

Tectonic and Stratigraphic Evolution of Neuquen Basin, Argentina

HGS International Group Dinner Meeting-September 20, 1993

Social Hour, 5:30 p.m., Dinner, 6:30 p.m., Technical Presentation, 7:30 p.m.

Post Oak Doubletree Inn



PABLO N. EISNER Biographical Sketch

Pablo N. Eisner was born in Buenos Aires, Argentina. His undergraduate studies were preformed in the University of Buenos Aires from 1983-1987 where he obtained the degree of Licenciado en Ciencias Geologicas. His undergraduate thesis was a mapping project in the High Andes directed by Dr. Victor Ramos.

During the latter part of 1987 and most of 1988 he worked for ASTRA C.A.P.S.A. in

Buenos Aires, under Dr. Miguel A. Uliana.

From 1988 to 1991 Pablo studied at Rice University obtaining a degree of Master of Arts under the direction of Prof. Albert W. Bally. The thesis: "Tectonostratigraphic Evolution of Neuquen Basin, Argentina", consists of a regional study involving the sequence stratigraphy of the basin and structural analysis of its fold and thrust belt. His thesis committee included also Professors Peter R. Vail and Manik Talwani.

Pablo has been working since 1991 as an explorationist with Maxus Energy Corporation where he has been involved in several projects in Eastern Europe, South America and North Africa.

Neuquen Basin is a basin with a long history of hydrocarbon production. It is the most productive subandean basin of Argentina. It is a Mesozoic backarc basin which evolved into a foredeep basin when a fold and thrust belt was formed to the west beginning in the Upper Cretaceous. The sedimentary infill ranges from Permian-Triassic to Recent. The sedimentary package is continental and marine in origin and

was deposited in a generally shallow, slowly subsiding basin. Relative changes of sea level were the main factors that help subdivide the stratigraphy of the basin. Detailed sequence stratigraphic analysis of carbonates and evaporites helped define the mechanisms by which subtle stratigraphic traps may have been created.

The Neuquen Dorsal, a positive east-west structure in the relatively undeformed portion of the basin, has been tentatively interpreted as an inversion. This hypothesis must be further analyzed using additional data.

Deformation in the fold and thrust belt took place from the Campanian to Pliocene, and shows three distinct zones. From east to west a broad arch is followed by an intricate series of tight anticlines formed by both east and west verging thrusts which use four different decollement surfaces. To the west of these, an east verging ramp anticline structure is identified, which involves a deeper decollement surface.

Recent discoveries will be put into this regional context.