

IHS ENERGY

Kingdom[®] 2015

Evaluate potential oil and gas reservoirs,
and plan field development



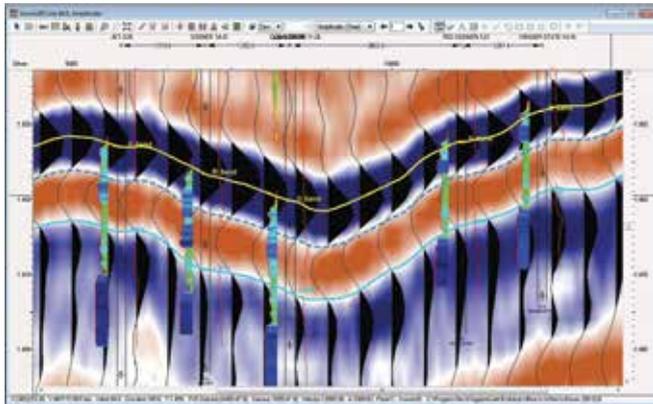
In this latest release, Kingdom provides new features designed to significantly increase efficiency by further integrating geological business processes into the application, making Kingdom the most powerful interpretation tool for not only conventional exploration and field development, but the leader in unconventional exploration.

IHS Kingdom 2015 establishes itself as the industry leader for geoscience interpretation, incorporating best of breed science that spans geological, geophysical and engineering capabilities. Kingdom integration allows your entire asset team to work in one application, while enabling team members to use day to day business process tools.

2d/3dPAK Advanced

Dynamic Depth Conversion

Released in the last version of Kingdom, the [Dynamic Depth Conversion](#) update expands to support more traditional velocity modeling to more accurately create images in areas of sparse well control, grid space interval velocities, and convert stacking velocities to interval velocities to quality control against existing wells.

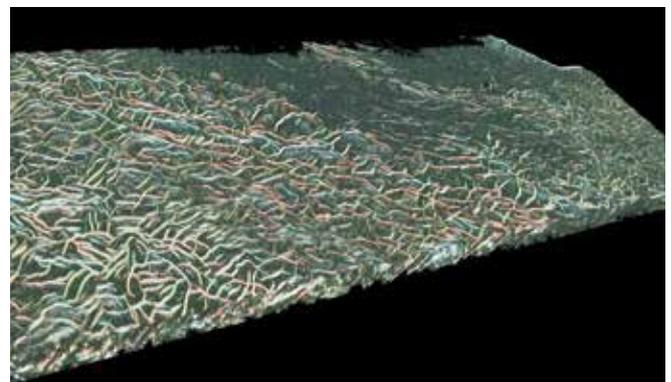


Fault Attributes

With Kingdom 2015, you can gain an increased level of detail for 3D seismic data to use for fault interpretation and fracture identification. Based on Illuminator™ Technology, the new patent pending algorithms allow for the creation of four seismic attributes tuned to identify discontinuities in data including Symmetry, I3D Energy, I3D Dip, and I3D Azimuth.

The high resolution volume:

- Provides the level of detail required for fault interpretation and fracture identification in both vertical views and z- slices
- Helps to increase productivity while performing traditional interpretation for conventional exploration
- Provides unconventional resources the ability to identify un-fractured areas for development and to compare fracture monitoring results against areas away from the immediate borehole

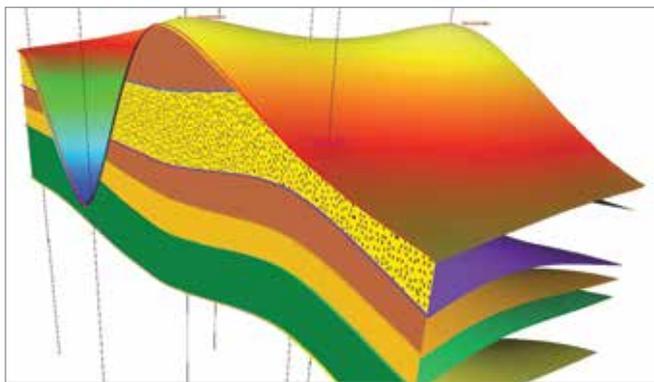


Thanks to New Zealand Petroleum & Minerals for the permission to use the seismic data in this work.

EarthPAK

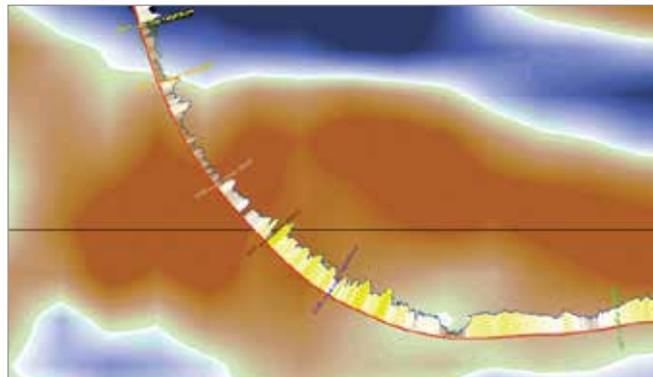
Dynamic Map Update

EarthPAK's **Dynamic Map Update** helps interpreters understand the reservoir much more efficiently by eliminating the traditional cumbersome process of building structural and stratigraphic maps one at a time and independent of one another. This easy to use methodology streamlines mapping processes by dynamically building and maintaining all of the surfaces in the stratigraphic framework while honoring their geologic rules. Additionally, you can create more accurate interpretations by integrating multi-domain data such as seismic information with well data, empowering geophysicists, geologists and engineers to collaborate and coordinate activities more quickly and efficiently than ever before.



Enhanced Geosteering

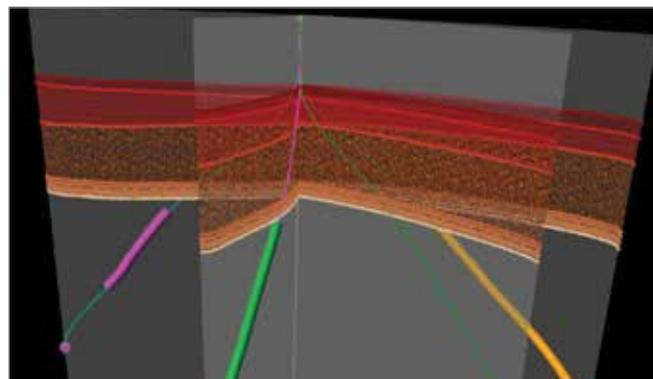
While the potential rewards in unconventional reservoirs are great, so are the technological and economic challenges. Drilling horizontal wells requires making adjustments to the target locations in order to stay in the zone of interest. Kingdom **Enhanced Geosteering** provides the tools needed to very accurately predict the geology ahead of the bit much more effectively than traditional tools. Powered by Dynamic Depth Conversion and Dynamic Map Update, the seismic and subsurface models are updated as new interpretations are made, providing insights to the entire asset team to enable them to optimally steer the well to potential targets, and avoid hazards in front of the bit. Full integration within the Kingdom interpretation environment reduces the need to duplicate data while providing a consistent view across the entire team.



VuPAK

Geological Interpretation in 3D Space

Three dimensional (3D) capabilities significantly enhance the identification and understanding of geologic structures and potential hydrocarbon trends compared to the traditional geological interpretation in Map and Section views. Visualizing all available project data in a common 3D workspace yields more accurate interpretations and provides the ability to steer wells to best optimize reservoir production. Improving well data display and the ability to easily visualize cross sections in 3D directly impact productivity and understanding of the geologic setting quickly.



IHS GeoSyn™

With the release of Kingdom 2015, users can now launch IHS GeoSyn 2D directly from Kingdom. Also available via GeoSyn:

- Use well list from arbitrary line (or any VSD) to create model
- Bring in additional wells into existing Models through Kingdom Data Browser
- Wavelet extraction: Weiner Levinson and Walden-White
- Multi-author visible tops list honored
- Powerful TD chart editor and QA tool

Other New Notable Features

- **Seismic Direct** – With the latest update to Seismic Direct, you can now attach 2D SEG-Y format files directly to your project and avoid duplication of data.
- **Project Explorer** – Helping you manage larger projects more efficiently, the new and improved project tree helps you organize project data based on your team's processes and business needs. This easy-to-use organization tool helps you find and access project items faster through customizable collections, search filters, and the ability to create folder hierarchy
- **Trace Calculator** – New calculations have been added including:
 - Sweetness, a popular attribute that has been adapted with the ability to automatically handle frequency spikes
 - Velocity Blocking which simplifies existing velocity models and will improve performance of AVOPAK
 - GenSpike which gives the ability to generate one or more layered events as Reflection Coefficient spikes that can be used to verify processing, understand wavelets and do simple wedge modeling
 - Clip by Interpolation is a basic trace de-spiking function that detects a spike and clips by interpolating between the preceding and following sample values



IHS Kingdom Gateway Plug-in for Petrel* Software

As the industry continues to depend on advanced scientific software packages from multiple vendors, new tools are required to reduce the time spent in data transfers. From interpretation to modeling, IHS Kingdom software offers tools that make it easier to bridge the gap between software packages, freeing geoscientists to analyze data, rather than focusing on how to move it around.

The Kingdom Gateway plug-in allows you to streamline the interpretation to modeling workflow. Using the Schlumberger Ocean* software development framework, we have created a direct bridge between Kingdom and Petrel* software. Data can be shared between Kingdom and Petrel software in the time it takes to drag and drop between projects.

Whether you need to populate your Petrel software project for the first time or want to augment your models with updated interpretation data, you can rely on the Kingdom Gateway plug-in to remove the need for intermediate file-loading steps.

* is a mark of Schlumberger

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IHS (NYSE: IHS) is the leading source of information, insight and analytics in critical areas that shape today's business landscape. Businesses and governments in more than 165 countries around the globe rely on the comprehensive content, expert independent analysis and flexible delivery methods of IHS to make high-impact decisions and develop strategies with speed and confidence. IHS has been in business since 1959 and became a publicly traded company on the New York Stock Exchange in 2005. Headquartered in Englewood, Colorado, USA, IHS is committed to sustainable, profitable growth and employs approximately 8,000 people in 31 countries around the world.

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