€TRAINING

Well Test Analysis and Production Log Interpretation

21 - 25 October 2024
London (UK)
Landmark Office Space

Well Test Analysis and Production Log Interpretation

REF: E1522 DATE: 21 - 25 October 2024 Venue: London (UK) - Landmark Office Space Fee: 6375 Euro

Introduction:

This training program focuses on equipping participants with the skills and knowledge needed to analyze data from well tests and production logs. Through theoretical learning and practical exercises, attendees gain proficiency in diagnosing well performance issues and optimizing production strategies.

Program Objectives:

At the end of this program, participants will be able to:

- Introduce to the TDS technique, which is an alternative option to type-curve matching technique, convolution, and regression analysis.
- Interpret pressure transient tests
- Apply the knowledge and skills gained to their job assignments upon course completion.
- Illustrate by several daily Excel-based exercises and workshops.

Targeted Audience:

- Petroleum engineers.
- Reservoir engineers.
- Production engineers.

Program Outlines:

Unit 1:

Application of Pressure and Derivative to Drawdown and Buildup Tests:

- Review of fundamental concepts of well testing and measurement techniques.
- Pressure-based analysis of flow and buildup tests.
- Derivative-based analysis of flow and buildup tests, TDS technique.
- Determining Average reservoir pressure.
- Drainage area and pore volume of bounded systems, oil in place.

Unit 2:

Hydraulically Fractured Wells and Gas Well Testing:

- Practical aspects of fracturing and acidizing.
- Uniform-flux and infinite-conductivity models of hydraulic fractures.
- Finite-conductivity: linear, bilinear, and elliptical flow.
- The geometry of inclined hydraulic fractures.
- Interpreting gas well tests using pressure and pseudo-pressure derivative.

Unit 3:

Naturally Fractured Reservoirs and Carbonates:

- Evaluation of carbonate reservoirs.
- Indicators and types of NFR.
- Pseudo-steady state and unsteady state matrix flow models.
- Storability and Porosity Partitioning coefficient.
- Fracture porosity from good logs and well test analysis.
- Interpretation of interference and pulse tests, pressure derivative.

Unit 4:

Multiphase Flow, Multirate Tests, and Partially Perforated Wells:

- Role of fluid properties, Perrine Permeability.
- Dynamic Reservoir Testing.
- A conventional and modern interpretation of multi-rate tests.
- Applications of TDS, convolution, and deconvolution techniques.
- Partially completed/penetrated/perforated wells.
- Vertical permeability from spherical flow, MDT.

Unit 5:

Slanted and Horizontal Wells:

- Effect of slant on pressure-response.
- Determining the angle of inclination of the slanted well and partial penetration/perforation skin.
- Overview of horizontal well completions and performance.
- Flow regimes and analytical solutions.
- Applications of pressure derivative to calculate directional permeability values.
- Pressure analysis of hydraulically fractured horizontal wells.