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## **SACRAMENTO VALLEY, CA – ‘MASSAGING’ EXPLORATORY CONCEPTS AND DEVELOPMENT STRATEGIES IN A MATURE DRY GAS BASIN**

The propitious word massage is defined by Webster as “manipulation of tissues with the hand or an instrument for remedial or hygienic purposes.” The key word in this definition is manipulation and how that process maybe applied relative to the exploration and development of gas in the Sacramento Valley, CA.

An elongate fore-arc basin, which is today referred to as the Great Valley (GV), formed between the Sierran arc to the east and the accretionary prism of the Franciscan complex to the west during Cretaceous time. Because of the thickness and volume of sedimentary rocks found in fore-arc basins along with associated tectonic movement, such basins have positive potential for the entrapment of hydrocarbons. The GV is divided into the northern Sacramento Valley and the southern San Joaquin Valley and is one of the world’s major hydrocarbon producing areas. The GV has produced 13 billion BO and 22.3 trillion cubic feet of gas and currently produces daily 573,000 BO and 804 million cubic feet of gas from 36,800 wells.

The Sacramento Valley was established as a natural dry gas-producing basin in 1933 and has produced 9.5 trillion cubic feet of gas. Productive sands range in geologic age from upper Cretaceous to Recent with six recognized entrapping mechanisms. A mature basin with such a variety of entrapping mechanisms offers numerous opportunities for gas discoveries. This paper will present a number of exploratory concepts and development strategies that with ‘massaging or manipulation’ may lead to new gas discoveries.