



IHS Markit™

# Kingdom<sup>®</sup> Geology

An integrated interpretation environment that unravels  
the complexities of subsurface reservoirs



Kingdom provides scalable solutions for interpretation that allow for integrated asset team collaboration, large data volume efficiency and more confident decision making.

Kingdom Geology streamlines traditional correlation and mapping by introducing technologies such as Dynamic Map Update that dynamically build and maintain all of the surfaces in the stratigraphic framework while honoring their geologic rules.

By doing so Kingdom Geology allows users to improve interpretation accuracy by uniting seismic and well data, incorporating rasters, digital and composite logs and to conduct basinwide exploration with support for 100,000+ well environments.

Kingdom Geology is one of the most integrated, feature rich and user driven Geologic software that is fully integrated with Geophysical and Engineering domains.



## 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

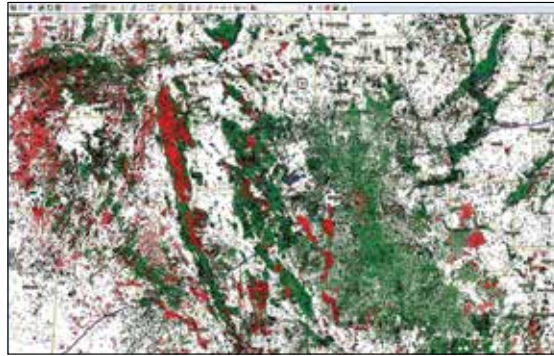
Kingdom Geology provides an integrated interpretation environment to efficiently and effectively evaluate well data to unravel the structural and stratigraphic complexities of subsurface reservoirs and plan where to target the next opportunity.

- 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 100,000+ 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.



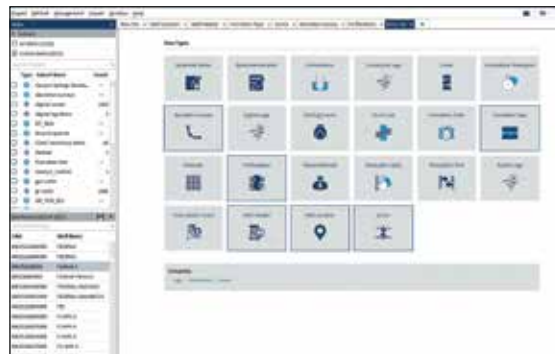


## Features



## Mapping

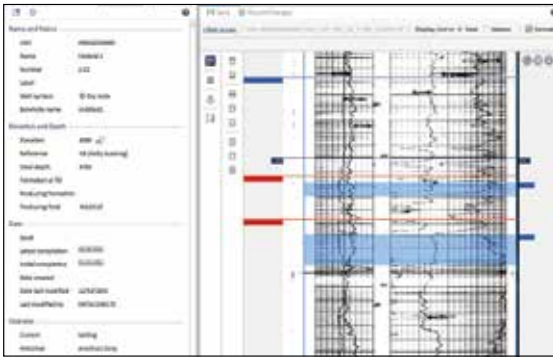
- Intuitive mapping allows users to create complex structural and stratigraphic maps quickly.
- Quickly review mapping statistics prior to creating grids.
- Mapping supports a wide range of data types so you can analyze multiple trends across your fields.
- Each map contains its gridding parameters so 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



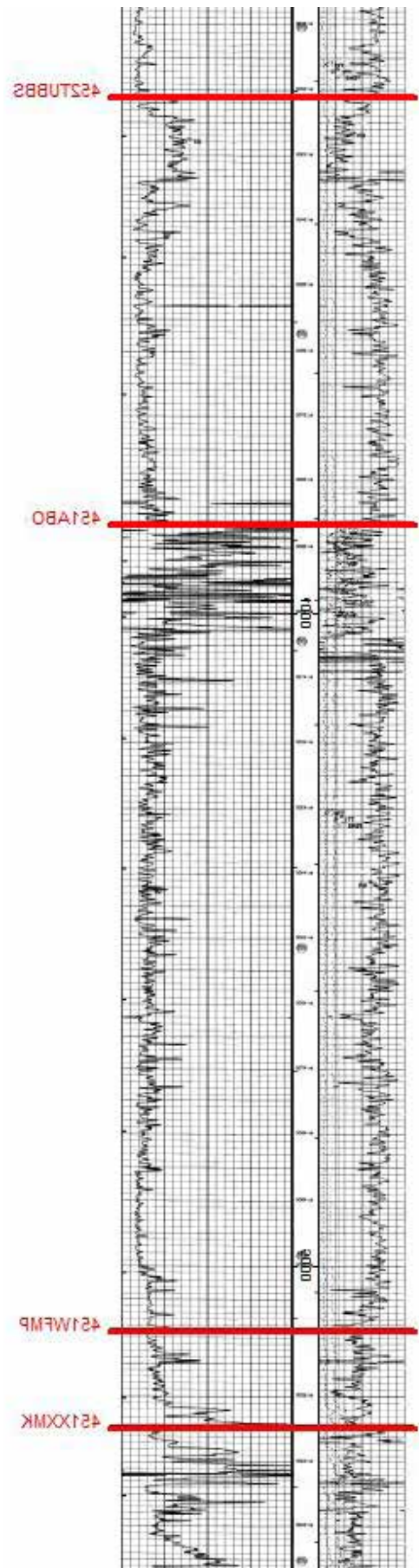
## Petrophysics

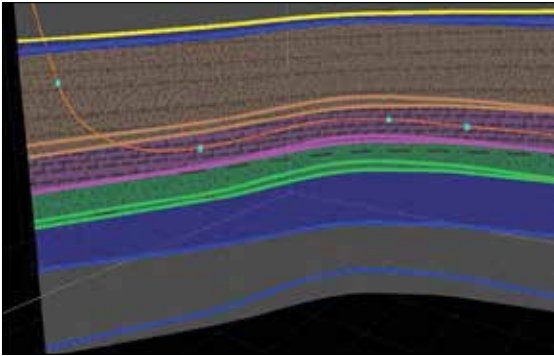
- Utilize computations from digital logs to aid in regional interpretation and mapping efforts.
- Create composite logs to add interpretive lithology and comments in the cross-section.
- Leverage large volumes of raster log data with flexible utilities for calibration and interpretation.
- Calculate and map reservoir properties such as water saturation, porosity, and permeability.
- Neural network-based utility for the reconstruction of missing or corrupted log intervals.



## Production Analysis

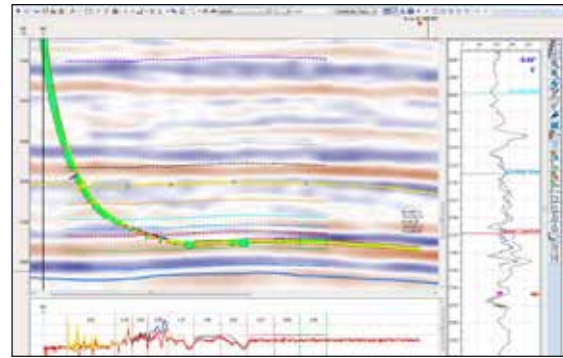
- Efficiently map the overall productivity of your play with flexible tools for calculating cumulative and average production volumes.
- Produce presentation quality maps with attribute maps, bubble maps, and annotations.
- Multi-segment Decline Curve Analysis allows the incremental effect of a workover or recompletion to be analyzed.
- Forecasts can incorporate a combination of rate, volume and time limits.





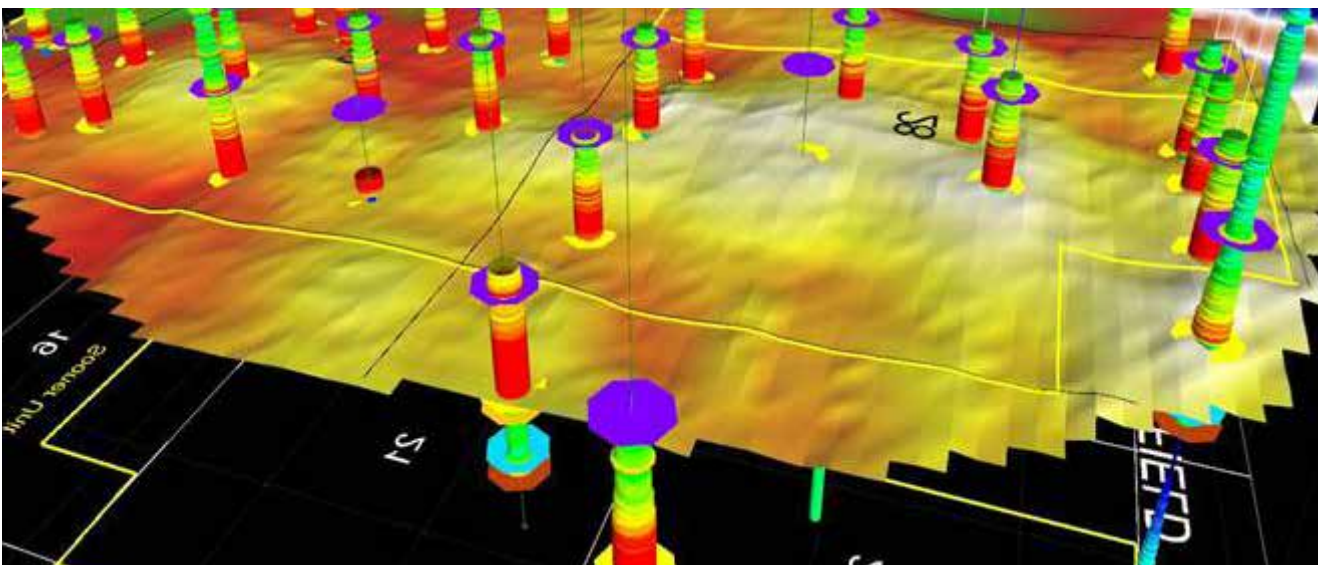
### Well Planning

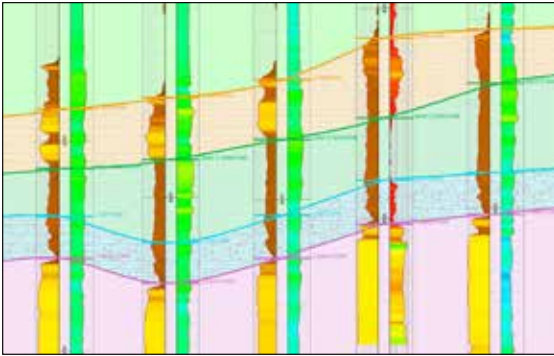
- Design wells through all phases of development.
- Design and modify well plans interactively in 3D, map and cross section environments.
- Store plans so they can easily be updated as new interpretation insights are gained.
- Build well plans that honor your engineering constraints.
- Quickly generate prognosis reports and capture other information along a borehole.



### Geosteering

- Efficiently interpret drilling well to reference wells to optimize placement of the wellbore.
- Make adjustments to the target locations in order to stay in zone of interest.
- 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.





### 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 Economic Reporting

- Multi-layer volumetrics allows evaluation of multiple reservoirs simultaneously.
- Use Monte Carlo simulation or Sensitivity 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.



## 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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