

## DHI Interpretation and Prospect Risking Course (2 Days)

This course explores the theory and methodology of seismic Direct Hydrocarbon Detection Interpretation (DHI) including discussion of the various techniques, their strengths, weaknesses and pitfalls. During the past 10 years and on an ongoing basis, Rose & Associates has led an industry consortium (in Houston and Europe) to develop a DHI interpretation work process guide and educational tool to help risk seismic amplitude anomalies. The methodology (in a software called SAAM) to evaluate all AVO class amplitude anomalies will be described including basic risk analysis definitions and analysis, prospect exploration settings, seismic and rock physics data adequacy, and numerous anomaly characteristics. Prospect examples and associated probabilities of geological success will be shown. Trends and "lessons learned" from the drilled prospects in the 175 prospect database will be reviewed in a qualitative and quantitative manner.

### Course Outline

**Day 1:** Ch. 1 DHI Risk Analysis Consortium Overview

Ch. 2 Introduction to Risk Analysis

Ch. 3 DHI and AVO Technology Refresher

Ch. 4 Importance of Geology Studies before Risking a DHI

Ch. 5 Seismic and Rock Physics Data Quality Review

Ch. 6 Anomaly Characteristics for the Four AVO Gas Sand Anomalies (continued on Day 2)

**Day 2:** Ch. 7 Impact of Seismic Amplitudes on Reserve Estimates

Ch. 8 Prospect Database Results (Including Reasons for Success and Failure)

Ch. 9 Prospect Examples Using the DHI Risk Analysis Work Process

Ch. 10 Summary and Discussion

### Instructor Bios

**Mike Forrest** is an exploration consultant and chairman of the Rose & Associates DHI Interpretation and Risk Analysis Consortium. He has 40 years of domestic and international experience in evaluating seismic amplitude anomalies and has over 50 years total experience with Shell Oil Company, Maxus Energy and as an independent consultant. Mike played a key role in the development of Bright Spots with Shell Oil during the late '60s and he was a member of the management team that led Shell's expansion into the Gulf of Mexico Deep Water in the mid '80s. He is a Director of the SEG Foundation and a Director of Global Geophysical Services. Mike has a BS degree in Geophysical Engineering from St. Louis University.

**Rocky Roden** has been successful in managing and administering programs and technical staffs in exploration and development, domestically and worldwide, for the past 30 years. He is a proven oil finder with extensive knowledge of modern geoscience technical approaches (past Chairman – The Leading Edge Editorial Board). He has worked with Texaco, Decca Survey, Pogo, and Maxus Energy, and was Chief Geophysicist with Repsol-YPF. Rocky currently consults with Seismic Micro-Technology as Chief Consulting Geoscientist, is a principle in the Rose & Associates DHI Risk Analysis Consortium, and consults with several oil companies on technical and prospect evaluation issues. He has a MS degree in Geological and Geophysical Oceanography from Texas A&M University.

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