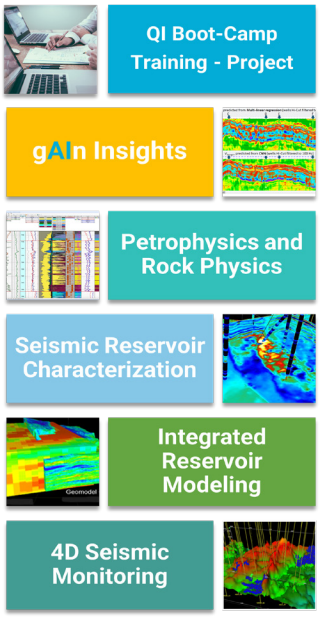
GeoSoftware Services

Reduce Risk, Reduce Cost, Improve Efficiency



Innovative Geoscience Technology and Expertise that provides Unique Customer-Oriented Solutions to the Toughest Energy Industry Challenges

At GeoSoftware, we understand that high-definition insight is a valuable advantage when making drilling and completion decisions with limited resources. Our team integrates multi-scale, multi-disciplinary data to provide insights into complex reservoirs that help you minimize drilling risk, maximize well performance and drive the highest possible return on your investment.

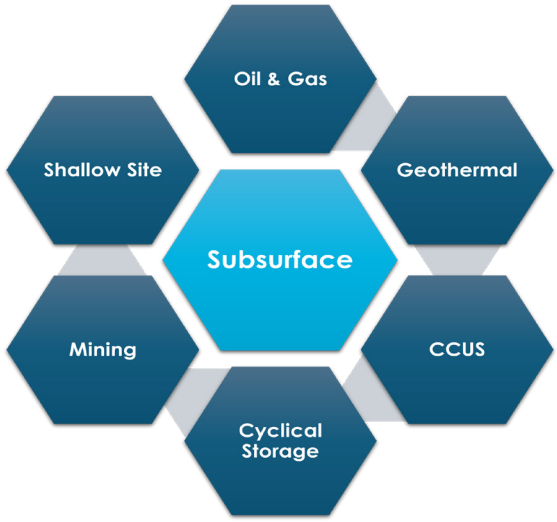
From exploration to decommissioning, our reservoir team has applied unique methods with best-in-class technology that has been tested throughout 30+ years of working on hundreds of projects around the globe.

Work with our Experts on your Next Project:

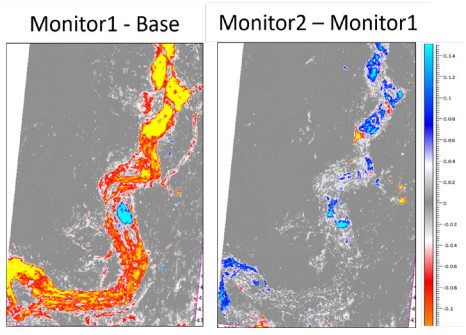
- Get the answers you need for quick asset evaluation and drilling decisions
- Leverage our knowledge in workflow automation to quickly deliver high-value, high-impact solutions
- Access to mature technology and leading-edge research centers in reservoir technology

Empowering Energy Excellence Across Diverse Sectors with GeoSoftware Innovation

- **Geological and Geophysical Screening Studies**
- **Sensitivites, Scenarios and Uncertainty**
- **Realisitic Models for Flow Simulation and Forecast**
- **Monitoring Operations and Reservoir Management**
- **Optimizing Site and Development Capex**
- **Long-Term and Low - Cost Monitoring**
- **Risk Mitigation and Detection**



Connect seismic to production data and refine reservoir-model history match
Jason RockMod 4D Geostatistical Seismic Reservoir Characterization



Stratal Slice of 4D impedance changes

"These results are more promising than those seen elsewhere to date. **RockMod4D** *allowed for detailed highlighting of water and gas cap anomalies."*
Oil & Gas Operator, Europe.

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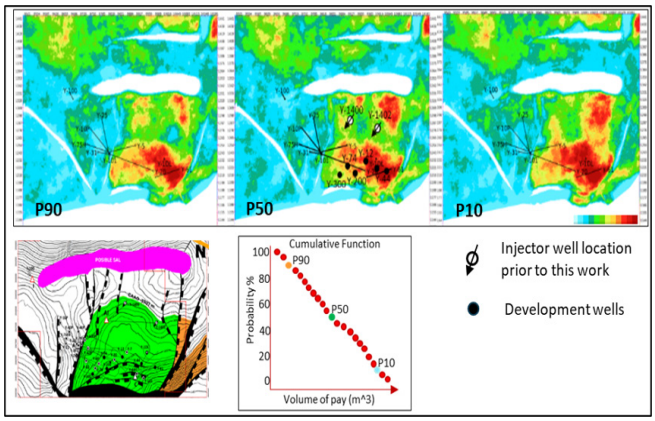
Case Study #1: Production is declining, low sweep efficiency - reservoir architecture and connectivity are poorly understood

Solution: Seismic-to-Simulation workflow to generate scenarios of high-detailed, seismic-constrained 3D reservoir properties and to capture the uncertainty associated with the reservoir model.

Results: Provided characterization results with a vertical detail of **1-2 meters**. Explained drivers behind areas of low performance & suggested a **relocation of 7 injection wells** to improve sweep efficiency. Provided uncertainty analysis for secondary recovery plans and updated the OOIP estimation to more than **124 MMB.**

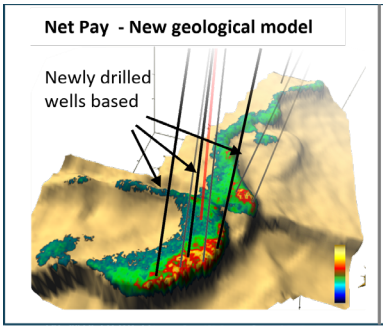


Case Study #2: Unexpected drilling results require a greater understanding of the subsurface uncertainty

Solution: Integrate rock physics, seismic, and well data to build an accurate predective model that supports drilling plans .

Results: Allowed for a **reliable net pay** prediction confirmed by newly drilled wells (**average reliability is %92**).

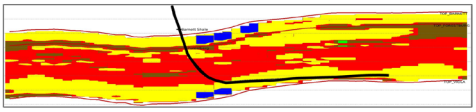
Suggested **relocating 8 proposed wells** delivering **cost-savings in excess of $32M.**



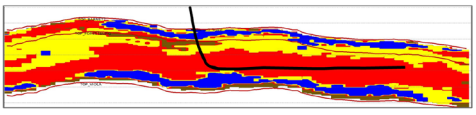
Pre- and Post drilling statistics

Well 1	Drilling	Geostatistical Inversion
Net Pay, m	32	30
HCPV, m	2.5	2
Well 2	**Drilling**	**Geostatistical Inversion**
Net Pay, m	18.7	15
HCPV, m	1.7	1.5
Well 3	**Drilling**	**Geostatistical Inversion**
Net Pay, m	18.53	17
HCPV, m	0.87	0.8

Well A: 1st year production: **407 million** scf gas
Trajectory below the optimum facies (red)



Well B: 1st year production: **547million** scf gas
Trajectory stays within the optimum facies (red)



	Avg. Monthly Production (mscf)	Total Fracking Volume (Bbl)	Production Per Fracking (mscf/Bbl)
Well A	43,000	85,036	0.5
Well B	60,000	4,724	12.7

Reduce Economic Risk, Enable Efficient and Effective Well Placement in Unconventional Plays

We help operators to understand the in-situ rock and geomechanical properties at a high-detailed scale for well-planning and well-completion

- Maximize reservoir contact for better well placement
- Avoid unintended communication between different wellbores
- Minimize fracking cost to maximize return
- Avoid drilling hazards to lower operation's risk

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