

## **North Carolina Shale Gas – A Progress Report: Sanford Sub-basin, Deep River Basin – Lee, Chatham, and Moore Counties**

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Leasing in the Sanford-sub basin began in January 2010; up to three groups were active. No drilling permits were submitted by May 2010. Pipeline build-out continues to provide natural gas for accelerated conversion of coal-fired electric plants by Progress Energy – the major public utility in central- and eastern North Carolina. These pipelines, located near the Sanford sub-basin, provide a ready natural gas market.

North Carolina's 1945 Oil and Gas Conservation Act, amended in 1988, preceded previous drilling and needs updating to reflect current technology and to provide a framework of modern regulations, bonding, state royalties and permit fees which are similar to other states. Listening sessions on potential drilling concerns were conducted with interested parties both inside state government and the environmental community.

Progress includes development of an evolving three-dimensional digital subsurface basin model using basin-wide 2D seismic, a Cumnock Fm. (source rock) isopach map, and depth to basement map. Paper petroleum well logs are being converted digital format. Additional organic geochemical data are being acquired to augment a robust database with thermal maturation and source rock data. Reconnaissance SEM of porosity in the Cumnock Fm. was obtained. The Sanford sub-basin is included in this year's U.S. Geological Survey's Mesozoic basin resource assessment.

Potential plays include coal bed methane, shale gas, and possible tight gas sand (strong gas shows noted on well logs and degraded oil in the Sanford Fm. above the Cumnock Fm.). Source rocks below the underlying Pekin Fm. cannot be precluded.