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**ABSTRACT**

**COMPARING BASIN MODELING TO VELOCITY MODELING FOR  
PREDICTING PRESSURES IN DEEP COLUMBUS BASIN, TRINIDAD, W.I.**

**K.M. Kumar and A.R. Vittachi, *Exploration, bp Trinidad and Tobago LLC.***

The hydrocarbon industry, including Columbus Basin, Trinidad, is moving into deepwater and deeper plays to access new resources. Consequently, well plans generally carry higher risk when compared with historical exploration and development. The sparseness of well control poses a challenge for quantitative subsurface analysis. The methods of pressure prediction are dependent on the location of the basin, the type of basin, its major features and the information that is available. Seismic velocity based analysis, though commonly used and known as a more precise approach, has considerable pit-falls when imaging deep areas.

The predominately available P-wave velocities are affected by structure and fluids i.e. shallow gas, both are common in the Columbus Basin. The PS-wave velocities are less affected by the shallow gas than conventional P-wave velocities therefore give a better representation of the pore pressure sub-gas; however extent of data is limited. *Basin modeling* successfully predicts pore pressures for the deeper sections of the Columbus Basin with the use of well data and structural analysis.

This paper will address pressure prediction for the deeper stratigraphy of the Columbus Basin, Trinidad W.I., where basin modeling is deemed the most accurate compared to velocity based methods.