Industrial, Manufacturing & Systems Engineering

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11:00 AM – 11:50 AM

Livermore Center | Room 101

The Three Data Dark Ages of Spacing-Completion Optimization

ABSTRACT

The greatest challenge facing Permian Basin operators today and in the future is to determine the optimum well placement and spacing to maximize value for shareholders. The recent investor concern about "parent-child" degradation in recovery appears to be causing some operators to knee jerk and expand spacing. This could result in stranding reserves that might otherwise have been highly economic because operators and investors alike seem to lack the confidence to optimize rather than react. This episode highlights a genuine data and modeling problem that will likely destroy vast sums of wealth if left unsolved. The good news is this problem could be solved through a consortium blockchain data exchange that allows sufficient data to accomplish a reliable spacing optimization. Model technology already exists to discover reliable solutions in complex dynamical systems like Permian Basin horizontal benches. However, these models only work with sufficient volumes of data that are continuously updated and continuously validated.

Biography

Lewis Matthews was born and raised in the United Kingdom of Great Britain. At the age of 17 he emigrated to the USA and enlisted in the United States Navy where he served for 9 years as a Corpsman with Marines. Since then Lewis has received several degrees including economics, geology, and an MS in geophysics and seismology during which he independently discovered fractal clustering in petrophysical logs. He currently works for CrownQuest Operating as a data scientist where he evangelizes solutions to complex problems. To encourage understanding and broad collaboration across companies Lewis teaches machine learning applications for oil and gas problems. These workshops have proven to be incredibly popular and helpful to enhance the general understanding of the strengths and limits of these incredibly hyped technologies.