ROSE
SUBSURFACE ASSESSMENT

Prospect Evaluation Methods for Seismic DHIs

Course Description

This 2- or 3-day course covers all aspects of the evaluation of exploration prospects that are supported by seismic anomalies know as Direct Hydrocarbon Indicators (DHIs, also known as HCI's or DFIs). It has a strong practical orientation that uses actual prospects and realistic exercises to illustrate the applications of the various concepts and analytical procedures involved in the technical evaluation and investment decision process of DHI-supported prospects.

The course follows the characteristic workflow of evaluating DHI projects, including both theory and application, and integrates the Geological and Geophysical aspects of interpretation. This version of the course, tailored to companies that are members of the DHI Consortium, includes full explanations of the Consortium's proprietary DHI risking software, Seismic Amplitude Analysis Module (SAAM). The course also gives the participants a global context of DHI-driven exploration, as well as how to use SAAM's 360-well calibration database for analog comparisons and global trends. Completion of the course should prepare participants for immediate application of all concepts and techniques in the risk and resource evaluation of DHI prospects.

Course Outline

1. Introduction to DHI Evaluation and DHI Workflow
2. Review of DHI and AVO Technology
3. DHI Data Quality Considerations
4. DHI Characteristics: Concepts, Examples and Learnings
5. DHI Volumetrics
6. DHI/SAAM Workflow and Tutorials
7. Setting Final Pg – DHI vs. Traditional Geological Approach
8. Prospect Examples – Review and SAAM Analysis
9. Wrap-up: Lessons, Summary, Course Evaluation

In addition to these presentation topics, the Appendix with these course notes contains further information and resources on topics that are introduced to the class:

- Additional SAAM Modules and Tools: SAAM Toolbox, Initial Pg, CSEM module, Subsalt Module, and Machine Learning Data Export Functionality
- DHI Consortium Characteristics Calibration Poster (Consortium Member course only)
- Overview of Low Saturation Gas (LSG) issues
- Determining seismic phase
- AVO Best Practices

Who Should Attend

This course is intended for geoscientists, engineers, commercial team members, and managers charged with evaluating exploration opportunities in seismic Direct Hydrocarbon Indicators (DHIs). The only required prerequisite is a basic working knowledge of subsurface Exploration concepts.