

**DRILLING, WELLS AND RESERVOIR ENGINEERING**

Well Test Design and Pressure Transient Analysis

5 day course

Classroom, online or in-house

Course overview

A well test is one of the few measurements that sees the reservoir in situ over hundreds of metres, yet tests are often too short, badly sequenced or dominated by wellbore storage. Designing the test properly matters as much as interpreting it. Delegates begin with the diffusivity equation and flow regimes, then with test types: drawdown, buildup, injection, falloff, interference and drill stem tests. Log log diagnostic plots and the pressure derivative are used to identify storage, skin, radial flow, boundaries, dual porosity and fractured well behaviour. Analytical models are matched in software and checked against specialised plots. Gas well tests, deliverability and non Darcy flow are covered next. The programme ends on test design: duration, gauge selection and safety. Delegates leave able to design a test, interpret it and report permeability, skin and reservoir limits.

What you will learn

- Explain the diffusivity equation and its solutions for common flow regimes
- Select the test type suited to an appraisal or surveillance objective
- Diagnose flow regimes using log log and derivative plots
- Estimate permeability, skin and average pressure from buildup data
- Recognise boundary, dual porosity and hydraulically fractured responses
- Analyse gas well tests including deliverability and non Darcy effects
- Design test duration, gauges and sequence to meet objectives

Who should attend

- Reservoir engineers
- Well test and production engineers
- Petroleum engineers in appraisal teams
- Petrophysicists integrating dynamic data
- Regulatory engineers reviewing test reports

Course outline

- 01 Fundamentals of transient flow
- 02 Test types and objectives
- 03 Superposition and buildup analysis
- 04 Log log and derivative diagnostics
- 05 Wellbore storage and skin
- 06 Boundaries and heterogeneous reservoirs
- 07 Fractured and horizontal wells
- 08 Gas well testing
- 09 Test design and operations

Upcoming dates



Dates	Venue	Format	Fee per delegate
12 to 16 October 2026	Gaborone, Botswana	Classroom	R19,950
30 November to 4 December 2026	Lusaka, Zambia	Classroom	USD 1,325
22 to 26 February 2027	Kampala, Uganda	Classroom	USD 1,325
15 to 19 March 2027	Online	Online	R8,500

Fees and how to register

This 5 day course is **R8,500** per delegate online, **R19,950** in the classroom in South Africa, Botswana, Namibia, Lesotho and Eswatini, and **USD 1,325** in the classroom elsewhere in Africa. In-house training is quotation on request. Book 2 or more delegates on this course and save 10%.

To register or request an in-house proposal, visit www.afrisciencegroup.com, email info@afriScience.co.za, or WhatsApp us on **+27 63 479 1136**.

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