

**HGS INTERNATIONAL GROUP  
DINNER MEETING—SEPTEMBER 21, 1992  
Post Oak Doubletree Inn  
Social hour, 5:30 p.m., Dinner, 6:30 p.m.  
Technical Presentation, 7:30 p.m.  
JAVIER ALEJANDRO MORELOS GARCIA—  
Biographical Sketch**



Alejandro Morelos was born in Mexico City, Mexico, and received his undergraduate degree in geology from the Instituto Politecnico Nacional in Mexico City in 1980. He completed his undergraduate thesis, entitled "Geochemical Study of the Prospect Halo in Oaxaco State, Mexico", in 1983. He has been engaged in surface light hydrocarbon surveys in the United States, Mexico, and Colombia,

while working in the geochemical department of Geophysical Services Inc. (now Halliburton Geophysical Service) from 1980 to 1987. He spent the summer of 1991 in San Ramon California as part of the professional summer program of Chevron Overseas Petroleum Inc. Mr. Morelos is currently completing his master's degree at the University of Texas at Dallas.

ORGANIC BIOCHEMISTRY OF  
SOUTHERN TAMPICO -  
MISANTLA BASIN OF MEXICO

MORELOS GARCIA, Javier A.\*, COMET, Paul\*\*,  
SASSEN, Roger\*\*, and BROOKS, James\*\*

\*Department of Geosciences, University of Texas at Dallas,  
P.O. Box 830688, Richardson, Texas, 75083-0688;

\*\*Geochemical and Environmental Research Group, Texas  
A&M University, 833 Graham Rd., College Station, TX  
77845.

The bulk of the oil in the southern Tampico-Misantla Basin is contained in Upper Cretaceous oil reservoirs of the Golden Lane and Poza Rica Trend, where additional production comes from Upper Jurassic and Eocene reservoirs. The nature of the source rocks that gave rise to these oils has not been well understood. This study presents results of the geochemical characterizations of oil and source rocks from across the Tertiary, Cretaceous, and Upper Jurassic formations of the study area. Oil-oil and oil source rock correlations are based on gas chromatography, carbon stable isotopes, and biomarker analyses of oils and rock extracts.

The data suggest that the oils have a common origin, and that they were generated from an organic-rich marine carbonate source rock deposited in a reducing environment. The physical and chemical differences among oils can be explained by migration effects, thermal maturity differences, changes of the organic facies of the source rock, and

migration-contamination. Oils display geochemical similarities to Upper Jurassic carbonate source rocks. The upper Jurassic and Cretaceous rocks both display good source rock potential, and reside in the early stages of oil generation. However, it is difficult to correlate oils and source rocks in the study area. Therefore, it is possible that the studied Upper Jurassic-Cretaceous section has not contributed significantly to the oils entrapped locally. These data imply that oils have migrated from a deeper water facies downdip of the study, most likely from offshore Gulf of Mexico.