines and the trade-offs of both as they impact each other. This will lead to more effective decision support in meeting horizontal well objectives.

COURSE OBJECTIVES

By the end of this course, participants will have an understanding of:

- Best practices for avoiding problems in drilling horizontal wells
- The various drivers by department/discipline and the trade-offs in achieving common goals and working together as an asset team
- Geo-navigation techniques using TSP (True Stratigraphic Position) modeling
- Four key principles in geo-navigation
- Leveraging all of your data domains for sound geosteering decision support
- Every horizontal well project requires varying degrees of drilling monitoring and support
- Horizontal well targeting techniques and recommended best practices
- Overcoming subsurface position uncertainty and how it impacts your geosteering decisions
- Horizontal drilling systems and high dog-leg severity BHAs
- And many, many more objectives

COURSE CONTENT

The personalities of engineers and geoscientists are often very different. And when it comes to corporate risk assessment and company incentives, rewards for these individuals are often counter to the overall end goal: higher IP and superior well performance among the peer group. For example, drilling team metrics and operating personnel objectives are often counter to maintaining geological target objectives (staying in zone) and achieving maximum overall production (highest possible EUR). As a result, these divergent drivers may create conflict

between individuals due to dichotomies, their natural personas, inherent motivation and motivating company incentives, therefore creating clashes between what should otherwise be well-aligned asset team members working towards corporate success.

And now the technological advances that have occurred in recent years in drilling further and faster have many operating companies asking if we are drilling horizontal wells too fast for our own good? Understanding the trade-offs is critical and good science needs to be able to keep up with the factory approach to unconventional resource development.

We will explore the benefits of staying in the targeted zone and a narrower "sweet spot" by carefully steering the well and monitoring every move along the way versus drilling ahead for maximum ROP (rate-of-penetration) and less NPT (non-productive time). The goal of the workshop is to provide a basis for better understanding between disciplines and 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?

Attend this workshop to discover what both engineers and geologists need to know!

ABOUT THE INSTRUCTOR

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.

During the middle of Oren's career he held technical sales positions for both drilling tools and steerable systems internationally, and then positions for marketing E&P 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, including Managing Director for Asia Pacific operations based in Perth, Western Australia.

He resides in Frisco, Colorado and is employed by Horizontal Solutions Int'l (HSI) as Vice President for Sales and Marketing of HSI's TrueTime™ Solutions in the Northern North America and Internationally.

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

LOCATION & HOUSING

The conference will be held at Lakeview Resort & Spa, 1 Lakeview Drive, Morgantown, WV 26508; phone 866-608-5966. Lakeview is located 10 miles east of Morgantown, with easy access from I-68. Housing may be reserved by calling the hotel. Lakeview will offer a special room rate of $99/night for a limited time only. Mention WVU PTTC when making reservations.

REGISTRATION: ONLINE AND MAIL OPTIONS

The registration cost of $215 covers lunch, coffee breaks and all workshop expenses. **Pre-registration online is required by April 10 at:**

https://www.eventbrite.com/e/navigating-those-bumpson-the-way-to-a-successful-horizontal-well-tickets-15787421603

Payment by credit card or check is accepted. **To pay by check, select the small, blue "Show other payment options" link** immediately below the Order Now button on the website. Send checks to WVU NRCCE PTTC, attn.: Doug Patchen, PO Box 6064, Morgantown, WV 26506-6064. Make checks payable to the WVU Research Corp. and include "PTTC Successful Horizontal Well" on the memo line. **Checks must be received by April 10.**

On-site check in will begin at 8:00 a.m. The workshop will start at 9:00 a.m. and will end by 5:00 pm.

PDH CREDITS

PTTC will issue a certificate for six (6) Professional Development Hours at the end of the workshop. To receive this certificate at the workshop, **you must register in advance**.

For further information contact: Doug Patchen, at 304-293-6216, or doug.patchen@mail.wvu.edu