

# PG3 PETROLEUM RESOURCE ASSESSEMENT

## Basin and Play Evaluation

**PETRO-TEC**

**IN-HOUSE**

### **COURSE OVERVIEW**

Resource assessment is important for block promotion, new venture evaluation, planning exploration and development activities as well as management of reserves portfolio. Basin and larger regions are best assessed by combining their play assessments. Play analysis helps in estimating potentially recoverable petroleum volumes. This course provides the participants with working knowledge of using effective methods for basin and play assessment. It reviews methods used for estimating undiscovered reserves with emphasis on the advanced approaches used in resource estimation and summation.

### **COURSE FORMAT**

The course will consist of taught lectures and practical sessions. Real field examples will be reviewed.

### **WHO SHOULD ATTEND**

Exploration and development geologists and geophysicists, managers concerned with new venture evaluation, and planning analysts.

### **COURSE CONTENTS**

1. **General information/ Methodology**
  - Purpose of resource assessment
  - Simulation of economic processes in HC Exploration
2. **Introduction to basic statistical concepts**
  - Probability analysis
  - Log-normal probability distribution
  - Risk and uncertainties in HC exploration
  - Risking for probabilistic reserves
- How to get log-normal parameters
- Hand calculation of distribution
3. **Petroleum Resource Assessment Units**
4. **Definitions and Explanations**
5. **Basin and Play Evaluation Procedure**
6. **Basin and Play Evaluation Requirement**
7. **Play assessment.**
8. **Methods of Play assessment.**
  - Prospects summation
  - Single-valued fields number and size assessment

- Discovery process modeling
- Mean reserves assessment

### **9. Mean Reserves Assessment of a Play**

- Requirements for assessment
  - Risk and uncertainty in Play assessment
  - Procedure for Play assessment
  - Minimum and maximum field sized (Truncation)
  - Potential field number and success ratio
  - Prospect size distribution
  - Play chance
- Mean reserves estimation and assessment of results.

### **10. Petroleum System Evaluation**

- Petroleum system elements and processes
- Timing of HC generation/migration versus trap formation
- Techniques used for timing evaluation
- Assessment of results.

### **11. New venture evaluation by play**

- Forecasting field size to be discovered

### **12. Exercises**

**THE LECTURER  
ONE OF PETRO-TEC CONSULTANTS**