

by Allen Gilmer,
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The Coming Domestic Oil and Gas Boom

The United States is at a point of technical convergence and is poised to enter into a prolonged oil and gas drilling boom that could add an astounding 50 to 100 billion barrels of oil equivalent to the ONSHORE US reserve base.

Where are these “mythic” future reserves located? In large part, the resource lies in either conventional stratigraphic traps or in basin-centered reservoirs, which are beginning to look more plentiful than we first imagined. Interestingly, each reservoir type exhibits wildly different sensitivities to commodity price and different elastic behaviors to technology application. As large as that potential reserve number seems, the source is none other than the United States Geological Survey, and it is further defined to lie within undiscovered fields with 1 million barrels of oil equivalent or larger.

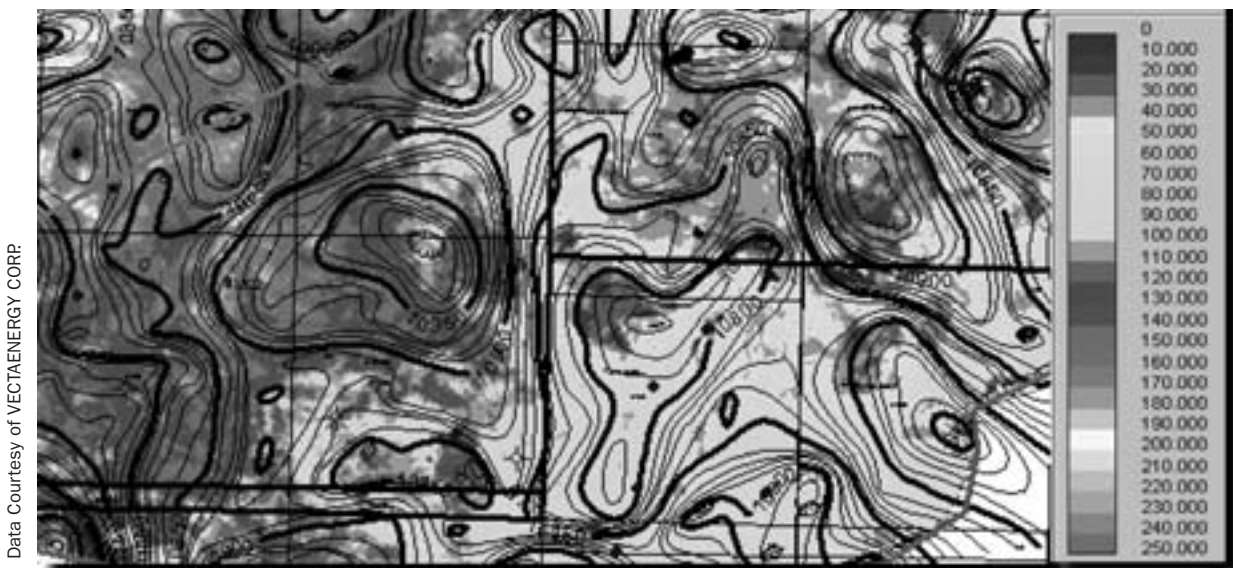
What core technologies are contributing to the convergence? Depending on the target, either induced fracturing, horizontal

drilling, rock properties-focused seismic methods or a combination thereof will hold the key. Each has exhibited moderate to spectacular results on a stand-alone basis. The Barnett Shale play owes its existence to the right frac type as determined by dozens of failed and sub-optimum experiments. Its current size is due to integrating experiments with horizontal drilling and staged fracking in the horizontal legs. Linking these two technologies have opened up a big play. Operators today are taking what they have learned in the Barnett and seeing if it works in other genetically similar plays.

What happens if we add to that the remote identification of hydrocarbon saturation and flow potential? Depending upon the major rock property factors controlling production from such reservoirs, seismically-derived information is becoming able, in more and more cases, to “close the loop” by allowing explorationists/exploitationists to invert seismic 3-D volumes to such economically-meaningful

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Transforming Wildcatting to Resource Harvesting

volumes as “risky producible volume by well spacing unit.” In other words, what the bankers and financiers really need and what they thought they were getting with 3-D zap maps in the early to mid-1990s. ■

Biographical Sketch

ALLEN GILMER cofounded and is Chairman of the Board of Drillinginfo Inc in 1999. He is also the cofounder and serves on the boards of the Vecta Companies—Vecta Technology, Vecta Exploration, Vecta Energy and V-Quip, which focus respectively on multicomponent seismology research and development, oil and gas exploration and production using multicomponent seismology in the US and Canada, and multicomponent seismic field equipment.



Various, a two-crew seismic acquisition/processing/interpretation company, where he learned the peculiar joys of owning minority working interest, with a wide variety of good and bad operators instead of clean, beautiful royalty interest, and of operating seismic crews, where he developed the “tooth to tattoo ratio” crew efficiency metric.

From 1987 until 1993, Allen worked for Marathon Oil Company in Geophysical Research (AVO and difficult data processing), Worldwide Seismic Acquisition, and South American Exploration. He started in the patch as a junior geologist with Range Oil in Houston, Texas, in 1984.

Allen is a Research Fellow at the Bureau of Economic Geology at UT Austin, and spends an alarming amount of money as Regional Vice President of Texas Independent Producers and Operators. He is also a Chairman’s Roundtable member of the Texas Alliance of Energy Producers, Vice Chairman of the Texas Producers Advisory Group to the Petroleum Technology Transfer Council, and Lifetime Member of the SEG, AAPG, IPAMS, HGS, and IPAA.

Going out on his own in 1993, Allen discovered several oil and gas fields in Texas and New Mexico with technology-based oil and gas entities he founded and operated, such as Visos Energy Corporation, Anasazi Exploration, Inc. and Saguaro/Strata

Allen received a BA in geology from Rice University and an MS in geology with geophysics minor from the University of Texas at El Paso. He holds several patents in the field of seismology.

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