Updated open source software
TAKING SEISMIC INTERPRETATION TO A NEW LEVEL

At a time when there is an increased focus on recovery rates and because fields are becoming ever more geologically complex, operators are looking for tools that enable them to squeeze out every last bit of value from their data. According to 4C Earth Sciences, it is with this in mind that the company is launching the latest version of its open source interpretation software at the EAGE OpenTooth 4.4 comes with three new innovative plug-ins and a host of new features that will help seismic interpreters estimate seismic net pay from seismic color inversion data, enhance the significance of front events, and improve petrophysics interpretation through improved well-to-seismic tie. "OpenTooth 4.4 has a significant milestone in our quest to become the leading player in the seismic interpretation software and services market," said Paul de Groot, president and co-founder of 4C."We see the need of our customers in creating a fully open platform for seismic interpretation and it is also due to the collaboration and partnership we have formed." Two of the new plug-ins have been developed by Ark CLS: Seismic Net Pay is an improved method to estimate net pay from seismic attributes by estimating net pay from seismic color inversion data and correcting average amplitudes to seismic net-to-gross. Seismic Net Pay is used to make estimates of either net pay or net rock volume depending on the input data and calibration. Seismic Feature Enhancement (SFE) is a fast-paint enhancement tool that enhances the signal of consistent front events and reduces the "noise" of channel reflections within the seismic data. SFE complements Common Curve Binning, a 4C plug-in that steers seismic traces along horizon contours to highlight subtle hydrocarbon-related seismic anomalies and post-pore water-gas-oil, and oil-water contact events. Through its ability to enhance the signal in the interpreter's workflow, SFE can also play an important role in reducing the risk of drilling dry holes. The CLAS computer log analysis software plug-in, developed by Argo Resources, can provide additional information on well-to-seismic tie, especially in cases where seismic data is limited or poor, and it can help to lead to improved well-to-seismic ties, enhanced calibration of seismic attributes to reservoir properties, and more accurate interpretations of 3-D seismic data.

Enhanced collaboration, however, is also dependent on continuing software improvements. This is true with 4C's new HorizonCuber. HorizonCuber is an extension to OpenTooth 4.4 that has been enhanced and extended. A new 3-D slider allows the easy extraction of 3-D boxes from horizonCuber. In addition, the new HorizonCuber is very similar to the new HorizonCuber. HorizonCuber and the new HorizonCuber is very similar to the new HorizonCuber.

New features in OpenTooth 4.4 include significant improvements in loading and editing of SEG-Y data, the ability to create 3-D volumes from 2-D seismic data, improvements in cross plotting features, improvements in multi-machine batch processing on Windows and Linux, a new installer with auto-update features, new multi-gather pre-stack viewers, various data analysis, and much more. 4C says that the tool that will create this new feature will be known as "net pay" and will use forward models in quantitative and qualitative seismic interpretation studies. For more information, go to www.4cearth.com or visit 4C Earth at booth 940.

INOVADelivers Hawk nodal system to Tesla Exploration

Tesla Exploration Ltd. has purchased 10,000 three-channel systems (30,000 channels) of INOVA Geophysical’s cardless Hawk autonomous nodal system. The initial shipment of 18,000 channels is being deployed immediately to a project in the Muschelkalk-Shale of West Virginia, and the balance of 12,000 channels will be delivered to Tesla by June 15, 2012. Hawk provides Tesla’s crews with better productivity, system flexibility, and safety advantages in geographies that are more developed, environmentally sensitive, and present challenging terrain, according to INOVA.

Hawk supports both three-channel analog geophones and VectorSeis multi-component digital sensors with the same field station electronics for better characterization in unconventional plays. The node’s rugged exterior, which is built from lightweight, high-grade aluminum, is made to maximize durability. Hawk’s transcription time is three times faster or more, depending on total volume of production, compared to other nodal systems on the market, according to the company. Crews also have the benefit of advanced drive-by-QC features via Wi-Fi linking.

Tesla Exploration acquires seismic data for the oil and gas exploration industry across diverse regions of North America and worldwide. David Roffe, president of Tesla Exploration Ltd. (Tesla’s US subsidiary) said: “We look for equipment that allows our crews to operate efficiently and safely in any environment, so we were impressed with Hawk’s ability to data download data quickly without a lot of infrastructure. In February of this year, INOVA performed a side-by-side comparison of the Hawk system deployed next to their cableless recording system using analog and VectorSeis multi-component sensors. From this test we were able to evaluate and witness productive output of high-quality data acquisition from the Hawk system.”

Steve Bates, INOVA’s president and CEO said, “It’s our mission to drive the development of products that meet our customers’ acquisition, needs, and it’s important that we focus on products that strike a balance between innovative high technology and usability. We believe that the Hawk system will provide maximum opportunity to utilize their investment in a full array of seismic projects.

For more information, go to inovageo.com or visit Tesla Exploration at booth 1760.

Seventh-generation rock physics software

Ikon Science is launching RockDocQED at EAGE 2012, the seventh generation of its rock physics software package, designed to bring a quantitative edge to the explorations and developments workflows. The seventh generation of RockDocQED has been designed to bring the all-in-one package — well and seismic data, classic rock properties, pressure, geomechanics, and petrophysical rock properties — combined in a geological framework. The concept behind the software design is simple: seismic is the industry’s predictive tool so more should be done with it, and rock physics is the key enabler. This is especially true in the days of $10-trillion-plant wells. RockDocQED is a built on a new 3-D/4-D architecture and it is closely connected to Petrel via Ocean and Linkware through DecisionSpace. According to Ikon, the software for the first time interpreters can create quantitatively defined meaningful 3-D volumes and maps of all the key well placemats in explorations and developments, such as pressures, lithologies, fluids, and porosity — bringing high-end to science to their desktops in an easy-to-use integrated system.

A number of important new tools are now available to users of RockDocQED. There is an expansion of the pressure, capability with the addition of new features, including calculations for fracture gradients, pressure, allowing the creation of 3-D pressure cubes. Seismic data is easily handled in the new system and the seventh generation of RockDocQED includes a seismic data conditioning tool as standard. 3-D framework allows users to create maps and 3-D volumes as an interactive quantitative environment. The RockDoc 2-D forward modelling system is tightly integrated with the 3-D framework enabling sophisticated forward and inverse modelling of all the lab data, pressure, and pressure factors to increase chance of success.

RockDoc is built using Java and runs in a shared Windows/Linux environment, delivering efficiency across the multidisciplinary teams needed for quantitative interpretation. The new RockDoc/Petrel rock physics plugins, which run alongside the existing two-way links between Petrel and RockDoc, has been written in native Ocean format using a combination of Java and C++, to enable Petrel users to directly run rock physics workflows in their Petrel interpretation session.

Ikon said that RockDocQED includes sophisticated tools for building customized workflows such as both workflows and process can be speeded up for general interpreters and non-expert users. The combination of science, usability, and the interpretational transparency is designed to enable geoscientists to identify meaningful geology from seismic, delivering better exploration and development decisions. For more information, go to www.ikonscience.com or visit Ikon Science at booth 1460.

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