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# Seismic testing to start in N.C.

## Exploratory steps in Lee County will gauge fracking potential

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Energy speculators from Texas are quietly preparing to take ultrasound images of Lee County's underground geology and gauge the region's potential for fracking.

The seismic testing will mark the beginning of a sequence of exploratory steps that could lead to the first five wells producing shale gas by

2015, said James Womack, chairman of the N.C. Mining and Energy Commission.

Seismic testing is expected to get underway later this month and continue into January, Womack said. The exact areas identified for the sound-wave analysis are a closely guarded secret as energy explorers seek to protect their tactical advantage against competitors.

Last week, Womack laid out North Carolina's fracking scenario to the N.C. Environmental Review Commission, an advisory body of state lawmakers, and predicted that

the state could have as many as 140 wells producing natural gas by 2018.

He said later that Tar Heel Triassic Resources, the local subsidiary of Dallas-based Industry Petroleum, is securing agreements with Lee County property owners, scoping out the Triangle for office space, and conducting site surveys for a potential rail siding and storage areas to offload steel, pipe and other materials.

"Their landmen at some point will be kicking into gear," Womack said. "Those landmen will be

knocking on doors and making phone calls to secure leases."

Industry Petroleum officials did not return emails and calls seeking comment. The company's seismic testing contractor, Missouri City, Texas-based Global Geophysical Services, also did not return calls. Global Geophysical would do the actual seismic work.

The companies may end up not developing North Carolina's derricks and wellheads but instead could sell their seismic data to the highest bidder in the oil-and-gas

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industry.

### N.C. a low priority

North Carolina is presumed to have a relatively small region with potential for natural gas trapped in shale rock formations. The gas-rich zone is believed to be concentrated in Lee, Moore and Chatham counties.

The absence of gas lines and other infrastructure, the relatively low market price for natural gas, and the uncertainty of the state's resource have put North Carolina far down on the energy industry's priority list.

"It doesn't make any sense compared to the Marcellus Shale (in Pennsylvania) or Barnett Shale (in Texas) and those other areas that have an established infrastructure," said Rep. Pricey Harrison, a Democrat from Guilford County. "It precipitates a faster track for drilling."

Fracking, an industry shorthand for hydraulic fracturing, involves drilling laterally through shale rock and blasting the formations apart to release the gas with

several million gallons of water and additives.

The prospect of shale gas exploration remains highly divisive, with critics predicting ecological doom and supporters saying it will provide a much-needed boost to the state's economy.

"I believe fracking is a gift from God to North Carolina, and it's going to do wonders for our economy," said Environmental Review Commission member Bill Cook, a Republican state Senator who represents parts of eight coastal counties.

### Ultrasound on wheels

The seismic testing will require the use of three "vibroiseis" trucks that will stop every several hundred feet to send sound waves below and take underground readings, said Marty Tillman, a field engineer with the N.C. Department of Transportation. He said the state's transportation agency has oversight to make sure Global Geophysical provides flagmen for traffic control and also to monitor for damage to local roads and bridges.

Womack described the 41,000-pound trucks as "ultrasound machines on

wheels" that can perform the seismic procedure without detonations or tremors or other disruptions besides the thrum of diesel engines. He said the test results will help drillers pinpoint where to set up their rigs to make sure their drills pierce the densest concentrations of gas or oil, rather than probe blindly into barren rock.

"Vibroiseis is used in lieu of drilling hundreds of shot holes and setting off dynamite-type charges," said Steve Heron, exploration manager for the south region of Cabot Oil & Gas, which is not involved in this project.

"They will also evaluate with the seismic data how deep the basin is," he said.

The seismic test results will produce three-dimensional images of a mile-thick slice of earth below Lee County, including faults, bends, folds and other invisible hazards. The data could indicate the presence of energy fluids below, such as "wet" gas or oil.

Heron said that in Texas, seismic testing costs about \$40,000 to \$60,000 per square mile.

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