



SPE-Iran Section Technical Workshop

Formation Evaluation for Exploration and Development

About the Course

To obtain reservoir parameters for a hydrocarbon field, sufficient data is required to reach reliable figures for reservoir modeling, reserve estimation and reservoir simulation. Formation evaluation which is the process of interpreting a combination of log measurements is able to provide data needed for both economic analysis and production planning.

Why You Should Attend

After drilling a borehole there are several critical immediate questions that have to be answered in deciding to complete or to plug and abandon it:

- How is the quality of the reservoir rock?
- How much is the effective porosity?
- How is the permeability of the potential reservoir? Can it be predicted from log data?
- How much is the hydrocarbon saturation?
- Is hydrocarbon producible?
- How much, if any, water will be produced with hydrocarbon?
- How thick is the pay zone?
- How data/experience from a drilled borehole could be used in another borehole?
- How are the rock mechanical properties of the reservoir rock?

Formation Evaluation course answers most of the above questions by integrating wireline log data and appropriate algorithm for different conditions.

Course Agenda

Subsurface environment and reservoir rock and fluid properties
Borehole environment, and logging procedure
Log data QC, editing and caliper logs
Spontaneous potential (SP) logs, principles and applications
Gamma ray and spectral gamma ray,
Principles of sonic logging and applications

Density logging and litho-density, principles and applications

Neutron logging, principles and quantitative interpretation
Applications of combined density and neutron logging data
Resistivity logging and measurement principles
Electrical properties of reservoir rocks and Archie's relationships

Log interpretation procedure in clean formations
Log interpretation in shaly formations
Principles of nuclear magnetic resonance (NMR) logging
Dipmeter and Image logs and their interpretation
Rock mechanical properties from log data
Application of intelligent systems in well log analysis

Who Should Attend

This workshop is specially designed for professionals involved in exploration and development. These include:

- Geoscientist
- Geophysicist
- Petrophysicist
- Petroleum engineers
- Exploration engineers/ managers