

Modern Production Data Analysis using Rate Transient Analysis (RTA)

With the advent of modern downhole gauges and robust SCADA systems, many engineers, now have more data than ever before. However, in these times where data is the new currency and we are surrounded by gigabytes and terabytes of data, are we making the best use of what we have available to have a better understanding of our reservoirs/assets and to make informed business decisions?

Rate Transient Analysis (RTA), unlike traditional reservoir engineering methods such as Decline Analysis (DCA), incorporates both fluid rates and flowing pressures, where the end goal is to understand the fluid flow in the reservoir. The industry has been doing this with Pressure Transient Analysis (PTA) for many years and RTA is built on the same theory; we are just using the data in a different way.

In this course we will cover the following:

- Overview of traditional reservoir analysis methods – DCA, Volumetric and Static Material Balance
- Introduction to RTA/Basic Concepts
- General Workflows
- Diagnostics Plot
- Type Curves
- Analytical Modelling
- Numerical & Multi-well Modelling
- General Software Usage

Participants will learn how to:

Critically assess data quality and perform qualitative diagnostics on well production data

Identify reservoir flow regimes from rate/pressure response

Estimate reserves, OGIP/OOIP and drainage area

Determine reservoir parameters such as permeability and skin

Perform production data history matching, using both analytical and hybrid numerical models

Assess well performance and identify optimization candidates

Examine the practical aspects of rate transient analysis using examples

Who Should Attend:

Engineers and technologists involved in reservoir, production and evaluation of reservoirs/asset management.

Number of Days: 3 days