

## **RMS-SEPM talk January 2010**

### **A Framework for Finer-grained Fan Fringe Facies: Stratigraphy and Sedimentology of Distal Brushy Canyon Deposits, Delaware Basin, West Texas**

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The Permian Brushy Canyon Formation outcrop belt exposes a 55km oblique-to-dip transect of a submarine fan complex from shelf to basin floor. Extremely well documented paleogeography provides unparalleled context for pinpointing and understanding important source-proximal to source-distant variations in the stratigraphy, architecture, and sedimentology of these sand-rich deep water deposits. All proximal-distal variations have influences on sand body composition, texture, and geometry. These include a basinward 12% enrichment in feldspar, a change in architecture from abundant, thick, amalgamated channel complexes bounded by relatively sand poor interchannel deposits to infrequent, laterally offset, thinner channels within sandy interchannel deposits, and an up to 80% increase in occurrence of finer-grained, poorly sorted silty/micritic sandstone. In outcrops most distal from the sediment source, these finer-grained silty sandstones can comprise >90% of the strata present.

As exploration in unconventional reservoirs continues to expand, understanding the composition, origin and distribution of finer-grained facies as potential targets (or pitfalls) is gaining emphasis. Here, the focus will be on 1) petrographically describing the texture and composition of these finer grained facies, 2) experimentally testing hypotheses that describe the behavior of sediment gravity flows responsible for these facies, and 3) placing these facies within a paleogeographic and stratigraphic framework that reveal the universally applicable processes that control their distribution.

Kling Bio:

BSc. Geological Engineering, 2000, School of Mines

After which I worked 1 year in geotechnical consulting, at sites from Denver to Cripple Creek.

PhD. Geology, 2006, School of Mines, working the Brushy Canyon

3 years with EOG Resources, working Uinta, Green, Powder, and San Joaquin Basins.

Just received licensure as a Professional Geologist

Spend as much time as possible playing in the mountains.

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