

RokDoc Pressure Prediction



Analyze direct and indirect (mudweights) pressure measurements to establish the subsurface pressure distribution and geological bases for the development of overpressure through geological time. Assess drilling data, image logs and lab data and perform dynamic and static measurement calibration to determine stress regimes and interpret historical drilling and production performance. Combine geopressure and geomechanical models with 3D elastic properties to understand risk and estimate and forecast drilling and production performance at undrilled leads and prospects across the drilling portfolio.

Industry Challenges



Non-productive time costs the industry \$10+ billion/yr.

- Rapid changes in pore pressure and fracture gradients can lead to unplanned additional casing strings and/or sidetracks
- A reactive approach to drilling exploration wells leading to risks not being fully quantified



Environmental and financial fall-out from spills

- Limited, world-wide industry standards of practices for effective communication of risk
- Lack of communication and awareness of risks associated with drilling wells



Reduction in staff and loss of knowledge base

- Less expertise, support of key personnel
- Limited training of key decision makers
- Data stored locally resulting in the loss of data and knowledge transfer

Benefits



Efficient
Reduce cost of complex wells

- An integrated cross-discipline platform for mitigating appropriate risks
- Consistency in database and approach across multiple assets
- Seamless interaction between pre-drill to real-time monitoring



Safer
A more systematic approach to de-risking

- Capture and interrogate all available legacy and modern datasets
- Build robust, geologically sensible pore pressure models
- Quantify uncertainty effectively



Easier
Logical workflows with intuitive GUIs

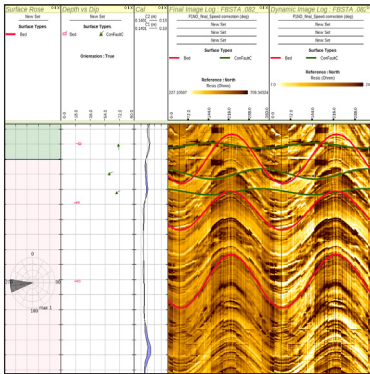
- Best practice pressure analysis captured in workflows
- Less time consuming to deliver value to assets
- Impactful communication of risk

Pressure Prediction Module Add-ons

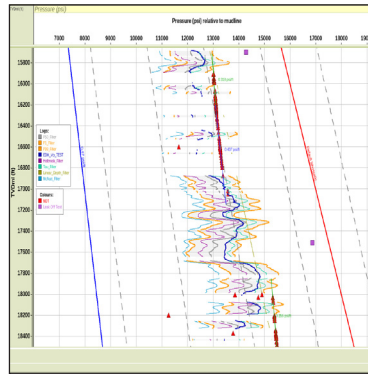
RokDoc Platform	Pressure Prediction Module	<p>Geomechanics and Image Logs</p> <p>Interpretation of image logs for borehole breakouts, sedimentology and fractures. Interactive geomechanical model building, analysis and scenario modeling. Key features include; surface picking and image log conditioning, static-dynamic property calibration, wellbore stability, stereonet and more.</p>
		<p>Seismic Pressure Calculator</p> <p>Develop 3D models for prediction of subsurface pore pressures away from well control. Key features include; 3D model building, zone based overburden and normal compaction trends, seismic velocity calibration, stochastic pore pressure prediction, multi-realization analysis and well planning.</p>

Technical Features

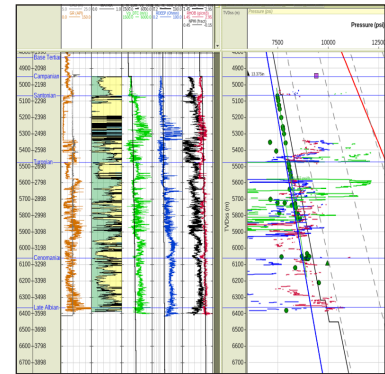
- Direct connectivity to Petrel* and other 3rd party software using Open Spirit connector
- Batch loading of core, well and seismic datasets
- Drilling event sets and drilling history plots
- Rich QC and editing via log and cross-plotter functionality
- Single, matrix and user defined cross-plotting with well viewer interactivity
- Log prediction function for missing / incomplete log data
- Recipe based pore pressure workflow
- Vertical stress (overburden) generator to compute lithostatic trend
- Shale trend for exclusion of non-shale intervals using sophisticated filtering
- Normal compaction trend to generate pore pressure profiles
- Stress / Poisson ratio trend analysis
- Pore pressure calculator provides most comprehensive suite of pore pressure models in industry
- Fracture pressure calculator
- Fracture pressure QC plot
- Pressure build up plots for QC and interpretation of direct pressure data
- PressureView direct pressure data analyzer for reservoir pressures, fluid gradients and contact analysis
- Fully integrated with Rock Physics and Reservoir Characterization Modules



Surface rose diagram, tadpole plot and interpreted image log



Pore pressure predictions and uncertainty for well planning



Geological interpretation of drilling events, mudweights and pore pressures

Supported Data Types

- Raw well logs
- Composite, processed well logs
- Interpreted well logs
- Image Logs (surface sets, DITF)
- Discrete value sets
- Checkshot data
- Directional surveys
- Formation tops / markers
- Core data (PoroPerm, Elastic)
- SCAL (Capcurves)
- Litho / chronostratigraphy schemes
- Mud logs
- Pressure data (MDT, RFT etc)
- Integrity data (FIT, LOT etc)
- Drilling event data
- Breakouts
- VSP (zero offset/walk-around)
- Post-stack seismic
- Pre-stack seismic
- Horizons
- Corner Point Grids (CPG's)
- Polygons

Data Import Formats

- LAS
- DLIS
- ASCII
- XLS
- JPEG
- TIFF
- SEG-Y (REG/IRREG)
- ECLIPSE.EGRID
- ECLIPSE.GRDCL
- SGRID
- WVJ
- WAV
- WAVE
- Import from secondary project
- Import from external project
- Petrel* Interconnector
- Open Spirit

Visit www.ikonscience.com or email info@ikonscience.com to discover more and request a demo.

System Requirements

RokDoc is supported on the following operating systems:
64bit Windows: Windows 7, Windows 10
64bit Linux: RHEL 6, RHEL7

Processor / hard disk requirement:
Preferred: dual quad core processor / SSD
 Minimum: quad core processor / fast rotational speed HDD

System Memory (RAM) requirement:
Preferred: 64GB
 Minimum: 8GB (16GB practical minimum for RokDoc 3D / ChronoSeis)

Graphics card requirement:
Preferred: NVIDIA Quadro K5200 (desktop) / NVIDIA Quadro K5100M (laptop)
 Minimum: NVIDIA Quadro K4200 (desktop) / NVIDIA Quadro K3100M (laptop)

