



AVO, Inversion, and Attributes: Principles and Applications - AVO

COURSE

About the Course

The subject of direct hydrocarbon indicators and AVO has rapidly expanded to include AVO inversion, offset AVO inversion, and 4D AVO inversion. A significant part of the course deals with rock physics as it relates to the other topics in the course. Further insight into the seismic data is supplied by looking at seismic attributes. The technology has provided the interpreter with a very new and exciting package of tools that allow us to look at the seismic image as being truly representative of both the rock properties and the pore filling material.

This course is intended to provide the users with a clear and useable understanding of the current state of these technologies. The focus of the course is on both understanding and application. Each topic in the course outline is reinforced by an exercise that gives the participants many practical and simple methods of integrating the course material into their everyday work. One personal computer is supplied, at added cost, for every two participants.

"I should have taken this class much earlier in my career. It covered subjects that I am exposed to everyday, and now I have a more complete understanding of these subjects." - Geophysicist, United States

"As a geomodeller, the extractions on rock properties e.g. porosity volume to be used as soft data to populate my model have been very useful." - Geoscientist, Nigeria

Target Audience

Geophysicists, geologists, explorationists, seismic interpreters, technical support personnel, seismic data processors, exploration, production, and acquisition managers who need a clear understanding of the details of implementation and application of this technology.

You Will Learn

Participants will learn how to:

- Clearly understand how hydrocarbons affect the seismic image
- Use direct hydrocarbon indicators and AVO in the assessment of projects
- Understand the limits of seismic resolution
- Integrate these technologies into an interpretation project
- Better understand the nature of the seismic image as it relates to hydrocarbons

- Utilize the information available in the literature from experts in this rapidly developing part of seismic imaging

Course Content

- Seismic fundamentals as they relate to defining the appearance of hydrocarbons in the data
- An inventory of direct hydrocarbon indicators, including AVO
- Risk rating prospects that display AVO anomalies
- Understanding rock properties and the effect of pore filling material
- AVO and how it relates to the typical production zones around the world with various ages and depths of burial
- Various methods of displaying AVO effects in the seismic data
- Acquisition and processing considerations to display hydrocarbons as a pore filling material
- Various approaches to seismic modeling and fluid replacement
- Rock properties and pore filling material from seismic inversion
- Spectral decomposition and seismic attributes as other ways of extracting reservoir information from the seismic image
- Methods of combining attributes as they relate to prospectivity

Product Details

Categories: [Upstream](#)

Disciplines: [Geophysics](#)

Levels: [Intermediate](#)

Product Type: [Course](#)

Formats Available: [In-Classroom](#) [Virtual](#)

Instructors: [PetroSkills Specialist](#) [John Logel](#)