



## **USDA-CSREES 2007 National Water Quality Conference**

### [Monitoring Storm Water Quality and Quantity from Gas Well Construction Sites](#)

Within Denton County, Texas, natural gas production in the Barnett Shale has increased dramatically. There are more than 2,800 actively producing gas wells in Denton County, and estimates indicate that 400-600 wells could be drilled within the corporate limits of the City of Denton. Most of Denton's land surfaces drain into Lake Lewisville, a major source of drinking water and recreation for the area. Developing natural gas wells requires considerable land surface modifications, the use of heavy equipment, and the use of drilling fluids. A typical gas well site disturbs a moderate amount of the land surface, averaging 2-5 acres in our area. Construction sites of similar sizes are required to obtain coverage under the EPA's Storm Water Phase II Rule. However, the EPA currently does not require a Phase II storm water permit for gas and oil well construction activities. Although gas well development presumably has the potential to cause storm water pollution, little is currently known about the storm water characteristics of these sites. Monitoring storm water discharges from gas well sites is particularly challenging, since sites are usually small, are modified to promote drainage, and have a mixture of exposed soils, semi-permeable rock / gravel, and fluid pits. Our presentation presents an overview of sampling methods we are currently using to collect storm water runoff from gas well sites, discusses challenges and recommendations, and presents information from data collection efforts. Although our research is designed to assess storm water runoff from gas well sites, methods and recommendations should be generally applicable for anyone facing the unique challenges of monitoring storm water from small, highly modified drainage areas. This presentation provides valuable information to storm water professionals interested in field scale monitoring and assessment.

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