

Oil & Gas Exploration Permitting

PELA was contracted by a major oil and gas company in Alabama to delineate wetlands in areas being considered for wellsites and to monitor water quality near drilling operations at a permitting exploration well.



Wetlands soil sample

According to the Nationwide Permit Summary (33 CFR Part 330, Issuance of Nationwide Permits, Nationwide Permit 14, Linear Transportation Projects, March 2007), if construction will result in the loss of more than 1/10 acre of the waters of the United States, or if there will be a discharge in a special aquatic site, including wetlands, a Pre-Construction Notification (PCN) must be submitted to the district engineer of the U.S. Army Corps of Engineers before construction can begin.

PELA prepared draft potential wetlands maps for proposed well locations based on U.S. Department of the Interior, Fish and Wildlife Service, National Wetlands Inventory maps to be used as guidelines. Detailed wetlands delineation surveys were then performed by trained, experienced personnel. In locations where no wetlands were present, wetland determination data forms were completed using WetForm software to document the findings. At proposed well locations where wetlands were present, PELA personnel worked with licensed surveyors to ensure accurate determination of the boundaries.



Drilling Rig

Assessments of wetland and stream impacts were made using Wetland Rapid Assessment Procedure and Standard Operating Procedure-Compensatory Stream Mitigation Guidelines. Calculations were made for wetland mitigation credit to be purchased as compensation for unavoidable loss of wetlands. For each proposed stream crossing, a U.S. Army Corps of Engineers Jurisdictional Determination Form was completed.

PELA also performed water quality monitoring for this client. Petroleum exploration in early 2008 including drilling in an area where few



Water quality monitoring

deep wells had been drilled before. To address concerns by local citizens and water suppliers, the operator proposed monitoring water quality and climatological conditions as the well was drilled. Monitoring consisted of continuous measurements of pH, temperature, specific conductance, and turbidity. The digital monitoring equipment was installed in a water-supply well, a spring, and a surface stream, all down-gradient from the exploration well. This provided data for detailed correlation between drilling activities and any changes in water quality that may occur in ground water and surface water downgradient from the drilling rig. A rain gage was installed at the exploration well so the effects of precipitation on water quality could be determined.