

## Gladden Plate Boundary, Pull Apart Basin, Belize

by Susan Morrice

HGS International Explorationists Meeting, October 18, 1993,  
Social 5:30 p.m., Dinner 6:30 p.m.,  
Post Oak Doubletree Inn

The junction of the North American and Caribbean plates in Belize has created a complex structural setting for oil and gas exploration. Recently acquired seismic data, offshore Belize, has been used to identify three structural provinces, from west to east: A shallow thrust zone, a narrow upthrown wrench-faulted zone and a deeper extensional basin, named the Gladden Pull Apart Basin. Hydrocarbon leakage along recent faults appears to have depleted the shallow structures to the west, but the pull apart basin has a thick sequence of low frequency, clay-dominated sealing rocks with the potential to preserve hydrocarbon accumulations in Cretaceous carbonate banks. These buried carbonate rocks are of the same age and depositional environment as Mexico's Golden

Lane/Tabasco Reforma carbonate banks which contain world class giant oilfields.

Seismic interpretations of offshore Belize have been integrated with gravity and magnetic data. This integrated interpretation helped to locate the thick cretaceous carbonate banks. Airborne geochemical surveys detected oil seeps on the eastern and western basin margins.



### SUSAN MORRICE - Biographical Sketch



Susan Morrice has been active in international exploration for more than 17 years and is currently president of S. Morrice and Associates Ltd., a Denver based consulting company.