

Monday, October 7, 2002

Westchase Hilton • 9999 Westheimer
Social 5:30 p.m., Dinner 6:30 p.m.

Cost: \$25 Preregistered members; \$30 Nonmembers & Walk-ups

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HGS General Dinner Meeting

by Gordon VanSwearingen
eSeis Inc.
Houston, Texas

Interpreting Complex Traps from Seismic Outcrops

Lithology, Porosity, and Fluids are Now Possible to Image with Seismic

"The present is the key to the past," was stated by Hutton over a century ago. Today the present is focused on technology, specifically, the improved image capabilities of seismic data. With the recent developments in "Seismic Petrophysics," it is now possible to image lithology, porosity, and fluids on the seismic data.

The ability to image lithology, porosity, and fluids allows us to attack complex traps from a geological perspective. We can switch gears from amplitudes, impedance, and reflectance to actual geology. That means we are no longer looking at seismic, we are looking at "seismic outcrops." This allows us to do a more detailed geologic interpretation. Trap settings become much more apparent in the geologic domain than in the seismic domain. Also, the interpreter can concentrate on the specific trapping mechanism, such as facies changes, porosity variation, or an unconformity.

Several examples are reviewed illustrating geological solutions to complex trapping problems. These include porosity variations in a fluvial reservoir, lithologic variations in a nearshore marine sequence, and the identification of a gas-depleted zone.



Biographical Sketch

GORDON W. VANSWEARINGEN is the Exploration Manager for eSeis Inc. He received a BS in biology and geology from the University of Pittsburgh and later pursued graduate studies in geology at Duke University. He joined eSeis, Inc. in September 2000. Prior to joining eSeis, he worked

2 years for Utah International, 12 years for Amoco Production Company, 2 years for Eastern States Exploration Company, and 7 years for Mortimer Exploration Company.

Mr. VanSwearingen's geological experience includes coal and uranium exploration as well as hydrocarbon exploration and production. His work for Utah International was surface exploration and assessment of unconventional uranium traps in the Appalachian Basin. While at Amoco he was both a geologist and supervisor in prospect generation, operations and exploitation, and regional/frontier trends. The plays included conventional clastic and carbonate traps as well as coalbed methane and deepwater reservoirs. He was also instrumental in developing several training seminars on deepwater exploration and participated in Amoco's Deepwater Fan Task Force. As Vice President of Exploration for Eastern States Exploration his responsibilities included the organization, budgeting, and management of exploration and development programs in the Appalachian and Illinois Basins. As Exploration Manager for Mortimer Exploration Company he developed exploration strategies fitted to specific investor requirements, and managed 3D seismic projects from the acquisition through interpretation and drilling. His primary interest has been the interpretation and relationship of depositional facies to reservoir and trap. ■