

Pore pressure prediction and schools of thought: *Fundamentals and pitfalls* (One day)

Course Description

This introductory one day course is essential for every technical professional involved in oil and gas exploration, production and drilling.

This course is an introduction to definitions, models, measurements, predictions, calibrations, and appraisals of subsurface geopressure profiles. The basic geological building blocks are used as the foundation for pore pressure predictions. We will cover the essentials of geopressure compartmentalization in relation to pore pressure development with depth. Moreover, the course also emphasizes the differences between the prediction methods, their viability and pitfalls.

Who should attend?

Geologists, geophysicists, drilling and reservoir engineers, well log analysts, managers, and support staff involved in exploration, development and drilling.

Learning outcomes

1. Understand the causes, concepts and graphic representations of geopressure
2. Differentiate between geopressured and hydrodynamic systems
3. Obtain overview of the different methods to predict pore pressure ,data qualifications and prediction pitfalls
4. Understand the geological setting impact on stresses path and geopressure compartmentalization, especially in Salt basins
5. Learn the importance of effective seals for hydrocarbon entrapments

Course content

- New approach to definitions, causes and concepts
- Geopressure vs. Hydrodynamics
- Graphical representations (PSI and PPG MWE) including some of their pitfalls
- PP-FP direct and pertinent measurements
- Methods used to predict pore pressure with emphasis on Effective Stress
- **Data qualifications for PP – FP prediction**
 - ✓ *Before drilling (Modeling)*
 - ✓ *During Drilling (Calibration)*
 - ✓ *Post Drilling (Appraisal)*
- **Application overview**
 - ✓ Compartmentalization, seal effectiveness and hydrocarbon retention capacity
 - ✓ Supra and sub salt geopressure models
 - ✓ Faults as sealers vs. leakers
 - ✓ Reserve and reservoir management
 - ✓ Drilling casing, and mud programs and anticipated drilling challenges

Follow-up 3 and 5 days courses “Geopressure: Prediction, Analysis and Risk Assessment for E&P” are also available. The expanded 5 days course focuses on **know how and in depth exercises and analyses** (Microsoft Excel is used for the five day course). No pore pressure prediction software is required).

Pore pressure software is not a “one size fits all” product. These courses will give you the knowledge to tailor your interpretations to the geological and hydrodynamic setting.

“The applied geopressure course that you taught to the members of the HGS will provide wide-range of benefits to the future of our industry “.

HGS and the Continuing Education Committee,2005

“Your useful class help me to get a better understanding of such complex topic of the GeoPressure world”.

Miguel Ascario, Senior Petrophysicist ,Solid Rock Images.,2007