

## Gas-Condensate Reservoirs

0.8 CEUs (Continuing Education Units) awarded for this 1-day course.

### ***Instructor***

Abbas Firoozaabdi, Reservoir Engineering Research Institute

### ***Intended Audience***

Reservoir and production engineers with interest in Gas-Condensate Reservoirs.

### ***Description***

This course provides an overview of different types of gas condensate reservoirs. A wide variety of field examples from different parts of the world will be used to demonstrate various features of gas condensate reservoirs. Concepts from P-T diagrams and retrograde effect will be used to classify gas condensate reservoirs. In addition, simple concepts (including residual gas saturation) will be introduced to study water-drive gas reservoirs.

The second major topic of the course will begin with distribution of various hydrocarbon and nonhydrocarbon species in gas condensate reservoirs. Mechanisms of thermal, pressure, and molecular diffusion as well as natural convection will be discussed in a simple manner. Several field examples from different parts of the world will be used as case studies.

The third topic covers the recovery of liquid condensate dropout in rich-gas condensate reservoirs. The timing of recycling, critical condensate saturation concept, and the issues of compositional modeling which are specific to gas-condensate reservoirs will be discussed.

The last topic relates to the well deliverability in gas condensate reservoirs. Conditions that will lead to liquid accumulation (liquid bank) around the wellbore will be presented. Various methods for improving well deliverability are discussed.

### ***Topics Covered***

- ◆ Introduction
- ◆ Type of Gas Condensate Reservoirs
- ◆ Basic Definitions and Concepts
- ◆ Condensate Production Pattern in Gas Condensate Reservoirs
- ◆ Species Distribution in Gas Condensate Reservoirs
- ◆ Recovery Issues in Gas Condensate Reservoirs – Gas Recycling, Blowout, Fast Blowout, Specific Requirements for Compositional Modeling in Gas Condensate Reservoirs
- ◆ Well Deliverability in Gas Condensate Reservoirs – Liquid Bank Accumulation(both water blocking and hydrocarbon blocking) and Vaporization around the Wellbore
- ◆ Effect on Well Deliverability
- ◆ Methods for Improving Well Deliverability in Gas-Condensate Reservoirs

### ***About the Instructor***

**Abbas Firoozaabdi** is the Director of the Reservoir Engineering Research Institute (RERI) in Palo Alto, California. He is also a professor at Yale University, and at Imperial College. His expertise includes thermodynamics of hydrocarbon reservoirs and production, performance studies of gas-condensate reservoirs, and fractured petroleum reservoirs. Firoozabadi is the author of more than 100 journal papers including 50+ papers published in SPE Journals. He is the recipient of 2002 SPE Anthony F. Lucas Gold Medal.