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Vernon Field—Waking a Sleeping Giant in North Louisiana

Discovered in 1980, Vernon Field, in Jackson Parish, Louisiana, languished as a small tight-gas field for two decades until its potential as a giant was fully realized just five years ago. This field now has more than 250 wells and proven reserves exceeding 1.8 trillion cubic feet. From its discovery until 2000, it was held by at least five different companies, and along each stage of its development, it revealed a bit more of its potential.

Initially, Vernon field was believed to represent a simple stratigraphic pinchout of Lower Cotton Valley sandstones against regional southerly dip. Existing seismic data was sparse and of poor quality; individual pay intervals were not seismically resolvable. However, a limited number of 2-D lines hinted at divergent dips south of the northern sand limit, suggesting the possibility of an expanded stratigraphic section in the Lower Cotton Valley. In 2000 a more favorable price environment resulted in accelerated field development, during which a number of wells were found to have pay intervals partially faulted out. These new data prompted a large 3-D survey over the field that defined it as a prolific tight gas reservoir producing from Lower Cotton Valley sands at a depth of 12,000 to 15,500 feet along a growth-faulted anticlinal trap.

More sleeping giants such as Vernon likely exist in this seemingly mature petroleum province. Finding them will require careful analysis of often sparse well and seismic data, the willingness to drill an adequate pilot program to fully assess the resource, and aggressive optimization of drilling and completion practices. ■

Biographical Sketch

STEVE BLANKE is the exploration manager for the West Texas/Mid-Continent Exploration Team, Anadarko Petroleum Corp. After graduating with degrees in geology and environmental studies from the University of Kansas in 1980, Steve began his career with Sun Oil Company in Shreveport, LA where he worked in the northern Louisiana area. Over the next 15 years, he did



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extensive work for Sun and Oryx in numerous basins, including the East Texas and North Louisiana salt basins, the Bend Arch, the San Joaquin basin, most of the Rockies basins, and the offshore Gulf of Mexico. In 1996, he began working for Union Pacific Resources, where he concentrated on the Jurassic plays of east Texas and in north Louisiana, including Vernon Field. The merger of UPR and Anadarko in 2000 brought Steve to Houston, where he has been involved in exploration and development of a number of unconventional resource plays, including the Bossier and Lower Cotton Valley plays in east Texas and north Louisiana. He also has been involved in developing and applying a uniform risk and resource evaluation procedure for Anadarko's worldwide exploration portfolio. In his current position as exploration manager his focus has been on shale gas, tight sands and other unconventional resource plays.