



Evaluation Methods of Shale Gas Reservoirs

Course Overview

Currently the U.S. produces more gas from shales than from conventional sources; this astounding success has caused petroleum companies to aggressively explore for gas shales all around the world since they exist in almost every continent of the planet (U.S. Energy Information Administration, 2011).

Global natural gas consumption is projected to grow from 112 Tcf to 163 Tcf in the next 20 years representing an increase rate of nearly 2% annually; this implies not only enormous investment, but also new challenges and search for geoscientists and petroleum professionals with expertise in this new fields.

Shales are the most abundant sedimentary rocks in sedimentary basins of the earth; but, small portion of them would achieve commercial productivity. This course will train the attendees on the evaluation methods and techniques that can be utilized to delineate productive shales from barren shales. This course will present real practical examples and illustrates the techniques with real cases studies.

Course Agenda

1. Gas Shale Definition and Classifications
 - A general introduction to shale properties and gas shale classification
 - A general review on conventional and unconventional petroleum system
2. Gas Shale Geological Evaluation
 - Shale sedimentary environments
 - Sequence stratigraphy framework of shaly formations
 - Shale composition and brittleness
 - Shale Pore Geometry
3. Gas Shale Geochemical Evaluation Methods
 - Type and quality of organic material in shale
 - Total organic carbon (TOC) content evaluation
 - Thermal maturity status
 - Burial history modelling
 - Geochemistry and carbon isotope signatures of productive gas shales
 - Case study examples
4. Gas Shale Petrophysical Evaluation Methods
 - Well log response for gas shale
 - Porosity and gas saturation estimation
 - Shale rock mechanical property estimation from well logs
 - Total organic carbon and maturity from log data
 - Shale brittleness assessment
 - Shale pore pressure evaluation

Who Should Attend

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