

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

Oscar Gonzalez, PDVSA-Intevep, Caracas 1070-A, Venezuela

Geostress Static Modeling System: A Package Developed to Build Trends Maps of Reservoir Properties, Estimate Directions of the Stress Field, and Computing Petrophysics and Volumetrics Summaries

A package called Geostress*, was built to produce trend maps of reservoir properties, estimate directions of the stress field, and to compute Petrophysic, Sedimentology and Volumetric Summaries, and assess uncertainties in reservoir characterization. The Mapping module, enables the geostatistical estimation of reservoir properties under the presence of faults. Both the magnitude of the property estimated and its uncertainty are jointly visualized in the same map by setting a special designed 2-D color scale (hue of the color, and the color saturation). The Geomechanics module, estimates the stress tensor throughout a reservoir field by incorporating geostatistical assumptions in the behavior of the stress tensor components. Structural information of fault planes is used to isolate tectonic blocks. The algorithm yields magnitudes, main directions of the tensor, as well as uncertainty on the estimation. The Petrophysics Module, allows to compute standard properties and summaries based on feet by feet log information. A lithology detector is built into the package, as well as there are algorithms to compute coalescence maps between layers, water formation resistivity, as well as classic, standard petrophysical properties and sedimentology trends. The Volumetric Module performs a standard integration of fluid column to report volumetric summaries like oil in place, upscale porosity, thicknesses, etc.

* ©1994-2002, Intevep S.A.