

DeGolyer and MacNaughton Training Seminar Formation Evaluation Techniques for Unconventional Resources



Instructor: Nima Zonoozi is a reservoir engineer and petrophysicist for DeGolyer and MacNaughton in Dallas. He specializes in characterization of unconventional reservoirs. He has performed numerous petrophysical and geomechanical studies of unconventional shale plays, including the Barnett, Avlon, Haynesville, Marcellus, Eagleford, Fayetteville, and Woodford shale plays. Zonoozi began his career with Schlumberger oil field services in 2005, working as a completion data analyst, then worked as a wireline field engineer from 2006-2007. He served as a petrophysicist for Schlumberger consulting services from 2007-2012. A member of SPE and SPWLA, Zonoozi received a bachelor's degree in petroleum engineering from the Petroleum University of Technology in Iran and a master's degree in petroleum engineering from Texas A&M University.

Duration: Two days

Who Should Attend: Geoscientists, engineers, and managers who want to learn how to appraise and develop shale gas reservoirs

Learning Outcomes:

- Learn the key data inputs for shale resource evaluation
- Understand the importance of geomechanics in field development
- Learn how to optimize production by integrating petrophysical and geomechanical studies in completion design process

Course Description: Advancements in exploration and evaluation techniques have an ever-increasing role in optimizing production from shale gas and shale oil reservoirs. This course introduces these new techniques and demonstrates their application in appraising shale gas and shale oil reservoirs. Presentations address a variety of logging tool responses and analytical methods that can be used to evaluate the key rock property parameters from both a petrophysical and geomechanical stand point. The course examines how these methods can be applied to well completion design and optimization. A variety of examples will illustrate the use of adequate data to maximize production from tight hydrocarbon reservoirs. A course notebook will be provided with copies of PowerPoint slides and a listing of reference materials.

Course Outline:

- Petrophysical Evaluation of Organic Shales
 - Overview of petrophysics of unconventional resources
 - Conventional open-hole log response
 - Porosity and saturation computation
 - TOC calculation analysis
 - Advance logging of shale resources
 - Core analysis
 - Log analysis exercise

- Geomechanics of Shales

- Overview of well mechanical properties and reservoir geomechanics
- Mechanical properties of Homogenous-Isotropic Rocks
- Mechanical properties of shale
- Log and core analysis
- Vertical well vs. horizontal well stress analysis
- Stress calculations exercise

- Completion Design: Petrophysics and Geomechanics Analysis Integration

- Vertical well completion
- Picking the lateral landing point
- Geosteering and LWD
- Horizontal well completion

To register, send an email to degolyer@demac.com