ResPack Fast

Rock properties from seismic and well data - fast

CGG

INDUSTRY CHALLENGES

Speed

Speed is critical. Fast delivery of key seismic attributes is core to the development of unconventional assets.

Placement

Heterogeneous formations present a host of well placement challenges. Determining key elastic properties helps identify and optimize drilling locations.

Certainty

Seismic data provides unique insight beyond well control— including greater understanding of rock properties and more certainty of reservoir distribution.
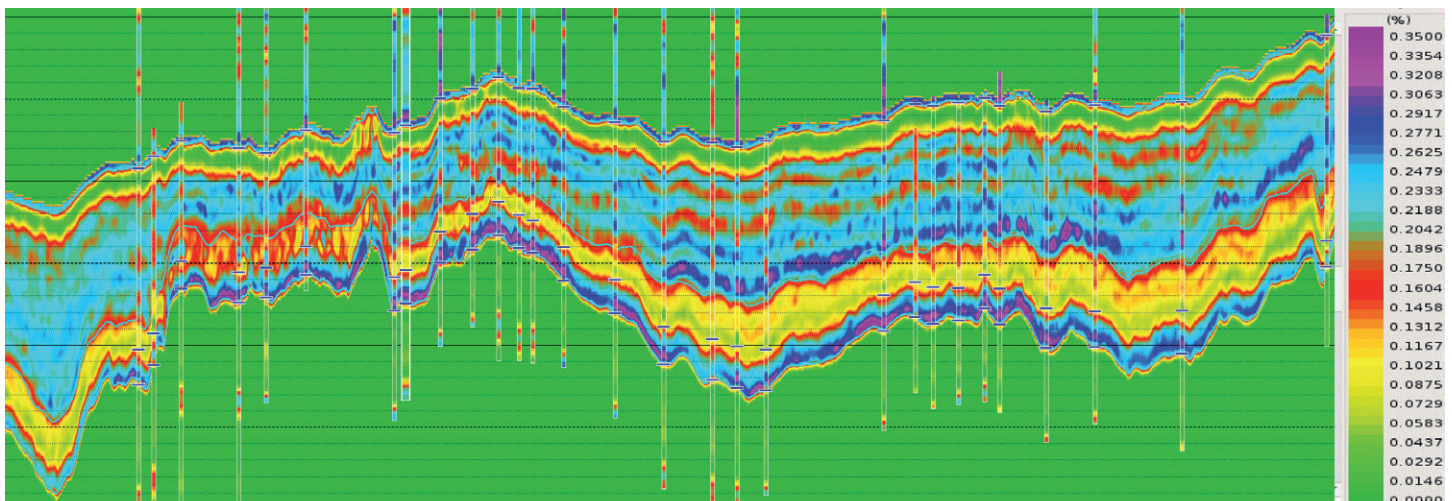
GEOSCIENCE SOLUTIONS

RESPACK FAST ADVANTAGES

- Accelerate optimum and efficient subsurface understanding using the power of machine learning.
- Make timely management decisions with key elastic rock property volumes delivered in a short timeframe.
- Gain knowledge of rock properties across the entire asset area by combining seismic and log data.
- Achieve fast identification of fractures and faults within the subsurface.

RESPACK FAST IDENTIFIES RESERVOIR TARGETS IN WEEKS

CGG completed a **ResPack Fast** client project using CGG multi-client mid-continent 3D seismic data.

This project used log data from 90+ vertical wells to generate rapid GR and DPHI volumes across the asset area. Results were delivered in weeks and were used to quickly identify new drilling prospects.

Porosity derived from pre-stack seismic inversion and Deep Forward Neural Networks highlighting potential targets in the SCOOP & STACK plays of Oklahoma.

RESPACK FAST DELIVERABLES

Reservoir characterization

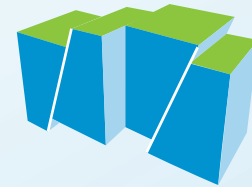- Gamma ray volume
- Porosity volume

Seismic attributes

- P-impedance
- S-impedance
- Lambda Rho
- Mhu Rho
- Poisson's ratio
- Vp/Vs ratio
- Dynamic Young's modulus

Fractures and faults

- Fracture and fault volume

RESPACK FAST ADD-ONS

Geochemistry	Evaluation of source rock potential and hydrocarbon occurrence
Sedimentology	Evaluation of core to determine depositional setting and sedimentary architecture. Facies data are utilized in core-to-log-to-seismic constraint and upscaling.
Biostratigraphy	Evaluation and determination of formation age and depositional environment. Key input to regional stratigraphic understanding with sedimentology.
RoqScan™	Automated Mineralogy to provide geological ground truth calibration for petrophysical analysis, rock physics and reservoir characterization.
Pore pressure analysis	The study of how pressures within rock pores vary within the subsurface.
Production analysis	Advanced analysis to identify crucial production drivers within your asset.
GeoAnalytics	Advanced data analytics to identify production performance drivers within the subsurface from the integration of seismic, geology and engineering data.