

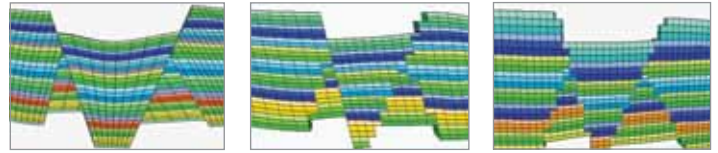
What's New in Petrel Software

The latest Petrel* release enables increased workflow productivity, improved accuracy through powerful new science, and cross-disciplinary workflows, building reservoir integrity—from seismic to simulation and beyond. At the heart of the Petrel platform sits the shared earth model that acts as the conduit between the different phases in the reservoir model life cycle. The shared earth model also gives the different disciplines the ability to view the reservoir's multiple perspectives and to collaborate. In the world of Petrel software, teamwork is imperative, but this release also focuses on the individual user's productivity, effectiveness, and domain requirements. These core strengths of Petrel software are your key to success—in exploration or field development. Petrel software enables you and your team to deliver confident decisions.

Petrel software improves how disciplines work together

Flexible well section window

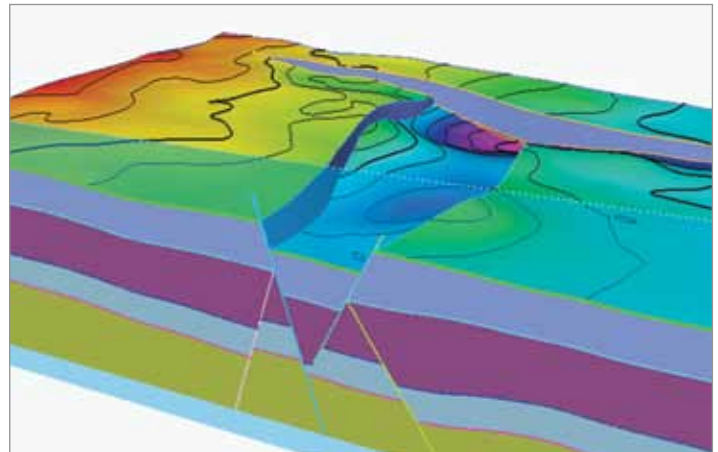
In Petrel software, the strength of the 3D window—the ability to view and interact with all types of data—has been extended to the 2D well section window to support a wide variety of well correlation and cross section workflows. Standard 2D well data can be displayed together with seismic fences, grid model objects, and even dynamic information. Customizable templates can be generated and shared across the organization.



Depending on complexity, you can choose the most appropriate type of grid (pillar grid, partial stair-step grid, or stair-step grid).

Modeling complex structures made faster and easier

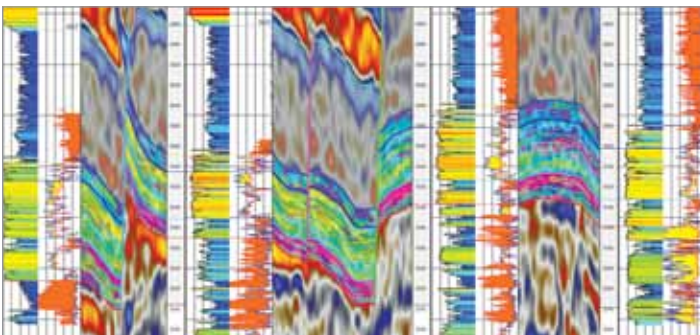
The modeling-while-interpreting (MWI) workflow enables you to validate seismic interpretation while building the structural model, resulting in a robust and sealed structural framework. With the new Petrel structural gridding option, the most complex faulted reservoirs can be correctly modeled. Depending on the complexity of your structure, you can select the grid type best suited for the fault type at hand, in a way that is optimal for property population, fault transmissibility calculation, and fluid flow simulation.



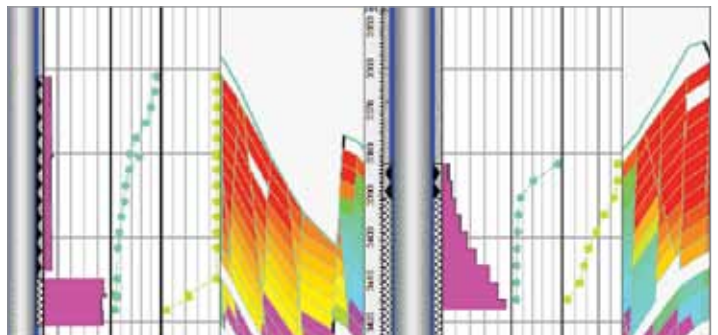
Structural framework building starts from the first interpretation step, generating a robust and sealed framework.

Faster history matching by manipulating all facets of the model

The potent combination of capabilities in the Petrel history matching workflow—including definition and analysis of history matching functions; uncertainty analysis to assess parameter sensitivity; evaluation of sealing behaviors; and local model updating to work directly on problem areas and quickly run new scenarios—enable you to better match production history data to accurately represent reservoir geology.



The well section window shows well log data against a backdrop of seismic data and a porosity model.



Use the time player and well section windows to animate well events, simulated inflow logs, and oil saturation through time.



What's New in Petrel Software

Interactive data search results in context

The new Studio* Find function in Petrel software offers an efficient way to seamlessly search across the data environment and multiple Petrel projects, extracting information in context. A combination of filters (polygons, name strings, geographic locations, colors, data types, dates, etc.) can be used to locate data. All objects found can be displayed in a 2D or 3D canvas, or transferred into the current project.

Collaborate in knowledge and data

The new Studio Annotate function lets you share important unstructured information relating to your work and save it for future reference. You can attach images, URLs, or simple text notes to projects and objects, as well as exchange ideas, point out problems, highlight features, add useful information about the study area, and much more, with current or future team members. Studio Share tools facilitate collaboration on your current session with your colleagues across the world.

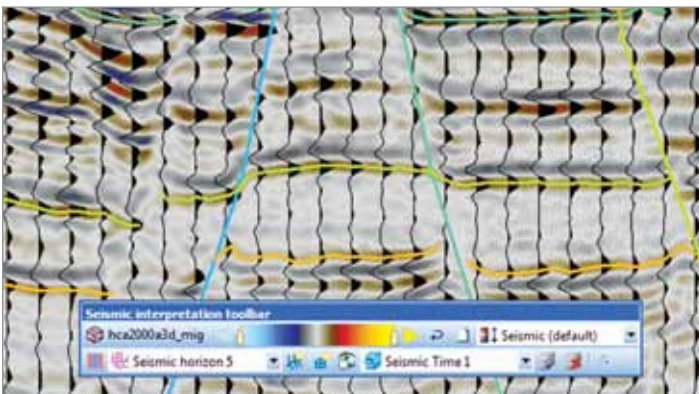
Petrel software delivers access to the best science

Spatial accuracy

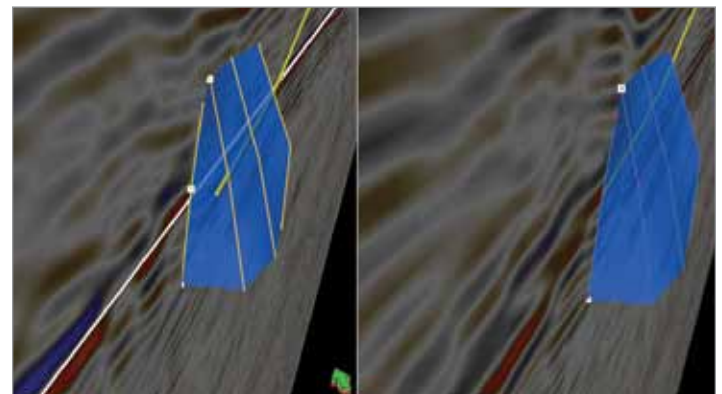
With Petrel software, you will experience a step change in accuracy. A new, patented method is used to position 3D seismic, providing an unprecedented level of precision. This delivers the ability to position your seismic and well data correctly, regardless of the coordinate system and with no errors or distortions.

Prestack Seismic Interpretation

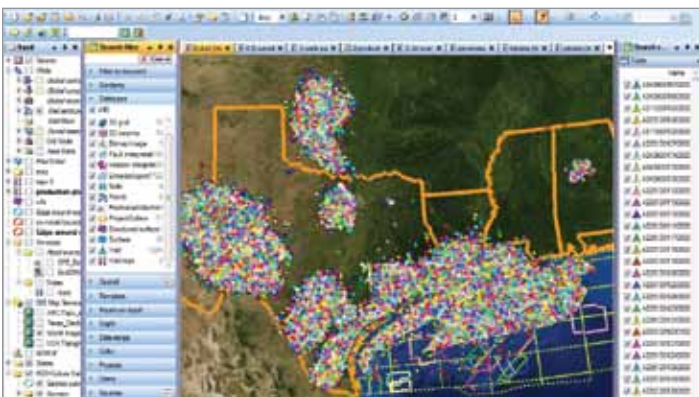
The new Prestack Seismic Interpretation plug-in for Petrel software, developed by WesternGeco, supports visualization and interpretation of gathers to interactively process and stack data, bridging interpretation and processing workflows.



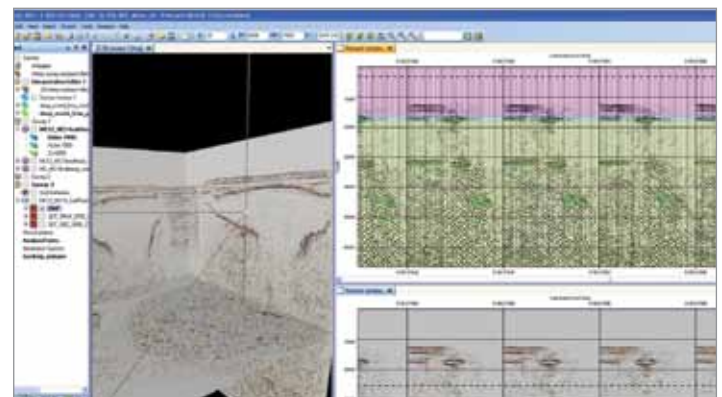
Petrel software allows you to customize the interpretation toolbar.



This example shows the impact of converting seismic and point data: well target (yellow) in standard systems with errors of 30–50 meters (left), and in Petrel software (right).



Studio Find tools let you interactively search, find, and transfer result data to your Petrel project.



Improve exploration confidence and bridge the gap between interpretation and processing with PSI technology delivered by WesternGeco.

Local model update

Update only the portion of the model required to reflect new information. New local model update workflows include structural model updates only in cells around wells. Extended options let you select cells requiring property updates, which is particularly useful with new horizontal wells. This capability makes it possible to preserve the history match on existing wells when new drilling or production data is introduced.

Property modeling advances

Petrel software offers huge advances in the way target fractions are honored. The flexible geometry option enables convergence, even with a poor initial choice of dimensions in the object modeling. New property modeling functionality supports the generation of more complex facies associations to more accurately model complex reservoir geometries.

Simulate reservoirs with the power of INTERSECT* software

The Petrel reservoir engineering environment supports the next-generation INTERSECT simulation software. INTERSECT software is designed to support representative modeling on large and complex fields with excellent performance and scalability on multiprocessor and multicore hardware, as well as novel numerical techniques for nonuniform and unstructured grids.

Petrel software delivers increased workflow productivity

Enhanced tools for geophysicists

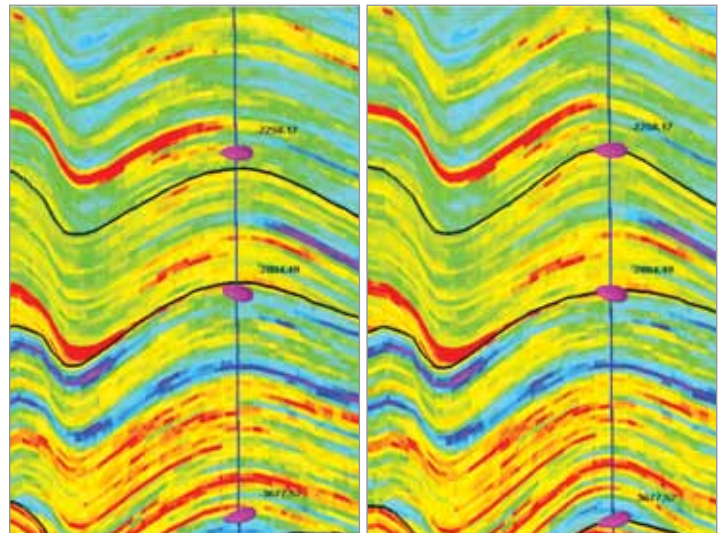
New and improved interpretation and usability tools give the interpreter increased speed and accuracy. The new tools include a restrict mode for faults and horizons, 3D seismic flattening, a new automatic fault picker, seismic extraction along fault planes, and a new tracking method (polygon tracker) specifically designed for detailed interpretation.

Collect your favorite objects and processes

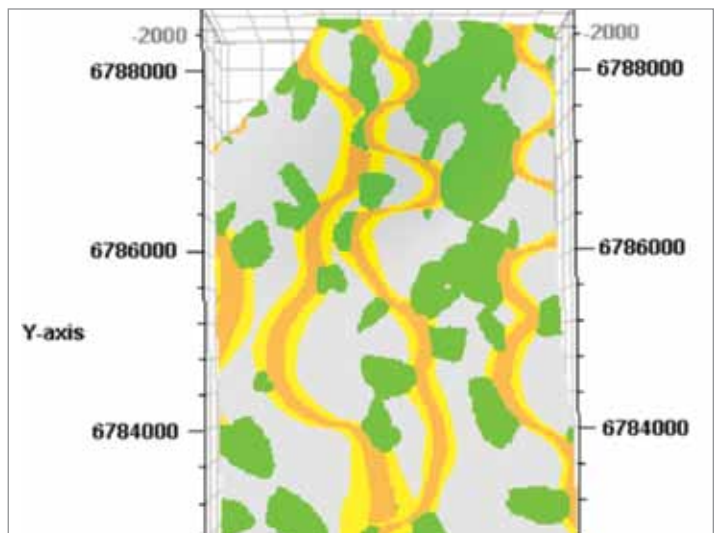
With the Studio Favorites function in Petrel software, you can create your personal collection of favorite objects and processes to simplify and streamline your day-to-day workflows.

Automate fault picking

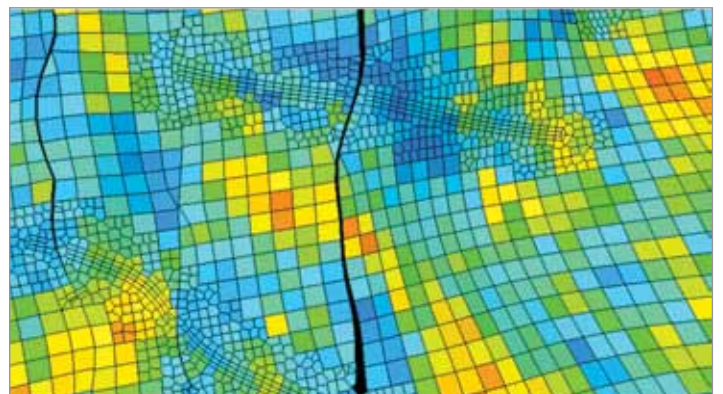
The new advanced automatic fault picking (AFP) technology automates fault picking by tracking on any amplitude or attribute volume, including the Petrel Ant volumes. Together with the industry's highest-quality and flexible random-line workflow, you can manipulate the plane perpendicular to the fault for improved picking accuracy.



Example showing local structure update. Before (left) there is no match between the model and the new markers. After (right) the horizons are flexed to match the new markers without disturbing the porosity model.



New property modeling tools enable the generation of more complex facies associations.



INTERSECT software provides better flow prediction due to more accurate representation of geological details (local refinements and unstructured grids) and fluid flows.

What's New in Petrel Software

Scalable management of large seismic data, logs, and simulation data

The Petrel core has been optimized to handle larger amounts of data. The Studio Find function lets you appraise hundreds of thousands of wells across multiple Petrel projects and bring wells into the working project as needed. Together with existing Petrel seismic scalability, you can now display thousands of 2D lines together with hundreds of gigabytes of 3D seismic and interpretation data. In addition, multimillion cell simulation models, including INTERSECT models with increased geological detail using local refinement and unstructured grids, now perform better.

Rapid simulation results analysis

To help you achieve more efficient day-to-day simulation analyses, Petrel software offers one-click access to standard plots. It also allows one-click updates of plots to new wells for rapid screening and comparison of your results using a new, faster-loading summary format.

Converting ECLIPSE* decks into Petrel projects

Petrel software provides enhanced capabilities for reading and converting existing ECLIPSE data decks into Petrel projects, thus enabling the full suite of Petrel workflows and reservoir model updates.

E-mail sisinfo@slb.com or contact your local Schlumberger representative to learn more.



www.slb.com/petrel