After more than four years of data gathering and testing, the REACT team at the PPRC is now ready to go public with the showpiece of their NPTO-sponsored project, “Risk Reduction with a Fuzzy Expert Exploration Tool.” Demonstrations of the Delaware Basin Fuzzy Expert Exploration (FEE) Tool will begin this August in southeastern New Mexico, targeting small and medium-sized independent producers.

Ultimately, the interactive web-ready software will be available for anyone who wishes to use this public-domain exploration tool to evaluate drilling prospects in two major plays in southeast New Mexico. The pilot for REACT’s effort was the lower Brushy Canyon Formation in the Delaware Basin.

As all oil and gas producers know, sparse or missing information about a given prospect means added risk for drilling new wells. Soft computing (fuzzy logic, neural nets, expert systems) has been shown effective for mitigating these risks in other areas, such as business and systems using fuzzy treatment of imprecise parameters or values) are as carbon exploration. Lately employ human exploration risks, but the budgets of the small independent corporations that own these resources, and a departure can cause knowledge.

In response to the New Mexico independent interest and support of a companies, the REACT gathered the necessary data and created the effective new tools that could model experts.

The Brushy Canyon FEE Tool in the Delaware Basin was chosen for the database of information...
EACH, MesaVerde

and the New Mexico Bureau of Geology and Mineral Resources.

Instruction on the use of the New Mexico Well Location Database was a special feature of these workshops. This recently-created database attempts to serve as a public repository for all available well location data in New Mexico for some 123,000 wells. Participants learned how to install software for using the well location data, install the database, and to view data and create their own GIS maps.

Participants also received a workbook that serves as a self-instruction guide to all the features presented in the workshop. The workbook and the New Mexico Well Location CD are still available through the PRRC Publication Office: $20 for the CD and $15 for the workbook; $30.00 for both.

Martha Cather, Outreach Coordinator for the Industrial Services and Outreach Group (ISOG), said “looking through our workshop surveys afterwards showed us that most people thought this workshop was very much worth the time and money. Comments included “...I thought this was very rewarding and it hit the high points” “...very informative and will be beneficial for filing for permits...” Many people were particularly appreciative of the opportunity to talk with the OCB about their online images and permitting, and also of the fact that most of the workshops allowed people to have some hands-on instruction for the Well Location CD.

MesaVerde Group Reservoirs

On May 22–23, the PRRC’s Southwest Regional Lead Organization of the PTTC hosted the MesaVerde Group Reservoirs Field Trip and Workshop, San Juan Basin in Albuquerque at the Marriott Pyramid. Other organizations that contributed were the New Mexico Bureau of Geology and Mineral Resources and the Petroleum Engineering Department of New Mexico Tech.

This field trip-workshop combination was designed to stimulate new ideas for maximizing the value of current infill efforts by operators in the basin and for locating significant new incremental reserves. Both will be necessary in coming years if operators are to slow the decline of gas production in the San Juan Basin.

The workshop presented the results of ongoing efforts by New Mexico Tech to conduct research into one of the most important natural gas basins in the United States. In recent years, Tech has contributed significantly to the understanding of San Juan Basin reservoirs through new reservoir engineering models that support significant continued development and production enhancement of the major reservoirs.

The field trip on May 22 comprised several views of the Menefee Formation, the Lewis Shale, the Mancos Shale, and the Cliff House Sandstone in the central San Juan Basin. Some of the stops were on private land that is usually inaccessible.

On May 23, participants attended a morning workshop at the Marriott Pyramid conducted by Brian Brister of the NMBGMR, Tom Engler of the NMT Petroleum Engineering Department, Consultant Bill Peabody and Steve Hayden of the NM OCD’s Aztec District. Workshop sections included a log correlation exercise to reinforce field observations concerning sedimentology and stratigraphy, reservoir modeling exercises and presentation, and discussion of coalbed methane potential of the Menefee Formation and a paper and presentation on stimulation of the Lewis Shale.

Participants found this workshop very informative, as it became apparent that correlation and connectivity of units within the MesaVerde Group is not always as simple as logs would lead one to believe. Copies of the proceedings on CD are still available at $20.00 from the PRRC Information Office.

Be on the lookout for our flyer announcing the REACT Group’s project review for “Risk Reduction with a Fuzzy Expert Exploration Tool”

(cont’d from p. 2)