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Julie E. Kowan

Geomechanics Consultant

Highly efficient geomechanics expert with a proven track record helping operators drill safer, more cost-effective wells and plan field development.

Geomechanics Areas of Expertise

Unconventional reservoirs, pore pressure prediction, stress constraint, wellbore stability, fracture permeability and compaction, rock mechanics

Professional Experience

J. Kowan Consulting, LLC, Melrose, Massachusetts, **Geomechanics Consultant**, 2016–Present

Providing geomechanics expertise to operators to solve drilling problems and improve project economics by reducing Non-Productive Time (NPT). Specializing in geomechanical models spanning pre-drill planning phases to post-drill assessments. Analyses include: pore pressure and fracture gradient predictions, stress constraint, fracture permeability, wellbore stability models including safe mud weight windows, as well as the development of log-based stress profiles for use in hydraulic fracture modeling. Additional services include aiding in the development and ensuring technical accuracy of geomechanics software, support of business development and marketing efforts related to geomechanics services and training of employees in geomechanics theory and tasks to understand the impact of geomechanics on executing project plans.

- Selected consulting engagement: HXR Extended Reach Drilling, LLC.

Baker Hughes RDS, Houston, Texas, **Geomechanics Advisor**, 2009–2016

Led specialized and standard geomechanics consulting projects ranging from conventional sand plays to weakly bedded shale reservoirs and delivered results to external and internal customers in presentation and written summary formats. Provided geomechanics expertise as needed to product managers / business area leaders throughout the North America region. Partnered with the sales team supporting business development efforts by presenting capabilities to potential customers and reviewing and editing project proposals.

- Completed 23 projects in 2014–2015, including 8 Gulf of Mexico pore pressure projects and 5 US shale play wellbore stability analyses covering the Marcellus, Woodford and Wolfcamp formations.
- Performed pre-drill pore pressure prediction projects and collaborated with real-time pore pressure modelers before and during active drilling, monitoring wells to address any potential instability immediately.
- Worked on integrated teams providing geomechanics expertise and analysis to completion and reservoir engineers to help solve multi-disciplinary problems for customers (e.g. provided log-based stresses and rock properties for use in hydraulic fracture and reservoir models).
- Provided customized core testing recommendations for determination of rock properties of geomechanical significance, such as rock strength and internal friction, calibrating log-based rock properties and improving model accuracy.
- Selected by a Baker Hughes Technology Fellow and senior management as one of nine authors of the geomechanics chapter of the text book, *Unconventional Resources Exploitation and Development*, published June 14, 2016 by CRC Press, writing the majority of the wellbore stability section.
- Expanded customer and employee education by teaching geomechanics training courses and aided employee development by mentoring and advising junior staff to improve their technical skills and customer relations.

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Professional Experience (continued)

GeoMechanics International / Baker Hughes RDS, Houston, Texas,
Geomechanics Specialist, 2006–2009

Charged with coordinating geomechanics consulting projects and delivering results to external customers ranging from small independent to major oil and gas companies in presentation and written summary formats.

- Directed multiple projects simultaneously, making revenue contributions on par with more experienced team members.
- Led first Marcellus shale project, helping develop workflows and best practices for unconventional reservoirs.

GeoMechanics International, Houston, Texas, **Geomechanics Associate**, 2005–2006

Reviewed project data and assisted with data analysis and written reports.

- Developed proficiency quickly with geomechanical modeling, resulting in promotion to project lead within about 1 year.

Education

Brown University, Providence, Rhode Island

- Master's of Science in Geological Sciences (May 2003)

Douglass College at Rutgers University, New Brunswick, New Jersey

- Bachelor's of Science with High Honors, Highest Honors in Geology (May 2001)

Professional Societies

- Secretary, Boston Chapter of the Society of Petrophysicists and Well Log Analysts
- Member of the Society of Petroleum Engineers

Selected Publications

- Bagci, S., Kowan, J., and Way, G. 2016. Hydraulic Fracture Modeling and Well Performance Analysis in CTD Wells Completed in Tight Sands. Presented at the SPE Western Regional Meeting, Anchorage, Alaska, United States, 23-26 May. SPE-180473-MS. http://dx.doi.org/10.2118/180473-MS.
- Kowan, J. and S.H. Ong, 2016, Wellbore Stability: Special Considerations for the Marcellus Shale: Search and Discovery Article #80533 (2016). Website accessed May 11, 2016, http://www.searchanddiscovery.com/pdfz/documents/2016/80533kowan/ndx_kowan.pdf.html.
- Moos, D., Perumalla, S., Kowan, J., Finkbeiner, T., Peska, P., van der Zee, W., and Brudy, M. 2010. A New Model For Wellbore Stability And Stress Prediction In Underbalanced Wells. Presented at the IADC/SPE Asia Pacific Drilling Technology Conference and Exhibition, Ho Chi Minh City, Vietnam, 1-3 November. SPE 135894-MS. http://dx.doi.org/10.2118/135894-MS.