AN INVESTOR'S GUIDE TO UNCONVENTIONAL GAS:
SHALES AND COALBED METHANE

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It appears that after years of trying, coalbed-methane development in northern Louisiana may be about to enter a new phase. Here, a Shreveport mineral manager shares her experience.

**Louisiana CBM on the Cusp?**

By Diana L. Chance, Donner Properties

It is clear to E&P companies that it takes time and upfront investment to develop any new play. A new coalbed-methane play is no exception, but operators in northern Louisiana are optimistic. The idea for exploring CBM potential started with less than a handful of committed people in 1998, but CBM has suddenly caught the attention of new and serious players.

In 1998, the Louisiana State University Basin Research Institute (LSRBI), under the guidance of John Echols, conducted a study of the potential for the development of CBM. (In Louisiana it is referred to as coal-seam natural gas or CSNG, which operators found is a friendlier term for the general public than methane.) Equitable Resources, which partially funded the project, abandoned its plans to develop coal seams on Donner Properties’ acreage when it sold its northern Louisiana pipeline system.

Donner Properties has since tried to interest new operators in CSNG in Louisiana, but has faced obstacles. It was commonly believed the coals in this region were lignite, and companies thus feared the “ocean” of water that could be present in the associated Wilcox sands—not to mention low gas prices at that time—made this play marginal.

Fortunately in 2002, data compiled and shared with King Drilling and Devon Energy Co. resulted in some of the first CSNG wells being drilled. Devon drilled the first five-spot pilot program in Caldwell Parish, where Devon and Donner Properties share a common interest in the minerals over a large area.

After he left LBRIC for private industry, Echols also drilled a test in Caldwell Parish. Mark King of King Drilling drilled an interesting coal-seam well in LaSalle Parish. This was the real beginning of the play. Since then, GeoMet Inc., Mark V Petroleum Co., Harvest Gas Management, Vintage Petroleum Inc., Enervest Operating Co. and Southwestern Energy Co. followed. Oklahoma-based Samson Resources and other companies are acquiring leases. Most of these companies are keeping relevant information tight.

Some key facts are known. The results of the first Devon test proved the so-called lignite was actually a sub-bituminous coal with sufficient amounts of gas content to be economical. With this activity, Dr. Clayton Brelan, working with the Louisiana Geological Survey at Louisiana State University, involved Dr. Peter Warwick of the U.S. Geological Survey (USGS) and Dr. Gary Kinsland of the University of Louisiana at Lafayette to research results from test wells. They concluded all the coals in Louisiana are lignite-grade at the surface, where some are being mined—but at depths of 2,500 to 4,000 feet, where the natural gas is produced, the coals are of a sub-bituminous grade.

More importantly, they found these deeper coals contain more gas per ton than is typically found in the prolific CBM fields of the Powder River Basin in Wyoming. Kinsland furthered the studies by digitizing 500 well logs across north Louisiana into a 3-D image that shows many of the coals blanketed across miles of acreage. This data can be viewed at the Louisiana Immersive Technologies Enterprise Center (LITE center), where Kinsland has access to a state-of-the-art supercomputer and audiorium for presentations at the University of Louisiana at Lafayette. The research has revealed some of the coals are 30 feet thick. It is common to see 20 to 30 coal seams in a well, although some are very thin.

**REGULATORY HUMPS OVERCOME**

When this play began, Louisiana needed unitization laws and commingling regulations to encourage further development of CSNG. Upon the advice of Deane Foss, owner of Harvest Gas in Houston, Donner Properties began working with the legislative and regulatory agencies to address these issues.

Commissioner of Conservation Jim Welsh, along with
state geologist Dr. Madhurendu Kumar, took the initiative to study these CSNG issues in other states and met with industry on numerous occasions. As a result, the group learned larger blocks of land were needed to attract operators’ interest and to facilitate economic CSNG development. They crafted new state regulations and legislation that would allow operators to create 5,000-acre units.

Don Briggs, president of the Louisiana Oil and Gas Association (LOGA), along with Welch and Senator Robert Adley, successfully educated the opposition within the legislature regarding the bill proposing larger units. When the commissioner opened the first CSNG hearing in Baton Rouge on November 15, 2005, he marked it as “...another historic milestone in the development of our natural resources.”

The change to state regulations was accomplished in record time.

“These production units mark the culmination of many years of hard work, planning, investment and vision by professionals that truly and clearly show the aggressive spirit of Louisiana’s oil and gas industry,” Walsh said at the time.

He encouraged more business, saying this new segment of the energy industry will be welcomed with open arms in Louisiana.

The first set of 5,000-acre units was created for Frank Spooner of Mark V Petroleum Co. for a project in Caldwell Parish now operated by Southwestern Energy Co. The new CSNG commingling regulations are favorable to the production of multiple coal seams. The severance tax in Louisiana on low-volume gas production is also favorable.

The CSNG play in Louisiana is moving forward thanks to these rule changes, and companies continue to drill and experiment with completion techniques. Small amounts of gas are being produced and sold. Production rates range from 10,000 cubic feet per day to 250,000-plus per day and rising.

Some preliminary results are available online at the Louisiana Department of Natural Resources’ SONRIS system. Most of the wells are still in various stages of dewatering. “We have not had enough experience in the play to get accurate potential recoverable numbers, or to get average production numbers per day on each well, but it looks very promising,” Kinsland said.

RECENT EVENTS
Kinsland continues to work with industry to promote understanding of coal seams in Louisiana. A meeting was held in Lafayette on November 12, 2007, to establish the rules for a newly formed organization, the Northern Louisiana Consortium for CBNG. In January 2008, he will publish information about membership, and provide information and data that will become available to consortium members.

Meanwhile, there are many reasons for optimism in this emerging play:

- Secretary Scott Angelle of the Department of Natural Resources, and the commissioner regulate the industry, but they encourage development;
- the general natural gas infrastructure in northern Louisiana is good;
- the major coals are at depths of 3,000 to 3,400 feet, so the average cost to drill and complete a well is only about $250,000;
- early test data has established the gas content in the coals as economical;
- the Louisiana Geological Survey and the University of Louisiana at Lafayette continue to provide valuable studies and research helpful to industry;
- large tracts of land are still available for leasing;
- new technologies have emerged and are being tested on these wells;
- issues of water disposal, mineral ownership and landowner cooperation have been or are being addressed satisfactorily; and
- the price of natural gas supports the cost of drilling.

Since 2002, a great deal of time, resources and passion have been expended to prove CSNG in northern Louisiana can be a commercially viable project and provide a natural, clean product to the public. It has been a rollercoaster ride, but CBM development in Louisiana has gained momentum in 2007. With the numerous wells planned for 2008 and 2009, Louisiana stands to earn a spot on the national map with other CBM basins such as the San Juan and Powder River.

The area across Louisiana that has potential for CSNG is large. Interested parties are encouraged to join the consortium. Questions about opportunities, the consortium or the technical issues of this play can be directed to Diana Chance at debance@donnerproperties.com and Dr. Gary Kinsland at gkinsland@louisiana.edu.