Analysis of Very Thin Stratigraphic Reservoirs: An Example from the Countess – Alderson Incised Valley of Southern Alberta

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Summary

One of our greatest challenges as Geoscientists is delimiting complex reservoirs which are unresolvable with conventional techniques. Here we work with an Incised Valley (IV) channel play from Canada, which seismically are represented by just one 30Hz wavelet. Additionally the channels are compound, having multiple 'cuts' as a response to sea level changes and paleo-geography. Often we are left with just remnants to identify, providing a challenge for Geoscientists who need to predict trends.

With the air to deliver a unified and detailed geologic model for the field, we have combined the paper interpretations into the Landmark environment, and using a multi-disciplinary approach have more accurately defined the IV channel container. We have also taken both a deterministic and probabilistic approach to refine facies and property modeling in order to build a 3D Geo-Cellular model, ready for simulation.

A natural fallout of this workflow is the strain we put on some products, allowing us to offer feedback and suggested enhancements to the Landmark product groups.

INTERACTIVE WORKSTATION VISUALIZATION