

## **An Introduction to Petroleum Prospect Appraisal**

### **A Basic Level Course**

#### ***Course Objective***

This course provides an introduction to how to identify, map, describe and risk a prospect, assess its volumetrics and propose it to management for drilling.

#### ***Course Outline***

This course takes the participant along the path followed by all oil company geoscientists involved in the evaluation of acreage; its assessment using subsurface well data, seismic surveys and other geotechnical tools, the identification of prospects and their evaluation (risking and volumetrics) and finally presentation to management. Learning is by way of a mixture of lectures and exercises using actual examples. Evaluation of acreage involves understanding of play fairway and petroleum system analysis techniques. Petroleum geology topics covered in establishing prospect risk include: reservoir/ seal pairs; charge, migration and entrapment from source kitchen to trap; and trap parameters including timing. Basic probabilistic theory is covered to provide a background to prospect risking and determination of ranges of in-place petroleum resources. Topics covered in establishing prospect resource probability value ranges include gross rock volume, net to gross, porosity, hydrocarbon saturation, Formation Volume Factor/ Gas Expansion Factor and recovery factor.

#### ***Who Should Attend***

Geoscientists (geologists and geophysicists) with one to 10 years experience; also petroleum engineers and economists wishing to broaden their knowledge of the business.

#### ***What You will Learn***

How to assess subsurface well, laboratory and seismic data to establish prospectivity.

How to use the principles of play fairway and petroleum system analysis to improve understanding of prospectivity.

How to identify and map leads and prospects within petroleum basins and play fairways.

How to risk prospects based on assessment of chance of finding a suitable reservoir/ seal pair; charge from mature source kitchen; migration conduit and trap that was created prior to charge.

How to establish a probability range of resources/ reserves using Monte Carlo probabilistic procedures from input parameters including gross rock volume, net to gross, porosity, hydrocarbon saturation, Formation Volume Factor/ Gas Expansion Factor and recovery factor.

How to present a prospect to management as an investment opportunity.

How to evaluate a second prospect before the first is drilled.

How to evaluate a second prospect after the first is drilled.

***Course Duration*** – 5 days