

Nguyen, L. C., Mann, P., and Bird, D. E., 2013, **1200-km-long gravity transect from eastern Mexico to the northeastern Gulf of Mexico: implications for deep water exploration** (abstract): Geological Society of America, South Central Section, 47th Annual Meeting, T28, 10-23.

Rodriguez (2011) compiled a 1200-km-long, east-northeast trending transect of vintage seismic data from the Gulf of Mexico (GOM) showing correlations of top basement to seafloor across the US-Mexico international boundary in the center of the basin. In order to expand this international correlation effort to include GOM crustal types, we present a coincident, regional gravity model constrained by vintage seismic refraction data collected within the same corridor. Main results of the gravity model include the following: 1) continental and oceanic GOM crustal boundaries are similar to those proposed by previous workers with normal oceanic crust occupying the basin center; 2) the continental-oceanic boundary extends as close as 90 km from the shoreline of eastern Mexico; 3) Jurassic oceanic crust in basin center exhibits significant changes in thickness from 11 to 4 km; variability may reflect along-strike paleo-spreading center or hotspot effects; 4) the continent-oceanic boundary adjacent to Mexico is abrupt and is interpreted as a Late Jurassic transform fault along which the GOM basin opened in a counterclockwise direction; 5) depth to basement along the transect ranges from 9 to 14 km; and 6) total sediment thickness ranges from 10 to 5 km deep along the eastern margin of the GOM-Mexico; 7) salt ranging from 0.5 to 4 km in thickness is present in the center of the GOM basin. Using average heat flow values, a simple model of maturity is presented for deeply buried Mesozoic source rocks above the top of thinned continental basement.