AAPG International Conference: October 24-27, 2004; Cancun, Mexico

Hydrocarbon Potential in Miocene Turbidite-Minibasin Plays: Offshore Burgos Basin, NE Mexico

J. J. Hernandez, Sr[1], *R. Machado*[1], *E. Valencia, Sr*[1], *A. Alvarado*[1], *A. Marino*[2], *H. Ramos*[1], *R. Ayala, Sr*[1], *C. Caraveo*[2], *and A. Jalbert, Sr*[3]. *(1) Proyecto Delta del Bravo (PEP), Pemex Exploracion Produccion, Paseo de los Bambues 301 Col A.J. Bermudez, Reynosa, 88727, Mexico, phone: (899)9217622, fax: (899)9217622, jhernandezme@pep.pemex.com, (2) Pemex, (3) Schlumberger-GeoQuest*

Increasing natural gas demand has resulted in an intensive exploration and production program in Mexico. The primary objective is to identify new reserves and increase production levels. PEMEX is conducting numerous exploration programs targeting Tertiary gas in the frontier areas of the Mexican Gulf of Mexico (GOM). Delta Del Bravo is one such project. It is located just offshore from the Burgos Basin in shallow Mexican waters (<500 m). Recent exploration analysis has identified several potential plays. The most promising are Miocene-aged sands deposited in turbidite-minibasin environments within an active salt province. The outlook is positive. All the key elements for a gas production appear to exist in the area.

Reservoir potential is favorable. Recently acquired 3D seismic shows numerous sand channel complexes in localized depo-centers surrounded by salt-shale ridges and domes. Middle Miocene and older sand appears to have been sourced from the west. Middle Miocene and younger sand appears to have been sourced from the North. Hydrocarbon source potential is favorable due to the presence of gas in ocean bottom cores, and due to the presence of near-surface chimneys, and amplitude anomalies on the seismic data. Hydrocarbon migration is favorable due to the presence of vertical salt welds, and deep-seated faults. Salt-shale diapirism, active throughout the Miocene, provides the potential for numerous hydrocarbon traps and seals. Drilling in this play is expected to begin in 2005.