Free software characterizes oil reservoirs

Newly developed software for characterizing oil reservoirs is now available free from the Kansas Geological Survey.

GEMINI (geoengineering modeling through internet informatics) software is designed mainly for small independents and consultants. The software was produced over the past 3 years by a team of 15 KGS specialists, working in collaboration with 8 energy companies. Funding was provided by the US Department of Energy.

The software is in the public domain and can be accessed at no cost from the KGS web site (at http://www.kgs.ku.edu/Gemini/).

It consists of 11 integrated software tools and databases that can be used to evaluate the potential of additional oil and gas recovery from a reservoir.

Users can conduct analyses on one or multiple wells using GEMINI modules from the web.

GEMINI creates password-protected virtual reservoir analysis projects to examine core data, calibrate, analyze and interpret log records, analyze drillstem tests, calculate oil-in-place, compare oil-in-place calculations with material-balance calculations, and download results for presentation and further analysis in other software.

The software tracks user progress as an aid in reviewing and revisiting a project. On-line step-by-step help functions aid users as they work on a project.

GEMINI's suite of geological and engineering web applications include: 1) modeling using an interactive relational rock catalog; 2) analysis of wireline logs to derive effective hydrocarbon pay and flow units; 3) a well-profile module to display composite views of logs, cores, and drillstem tests, perforation and reservoir top and layer information; 4) interactive cross sections to display marked wireline logs from well profiles to establish and confirm correlations of the reservoir; 5) gridding and mapping of petrophysical parameters to describe spatial variations of the reservoir; 6) calculation and mapping of reservoir volumetrics (oil and gas in place); 7) material balance calculations; 8) PVT calculator; 9) DST analyst; 10) tutorial and help functions; and 11) an automated program (KHAN, for Kansas Hydrocarbon Association Navigator), which utilizes petrophysical databases to predict hydrocarbon pay or other characteristics as trained by the user.

Source: Kansas Geological Survey, Kansas University, 1930 Constant Ave., Lawrence, KS 66047-3726.

Drilling suite aids planning, operations, design

Newly released Drilling Desktop provides a suite of drilling tools for well planning and design, real-time data access, and 3D visualization in a shared data management environment.

The platform was developed to support optimized drilling engineering work flows to reduce cycle time, increase data integrity, and provide better-engineered wellbores.

Drilling Desktop is one component of the Engineers Desktop, a project management system that combines drilling-production data and analytical tools.

It is designed to support well planning, drill string analysis, and casing run analysis work flows.

Source: Landmark Graphics Corp., 2101 CityWest Blvd., Houston, TX 77042-2827.

New riser tensioning system

The latest generation of this firm’s riser tensioning systems is available to the offshore segment of the industry.

The 1,200 kip capacity production riser tensioner (PRT) provides 1.2 million lb of tension over a range of 45 ft. Six long-stroke hydraulic cylinders provide uniform force and redundancy to the 6,300 ft long riser string. And with a maximum diameter of only 58 in., this unit helps preserve rig space, the company points out.

Placing the PRT into service is simple because it is top supported and can land out in the rotary or in a template, the firm says.

Units are suited for production riser tensioning in water depths to 10,000 ft. PRT cylinder rods are built for extended service.

The six cylinders are vertically aligned, eliminating side loading and premature wear on rod seals.