



Iran section

SPE-Iran Section Technical Workshop

Practical well log analysis for gas shale reservoirs

Course Overview

Shale gas is becoming one of the major sources of natural gas in recent years. Soon gas shale reservoirs will not be considered as unconventional gas since production of gas from this source is becoming as common as conventional reservoirs.

One of the major challenges of gas shale reservoirs is to apply conventional log data to acquire reservoir rock properties. Organic matter richness, thermal maturity status, porosity, permeability, free gas saturation, adsorbed gas volume and rock mechanical characteristics are among those critical parameters that have to be estimated for gas shale field assessment.

In this course log analysis for gas shale reservoirs will be demonstrated practically to estimate reservoir properties. Real gas shale field data will be used and attendees will practically learn to apply log data for shale reservoir evaluation.

Course Agenda

1. Introduction to Gas Shale reservoirs
 - Organic material in shale
 - Total organic carbon (TOC) content
 - Thermal maturity status
 - Adsorbed and free gas
 - Porosity and pore geometry
 - Compositional brittleness of shales
2. Gas Shale Log Analysis
 - Well log responses for gas shale
 - Total organic carbon (TOC) content calculations
 - Porosity estimation using different conventional logs
 - Fluid saturation estimation
 - Thermal maturity calculations
 - Methods of permeability assessments
 - Adsorbed gas quantification
 - Free gas quantification
 - Total gas volumetric estimation
 - Estimation of elastic rock mechanical properties and rock strength
 - Shale brittleness assessment
 - Shale pore pressure evaluation
 - On Hand Work Practical Examples

Who Should Attend

Geologists, Geophysicist, Petrophysicist and reservoir engineers who want to improve their knowledge about gas shales.