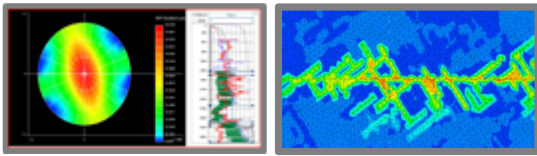


About OilField Geomechanics LLC - OFG

OilField Geomechanics is an independent geomechanics consulting company. We are staffed by well-known industry experts with Ph.D.'s in engineering, 25+ years of industry experience from Oil & Gas operators and consulting providers, and who have strong field and theoretical backgrounds in the geomechanics of practical industry applications. OFG can be your independent third party advisor, or part of a team, providing the geomechanics expertise needed to tackle challenges from exploration to abandonment – whether for conventional or unconventional developments. Visit our website for additional information: www.ofgeomech.com.

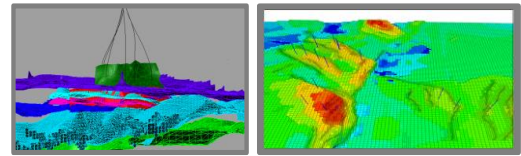
Summary of Services for Oil& Gas Operations

Near Wellbore



- **1D Geomech. Models:** Evaluation of stresses, pore pressure, mech. property profiles; integrated drilling event analysis; image log analysis.
- **Pore Pressure Prediction:** Evaluations from seismic, well log and/or drilling data.
- **Wellbore Stability Evaluations:** Mudweight program and casing design support per well trajectory; QRA; deep water wells and HPHT.
- **Conventional Hydraulic Fracturing (HF) Design & Optimization:** HF QC, post-frac analysis, HF design and economical optimization – NPV.
- **Unconventionals Hydraulic Fracturing Design & Optimization** Stress shadows, stage spacing and cluster evaluations; well spacing optimization; geomechanical and fluid flow analysis; zipper frac evaluations; geomechanical evaluation of microseismic data; modeling of HF with weak bedding planes and natural fractures for SRV and HF performance evaluations.
- **Sand Production:** Analytical and semi-empirical methods; numerical analysis of TWC and perforation stability; field assessment and remedies.
- **Solids and Cuttings Reinjection:** Injection design and analysis for shale or high perm formations.
- **Pre-salt/Sub-salt Geomechanical Analysis:** Salt constitutive models; drilling aspects; stress field aspects; numerical stability analysis.

Sector and Reservoir Scale



- **3D Geomech. Models:** Complex mesh construction including horizons and geological structures (faults/salt domes); population with geostatistical, log, core and/or seismic data; distribution of stresses, mechanical properties, pore pressure in the volume from a geomodel.
- **Reservoir Compaction / Subsidence – Including Effects in the Overburden:** Reservoir compaction evaluations – simple and complex models; subsidence predictions; casing deformation evaluations; overburden frac gradient changes.
- **Coupled Flow / Stress-Strain Evaluations:** One way coupling – iterative coupling with reservoir simulators and 3D geomechanical models.
- **Integrated Characterization for Fractured and Unconventional Reservoirs (carbonates):** Integrated seismic, geological, petrophysical, DFN, geomechanics, and reservoir engineering evaluations for well location and reservoir development.
- **Integrated Unconventional Reservoirs Analysis:** Integrated reservoir characterization (seismic, geological, petrophysics), DFN, geomechanics, and microsimics for HF and SRV evaluations for reservoir development optimization.
- **Fault and Natural Fracture Reactivation/Perm Analysis:** Analytical critical stress analysis; coupled fluid flow and failure analysis; maximum injection pressure analysis.