

Monday, March 12, 2012

Westchase Hilton • 9999 Westheimer  
Social Hour 5:30–6:30 p.m.  
Dinner 6:30–7:30 p.m.

Cost: \$28 Preregistered members; \$35 non-members/walk-ups

To guarantee a seat, pre-register on the HGS website & pre-pay by credit card.

Pre-registration without payment will not be accepted.

Walk-ups may pay at the door if extra seats are available.

## HGS General Dinner Meeting

*Daniel Minisini, Steven Bergman,  
Calum Macaulay  
Shell  
Houston, Texas*

HGS General Dinner Meeting

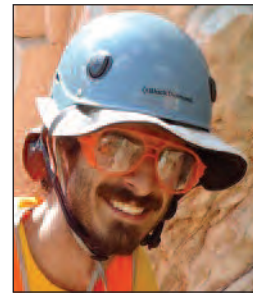
# Bed-Scale Facies Variability in Gas-Shale Reservoir Analog: Cretaceous Eagle Ford Formation, SW Texas

Using measured sections, sedimentological descriptions, photomosaics, thin sections and gamma-ray logs, this study characterizes scales of lithological heterogeneity in the deposits of the Eagle Ford Fm., which is a cropping out formation analog for producing shale-gas reservoirs in the adjacent Maverick Basin. In recent years the Maverick Basin has become a target for unconventional shale-gas production in Cretaceous carbonate and clastic deposits, including the Eagle Ford shale. In SW Texas, the Eagle Ford shale is ca. 70 m (230 ft) thick and, along fresh road cuts, is exposed in outcrops up to 500 m (1640 ft) long that allow stratigraphic correlations for 320 km (200 mi). Large-scale vertical heterogeneity is associated with alternating clay-rich mudstones, carbonate-rich mudstones and limestones. Each of these facies record considerable small-scale heterogeneity. Some reddish clay-rich mudstones present millimeter-scale laminations and/or interbedded layers of white chalk. Specific units of the carbonate-rich mudstones include in-situ *Inoceramus* shells, limestones have nodular or tabular aspects, and exhibit massive, plane-parallel or cross-bedding laminations. Further depositional features generate high vertical variability and constitute markers for stratigraphic correlations: i.e., mass-transport deposits, fossil-rich units and volcanoclastic beds. Overall the stratigraphy of the Eagle Ford suggests an environment of deposition subject to intense variations in quantity and composition of sediment delivery, depositional processes, fauna colonization and organic content. The

observations of bed-scale facies variability in the outcrop help in the understanding of correlative facies that are producing gas in the subsurface and, as a result, may help define exploration strategies. ■

### Biographical Sketch

DANIEL MINISINI is a research geologist professional, whose field of expertise is Marine Geology which includes sedimentology, stratigraphy and seismic geomorphology. During his PhD in Bologna, Italy, he participated in 18 oceanographic campaigns on research vessels and concentrated on the study of fine-grained sediments of modern environments.



He then spent 3 years at ENI where he analyzed the association between sandy shelf edge deltas and channelized muddy continental slopes in Plio-Pleistocene clinoforms.

He joined Shell's Shale Systems Team in 2009 where, he transferred his knowledge to more ancient rocks and contributed to the understanding of black shale deposition and associated basin infill.