

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

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**Threading the Needle with 3-D Visualization Problem Solving and Well Bore Planning—Matagorda
Island 623 Field Case History**

Matagorda Island 623 Field is a major producing field in the offshore Texas expanded Lower Miocene Corsair Trend. Reservoir compaction and overburden subsidence, associated with pressure depletion of the main Siphona Davisi reservoir, have contributed to casing deformation and sustained casing pressure in well bore sections above this reservoir. Casing damage points in the wells were correlated against interpreted subsurface faulting and observable 3-D seismic control. Certain faults were identified as problematic and to be avoided in future wells. 3-D visualization of the structure and its intricate fault pattern indicated the extensiveness of the faults over the field and aided the resource team in effectively planning replacement wells. The software enhanced the interpretation of two orthogonal components of faulting, the shallowest of which was correlated with the most severe well bore deformation in the field. This keystone fault system and other problematic faults were avoided in the G-2 replacement well bore plan.