Reservoir Flow Properties Fundamentals

MODULE

About the Skill Module

This skill module covers multiple basic and advanced levels of topics. The topics include but are not limited to, Darcy's law, Flow Regimes, Fractured Wells, and Heterogeneous systems and Skin factor. This skill module also includes an interactive virtual phase where the learner works with the instructor virtually to analyze and solve problems.

See demo online learning module

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:

- Apply Darcy's law for radial flows
- Differentiate between oil and gas flows
- Solve simple problems for radial flow across porous medium
- Define and calculate productivity index
- Predict the inflow performance relationship for oil and gas wells
- Calculate the flow rate under different flow regimes
- Understand why productivity index changes for transient flow
- Calculate the flow rates for both oil wells and gas wells
- Understand the difference between boundary pressure and average pressure
- Understand the application of both pseudo-real pressure and pressure squared methods for gas wells in calculating the rates
- Evaluate the end of transient and the beginning of pseudo-steady state flows for circular as well as non-circular reservoirs
- Understand the importance of vertically fractured and horizontal wells
- Calculate the rates and productivity indices for vertically fractured and horizontal wells using the concept of effective well bore radius
- Understand different flow regimes encountered by vertically fractured and horizontal wells
- Evaluate efficacy of horizontal wells and compare the performance to vertically fractured wells

- Calculate the effective permeability for parallel layers
- Calculate the effective permeability for layers in series
- Evaluate the difference under linear and radial flows
- Calculate the value of skin factor using damaged zone permeability
- Evaluate the performance of a well in the presence of skin factor
- Evaluate the performance of the well with limited amount of production data
- Understand the conditions under which non-Darcy flow is important
- Evaluate the performance of gas wells in the presence of non-Darcy flow using both pressure squared and pseudo-pressure equations
- Understand the concept multi-rate test and why it is important
- Evaluate the oil well performance when the well is producing below bubble point
- Analyze and solve basic and advanced level problems

Product Details

Categories: Upstream

Disciplines: Reservoir Engineering

Levels: Foundation

Product Type: Individual Skill Module

Format: On-Demand

Duration: 8.5 hours (approx.)

$795.00