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GeoTesting

Geology-based well test design and interpretation services

APPLICATIONS

- Conventional, unconventional, and hydraulically or naturally fractured reservoirs with multiple wells and multiple layers

BENEFITS

- Optimizes test design to ensure successful reservoir characterization
- Validates and confirms reservoir models using dynamic measurements
- Improves accuracy in production forecasting by reducing uncertainty

FEATURES

- Calibrates reservoir models by integrating well test data into reservoir simulation models
- Enhances automation during the interpretation process
- Delivers a seamless geological and geophysical (G&G) interpretation process

GeoTesting geology-based well test design and interpretation services maximize the value of well tests by integrating G&G models with dynamic well test data—helping you increase certainty in reservoir models, improve production forecasting, determine reservoir connectivity, and identify sweet spots.

Design and interpretation using GeoTesting services, a plug-in for the Petrel E&P software platform, is performed in a shared earth model for greater certainty compared with conventional analysis limited to geometrical models.

GeoTesting services can be applied to conventional, unconventional, and hydraulically or naturally fractured reservoirs with multiple wells and multiple layers.

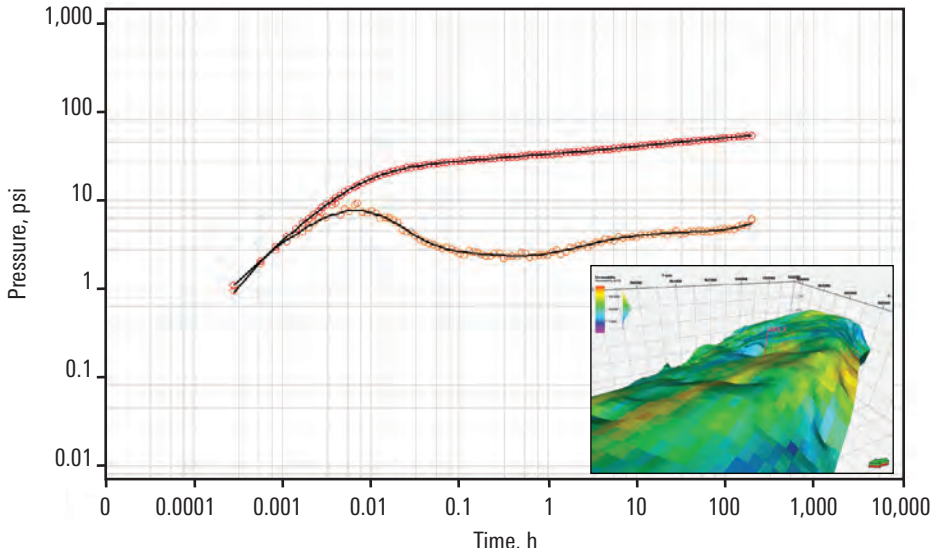
Optimize test design using available G&G data

Enabled by the Petrel* E&P software platform, GeoTesting services allow geomodelers and engineers to perform G&G-centered design and interpretation in a shared earth model for greater certainty compared with conventional analysis limited to geometrical models. Pressure derivative plots are also provided within the simulation environment using the software's advanced functionality.

During the test design process, GeoTesting services are used to optimize test design for characterizing geological features of interest and providing alternative test options. Uncertainty in the geological model is included during the design process to ensure optimal data quality as well as deliver analysis that accurately reflects the reservoir.

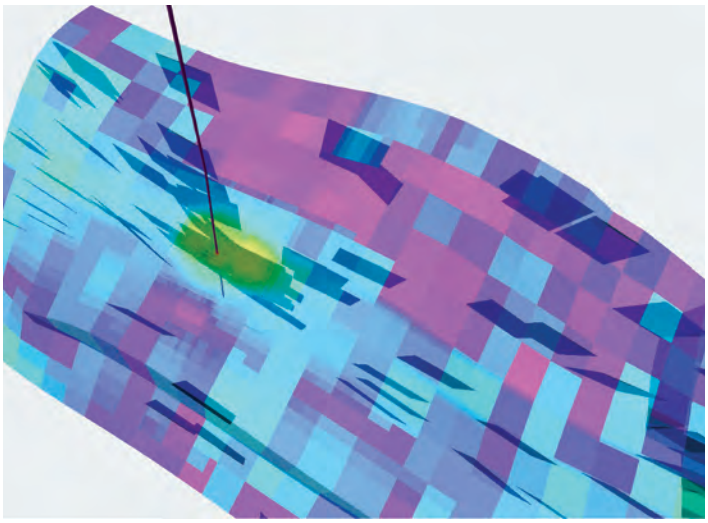
Maximize the value of your well test

GeoTesting services enable well test information to be used to its full extent, providing seamless integration with the reservoir models and geologic information. This is unlike conventional interpretations, which are generally performed independently from the valuable G&G information. Interpretation of complex tests is easily performed, providing deeper and more accurate insight into your reservoirs and maximizing the value of dynamic measurement services.

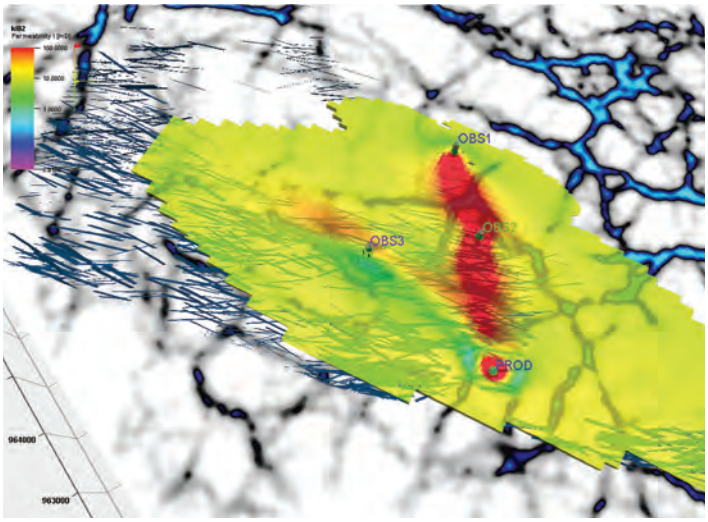


Log-log diagnostic and other advanced plots for test design and interpretation are readily generated in the Petrel platform.

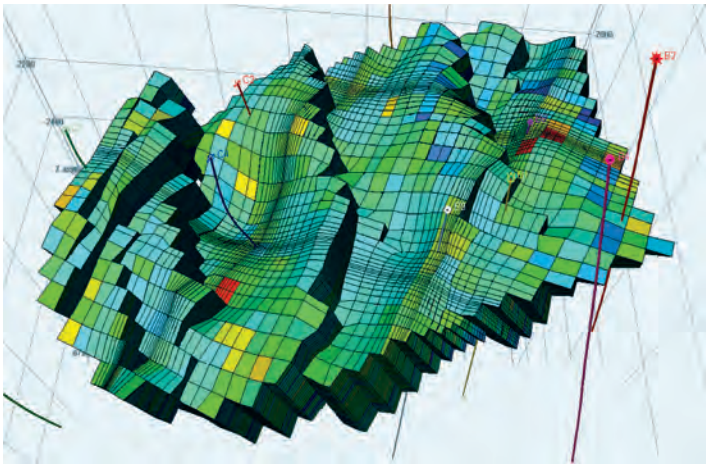
GeoTesting



Discrete fracture model is generated based on the effective permeability distribution.



Updated permeability field shows interwell connectivity in a naturally fractured reservoir.



Autogridding around the tested wells improves pressure transient simulation.

Understand complex environments

Design and interpret well tests with confidence in fractured environments with the industry-leading naturally fractured reservoir simulator. Model your fractures explicitly and calibrate with pressure transient tests to determine which fractures matter and which do not.

Automate reservoir model updates

Advanced simulation technology is used to match the well test data by automatically updating the reservoir model properties. The built-in optimizer allows complete automation in the matching process without the need for manual updates to the reservoir model properties.

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