

Emerging Trends in PA's Marcellus Region

Multi-national corporations and multi-layer gas fields; leases, roads, environment

by Sue Smith-Heavenrich

Broader View Weekly, November 17, 2011

Pennsylvania is seeing fewer gas companies drilling as the larger multi-national corporations take an increased interest in the Marcellus play, says Tom Murphy. Murphy, a Penn State extension educator is also a co-director of Pennsylvania State University's (PSU) Marcellus Center for Outreach and Research (MCOR). On Tuesday, November 8, he presented data on drilling trends in Pennsylvania's Marcellus Shale to the Tioga County Landowners Group in the Candor High School auditorium.

In addition to the trend toward consolidation of companies, Murphy said that there is a lot of interest beyond the Marcellus. There are shale layers above Marcellus and below Marcellus, and the drillers are interested in all of them, he said. He highlighted the opportunities to develop wells into those other layers from the same pads built for Marcellus drilling.

"We're really talking about gas shale," Murphy emphasized. "Not just Marcellus." Throughout his program he touched on that broader interest, reminding landowners to be thoughtful about signing leases as those agreements will extend for decades into the future.

Companies also seem to be interested in drilling "wet gas" – those regions on the western edge of the Marcellus play where the gas is mixed with petroleum liquids. Gas companies are finding profit in separating the propane, benzene, ethane and other products and piping them to facilities that manufacture such things as plastics and fertilizers.

Right now, Murphy said, the companies are thinking long-term. Their current strategy is to engage in activity that will allow them to "hold the lease by production," he said. "They'll come back and drill later."

Pipelines and storage fields are going to play a big role as the companies look for more capacity to ship their products. "According to FERC (Federal Energy Regulatory Commission), about half the pipeline projects in the nation are related to Marcellus," Murphy said. Bradford and Lycoming counties in PA are constructing gas-powered electrical generating plants and some companies are looking to convert their fleets of delivery vehicles to gas.

Steel and paper mills are looking to use gas to power their manufacturing facilities, Murphy said. "Are we going to see an industrial renaissance?"

Another trend is in land use issues, especially in agricultural areas. "You need to be looking and planning ahead to make sure it is done right," Murphy said. He emphasized that drilling effects timber resources, wildlife and recreation, in addition to farming operations.

Murphy also noted the impact of increased traffic due to drilling. Mitigating truck traffic will be a primary issue, and he listed some alternatives: using rail for moving sand and equipment; using temporary pipelines to move water; more use of on-site waste-fluid treatment.

"One thing we're seeing is an uptick in road repair," Murphy said, noting that developing a well requires around 1,000 truck trips. "PA has seen more than \$400 million in road repairs since 2008." One rail car can carry four trailer-truck loads of material, he pointed out.

Housing is a big part of the drilling story in PA. Rental values have shot up, some tripling, and single family homes are being converted to rental units. “A big question is whether locals can afford to live locally,” he said.

While local hotels and restaurants are reaping benefits, the northeast part of PA isn't seeing as much increase in demand for services as they expected. The jobs they are seeing generated by the industry include heavy equipment operators, general labor, CDL drivers, office workers, lawyers, engineers, and some other specialized fields such as GIS and cartography.

Murphy then highlighted a number of environmental issues that have taken on new urgency with increased drilling. Water is a primary concern, he said. Also NORM (normally occurring radioactive materials) present in cuttings and waste fluids. Gas migration has become a hot topic, along with air emissions, forest fragmentation and the increasing number of violations.

“Pennsylvania had to strengthen its rules and regulations to deal with water issues,” Murphy said. He noted that they have had multiple incidents at 12 to 15 locations where methane migration has contaminated drinking water. “Those problems have not been completely resolved yet,” Murphy admitted. “And that's a critical part of the drilling story.” Though, he added, a bigger issue is the number of surface spills.

Citing the recent water quality study, Murphy said that the increase in bromide is particularly worrisome and they are following up. He then touched on a few emerging issues that PA regulators will be keeping track of: air emissions, especially long-term exposures; problems with invasive species contaminating water sources; and pipeline issues. For more information visit www.msetc.org; and www.marcellus.psu.edu.