IHS Markit™

Kingdom®
Geology

An integrated interpretation environment that unravels
the complexities of subsurface reservoirs

Kingdom Geology is a comprehensive toolkit that allows for integrated asset team collaboration, large data volume efficiency, and an integrated interpretation environment to evaluate well data that unravels the complexities of subsurface reservoirs, and plans where to target the next opportunity.

Kingdom Geology enables:

- **Better Collaboration** – hit the zone 95% of the time with Kingdom Geosteering! Enhanced collaboration increases productive geology and enables better predictions.

- **Higher Productivity** – Work smarter and benefit from an intuitive interface and user experience. With Kingdom you can complete 90% of key workflows and reduce your cycle time by half through streamlined workflows, increased performance with large projects, and reduced bottlenecks through shared data and workflows.

- **Ease of Use** – Rated number one for easiest to use interpretation, Kingdom allows for more time spent on geoscience and engineering versus learning how to use your software. Built-in videos, training and tutorials are a mouse click away, and with Kingdom MyAccount, a one stop portal for support, our knowledge base of help resources, software updates, and training.

- **Sophisticated Data Management** – Stop wasting time on managing data and get to the business of drilling. Kingdom has the power to manage 1,000,000+ wells, all while avoiding duplication, lost data, with a multi-user environment that will not bog you down.

- **Lower Cost of Ownership** – Save an average of 6 times the cost over the nearest competitor as Kingdom increases performance and scalability while lowering the cost of high technology software and systems. Contact us about our bundled technology, combined software and data, and lower costs for IT and infrastructure.

Capabilities

- Allows structural and stratigraphic interpretations from regional exploration to detailed development- including well planning, geosteering and field management.

- Supports multiple cross sections that are easy to create and manipulate for picking formation tops with and without seismic overlays, perforations, cores, production data and other borehole information.

- Scalable to very large well and culture data sets- and allow posting attribute and bubble maps, log signature maps and highlight wells using multiple colors and symbols.

- Enables easy creation of accurate maps and contours with innovative algorithms such as the patented Flex Gridding.

- Supports Multi-author collaboration allowing large teams to work in a sing project while tracking authorship and updates.
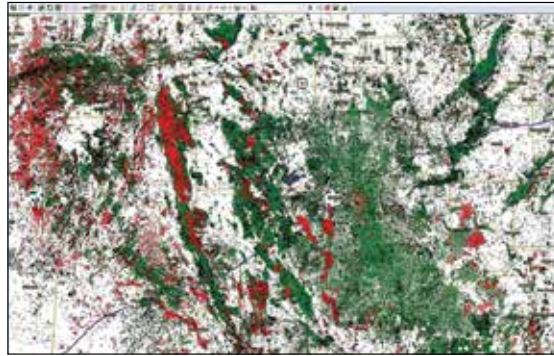
Benefits

Kingdom Geology provides an integrated interpretation environment to efficiently and effectively evaluate well data to unravel the structural and stratigraphic complexities of subsurface reservoirs and plan where to target the next opportunity.

- Make accurate decisions by leveraging geophysical and engineering interpretation within the same project database and platform.

- Conduct basin-wide exploration and development with support for 1,000,000+ well environment.

- Windows based, easy to use tool that combines all the capabilities needed for an advanced field evaluation.

- Offers advanced science for evaluation of key reservoir types such as Carbonates, Deep Water and Unconventional.
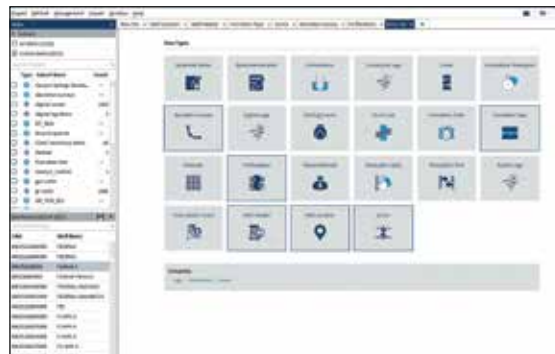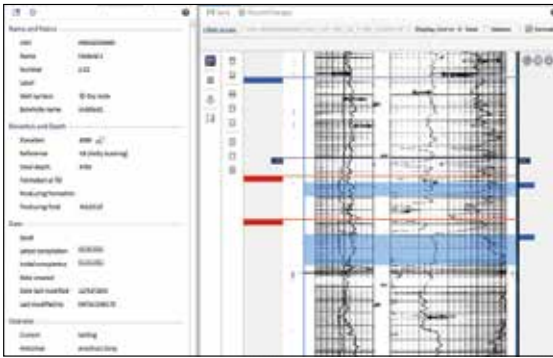
Features

Mapping

- Intuitive mapping allows users to create complex structural and stratigraphic maps quickly.
- Quickly review mapping statistics prior to creating grids.
- Mapping supports a wide range of data types so you can analyze multiple trends across your fields.
- Each map contains its gridding parameters so they can be quickly updated to reflect new interpretation data.
- Grids persist their display parameters so you can efficiently generate the displays you need.
- A new map module, Spatial Explorer, that provides a layer based map to combine Kingdom and proprietary GIS data into one single view.

Data Management

- Manage well data efficiently with the New Well Explorer.
- New ASCII data loader and support for large volumes of raster log data by importing and storing calibrations in the project database.
- Leverage the power of Blue Marble coordinate conversion when loading data.
- Schedule IHS data loading jobs using Direct Connect.
- Share well data, grids, faults and horizons from Kingdom to Petrel*.
- Share data with other applications through OpenSpirit links.
- Manage multi-project environments on SQL Server, SQL Server Express or Oracle.
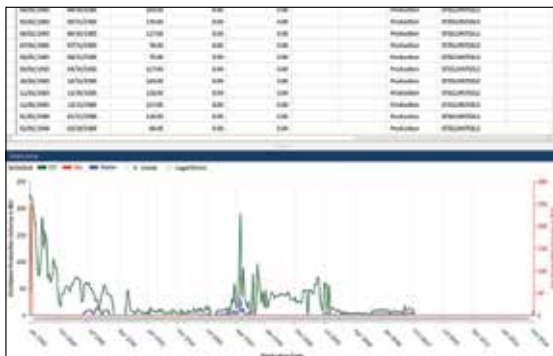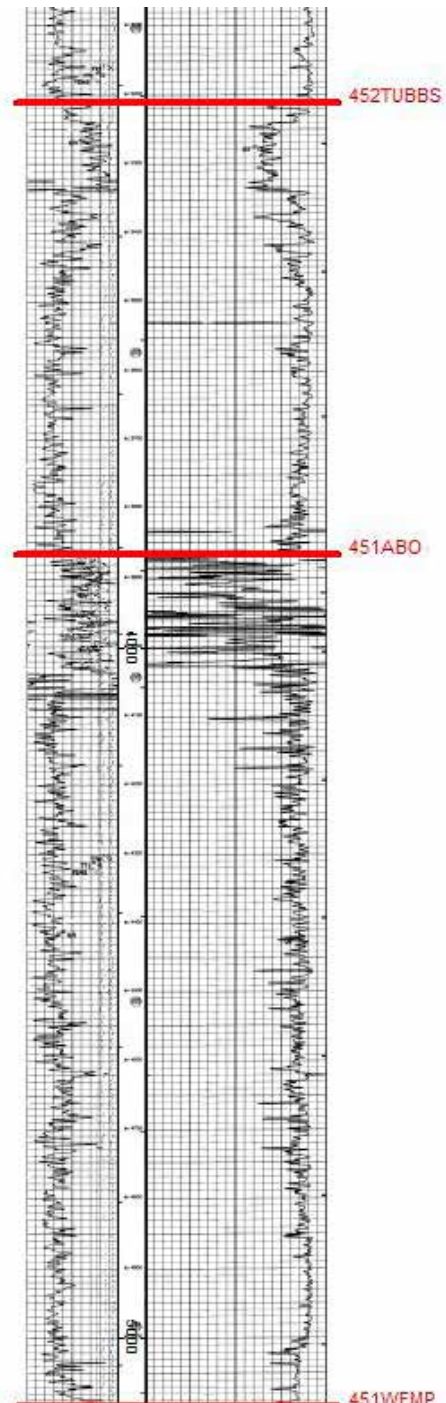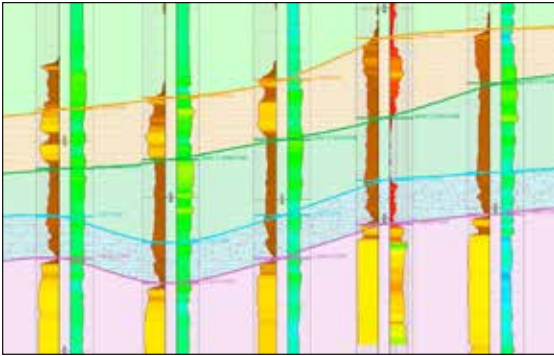
*Petrel is a mark of Schlumberger

Petrophysics

- Utilize computations from digital logs to aide in regional interpretation and mapping efforts.

- Create composite logs to add interpretive lithology and comments in the cross-section.

- Leverage large volumes of raster log data with flexible utilities for calibration and interpretation.

- Calculate and map reservoir properties such as water saturation, porosity, and permeability.

- Neural network-based utility for the reconstruction of missing or corrupted log intervals.

- Interactive curve editing to calculate trends, interactive bulk depth shift, curve splice, curve filter, and de-spike.

- Multi-line formula calculator to create customized petrophysical models.

Production Analysis

- Efficiently map the overall productivity of your play with flexible tools for calculating cumulative and average production volumes.

- Produce presentation quality maps with attribute maps, bubble maps, and annotations.

- Multi-segment Decline Curve Analysis allows the incremental effect of a workover or recompletion to be analyzed.

- Forecasts can incorporate a combination of rate, volume and time limits.

Cross Sections

– Generate structural and stratigraphic cross sections with one-click interactive correlation in cross section and 3D views.

– Share interpretations across the entire asset team with author priority and aliasing tools.

– Unravel stratigraphic complexities more efficiently with flexible flattening and fault surface modeling capabilities.

– Utilize very large well data sets including deviated and horizontal boreholes.

– Display borehole and well log information performantly on cross sections or correlation sections.

– Convert between different section types with a click of a button whether section is in depth or time, true distance, fixed distance or containing seismic attributes.
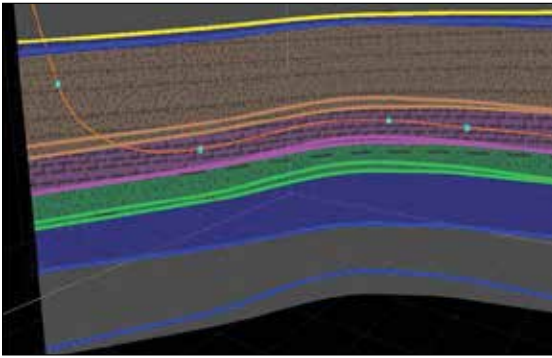
Volumetrics and Economics Reporting

– Multi-layer volumetrics allows evaluation of multiple reservoirs simultaneously.

– Use Monte Carlo simulation or Senstivity analysis to understand trends.

– Perform sophisticated economic analysis linked to production forecasts.

– Links multiple economic scenarios to a single production forecast.
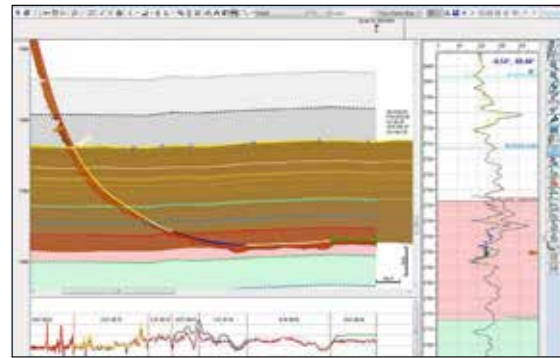
Dynamic Map Update

– Dynamically build consistent surface models using your interpretation data.

– Easily incorporate geophysical and geological interpretations into a single consistent subsurface model.

– Define stratigraphic framework rules to produce consistent geologic models.

– Helps eliminate the need to perform multiple grid operations.

– Automatically builds structural and thickness maps when new data is interpreted or added.

Well Planning

– Design wells through all phases of development.

– Design and modify well plans interactively in 3D, map and cross section environments.

– Store plans so they can easily be updated as new interpretation insights are gained.

– Build well plans that honor your engineering constraints.

– Quickly generate prognosis reports and capture other information along a borehole.
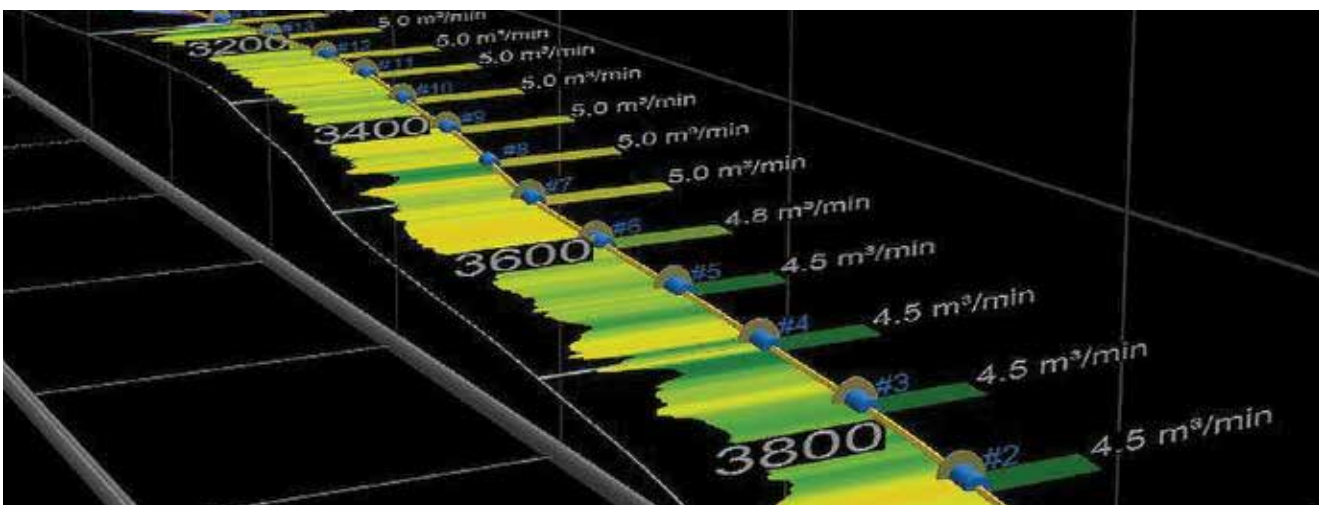
Geosteering

– Efficiently interpret drilling well to reference wells to optimize placement of the wellbore.

– Real-time data streaming accelerates Geosteering interpretation workflows using WITSML.

– Very accurately predict the geology ahead of the bit.

– Powered by Dynamic Depth Conversion and Map Update the seismic and subsurface models are automatically updated as new interpretations are made providing insights to steer the well.

– Avoid hazards in front of the bit.

Completion Optimization

– Provides access to data on completed wells and aids in understanding how to plan a new well's completion, enhancing integration and collaboration between asset team members

– Acts as a Data Management Utility to store all of your frac information to steer the well.

About IHS Markit

IHS Markit (Nasdaq: INFO) is a world leader in critical information, analytics and solutions for the major industries and markets that drive economies worldwide. The company delivers next-generation information, analytics and solutions to customers in business, finance and government, improving their operational efficiency and providing deep insights that lead to well-informed, confident decisions. IHS Markit has more than 50,000 key business and government customers, including 85 percent of the Fortune Global 500 and the world's leading financial institutions. Headquartered in London, IHS Markit is committed to sustainable, profitable growth.

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