



Rate Transient Analysis

MODULE

About the Skill Module

This skill module covers five sections that include the general introduction to Rate Transient Analysis, Traditional Decline Curve Analysis, Modern Rate Transient Analysis, Unconventional Reservoirs, and Integration of Material Balance.

Target Audience

Engineers or geoscientists who will occupy the position of reservoir engineer, and any other technically trained individual who desires a more in-depth foundation in reservoir engineering.

You Will Learn

Participants will learn how to:

- Define the rate time analysis
- Distinguish between traditional pressure transient analysis and rate time analysis
- Describe the needs of the type of data which are typically used for rate time analysis
- Discuss the application of rate time analysis under transient and pseudo-steady state conditions
- Distinguish between the type of reservoir information we can obtain under transient and pseudo-steady state conditions
- Explain the use of dimensionless variables in rate time analysis
- Describe the limitations of the rate time analysis
- Distinguish between exponential, harmonic, and hyperbolic decline curves
- Explain the different parameters which impact the performance of a well
- Describe how the Economic Ultimate Recovery (EUR) is impacted by the assumptions about the type of decline method
- Explain how the traditional decline curve analysis can be extended to transient state conditions
- Describe how to extend the rate time analysis when the bottom hole pressure is not constant but a variable
- Compare both Blasingame and Agarwal type curve methods and evaluate both oil and gas wells using both these type curves
- Explain the concept of flowing material balance analysis
- Describe the application of rate time analysis for unconventional reservoirs
- Identify different flow regimes which are present for multiple fractured, horizontal wells
- Indicate important flow regimes which are typically observed in horizontal, multi-stage, fractured wells

- Determine the type of reservoir parameters we can obtain from evaluating rate time data for unconventional formations
- Indicate how the traditional decline curve analysis can be used for wells producing from unconventional reservoirs
- Describe the relationship between material balance and rate time analysis
- Explain how to combine material balance with rate equations to predict rate as a function of time
- Describe simple cases for single phase gas and oil reservoirs and predict the rates
- Indicate how the simple analysis can be extended to other complex situations

Product Details

Categories: Upstream

Disciplines: Reservoir Engineering

Levels: Basic

Product Type: Individual Skill Module

Format: On-Demand

Duration: 3.5 hours (approx.)

\$395.00