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**Pore Pressure Prediction and Operations in Deep Water, Offshore Trinidad**

Very high overpressure is present within Pleistocene and Pliocene clastics in deep water, offshore Trinidad. Exploration for economic oil and gas accumulations is complicated in this setting by both the high pressure which limits column height in some sections, and the high cost of drilling. While some oil and gas accumulations have been discovered in deep water in this basin large accumulations have yet to be found but may be expected. A combination of pressure prediction techniques based on seismic velocities, extrapolation from less than 10 offset wells, and basin models have been employed to assist evaluating the potential seals of prospects, and also for well planning and drilling operations. The most recent well in 4000 feet (1220 m) of water had to contend with very high pressure within 1500 feet (457 m) of the sea floor, a methane hydrate layer, poor seismic reflectivity due to the near-by mud volcanoes, and the necessity of deviating the hole to hit a specific target below a mud volcano within a steeply dipping and thrust fold. Pore pressure within shale dominated upper slope deposits below the shallow overpressure continued to be high. Overpressure was compounded by pressure transfer to the crest of the structure in some sandstone beds that pinched out just beyond the well location on the structure. At depth however well developed sandstones, likely deposited in channels on the lower slope, had moderated pressure and there is seal potential to trap large oil and gas columns. New technologies including real time seismic acquisition, and an integrated pressure team at the rig and in several on-shore offices reduced the potential lost time in this difficult well which, however, successfully reached the intended target.