

**AAPG Annual Convention
Salt Lake City, Utah
May 11-14, 2003**

Gerard Dupont, TotalFinaElf, Pau, France

Reliability of West African Deep Offshore Reservoir-Model Using Biological Signatures of the Architectural Elements

West African deep offshore reservoirs in large scale channelized configurations have been studied to improve well locations and productivity. A close integration of seismofacies, sedimentology and biostratigraphy enable the discrimination of different types of clays with identification of their genetic origin. The extend and dynamic impact of the different permeability barriers can thus be evaluated.

Biostratigraphy is applied to the identification of sedimentary architectural elements which are first calibrated on features identified from wells and seismics : a catalogue of biological signatures of each architectural element was thus established, taking into account the specific comportment of species, regarding sedimentation rates and oxygen availability.

Signatures of the main turbiditic phases (build, cut, spill) and architectural element (channel, levees, lobes), are discriminated with this methodology, making biostratigraphy a significative contributor to enhance productivity of deep offshore reservoirs.