

**AAPG International Conference  
Barcelona, Spain  
September 21-24, 2003**

Stephen P.J. Cossey<sup>1</sup> (1) Cossey & Associates Inc. geoconsulting, Houston, TX

**Obtaining 3D Information from 2D Outcrops of Deepwater Clastics**

Subsurface object modeling of Deepwater Clastics relies heavily on analogue outcrop dimensional data for architectural elements. Unfortunately, these outcrops are mostly 2D examples and good 3D outcrops are extremely rare. Object modeling of deepwater clastic reservoirs can be approached in two ways: a) Using a single analogue outcrop as a model and using all the architectural element data from that outcrop, or b) Using similar architectural elements from many outcrops and using a "Mix & Match" approach. The second method allows a population of data to be obtained which can fit the well or seismic data in the area to be modeled. The methodology described here uses outcrop analogue data compiled by this method.

A searchable Outcrop Database has been compiled over a period of many years containing length and thickness, facies, environment, paleocurrent, connectivity and grain size data for deepwater clastics. It is known from a few detailed subsurface and modern studies that architectural elements in deepwater environments are almost always longer in the direction of paleocurrent (the Y axis). The many outcrop analogues in the Outcrop Database contain all orientations from perpendicular to paleocurrent (the X axis) to parallel to paleocurrent (the Y axis). When the database is searched using the "Mix & Match" method, elements can be combined into one population and an estimate of the Y/X ratio (map view ratio) can be obtained. "Mix and Match" methodology applied to 2D outcrops supports the observation that elements are longer parallel to paleocurrent.