



PETROLEUM GEOSCIENCE AND PETROPHYSICS

Unconventional Resources: Shale, Tight Gas and Coal Bed Methane

5 day course

Classroom, online or in-house

Course overview

Shale and tight gas wells do not produce because a trap holds a column of hydrocarbons; they produce because the rock itself has been stimulated and contacted over long horizontal sections. Delegates start with source rock reservoirs: total organic carbon, maturity, mineralogy, brittleness and the controls on gas and liquids windows. Tight sandstones and coal bed methane follow, including adsorption isotherms, cleat systems and dewatering. Petrophysical and geomechanical evaluation of ultra low permeability rock, sweet spot mapping and landing zone selection are covered next. The programme ends on development concepts, water and environmental considerations, and the outlook for unconventional gas in southern Africa, including the Karoo and coal bed methane prospects in Botswana and Zimbabwe. Delegates leave able to screen and rank unconventional opportunities.

What you will learn

- Evaluate shale reservoirs using organic content, maturity, mineralogy and brittleness
- Explain storage and flow mechanisms in shale, tight sand and coal
- Interpret adsorption isotherms and gas content data for coal bed methane
- Characterise ultra low permeability rock with logs, core and geomechanics
- Map sweet spots and select horizontal landing zones
- Compare development concepts for shale, tight gas and coal bed methane
- Assess water management and environmental considerations
- Screen unconventional opportunities in southern African basins

Who should attend

- Geologists and petrophysicists evaluating unconventional plays
- Reservoir engineers new to unconventional resources
- Coal bed methane project staff
- Regulators and policy officers responsible for gas development
- Business development managers screening resource opportunities

Course outline

- 01 What makes a resource unconventional
- 02 Shale as source and reservoir
- 03 Tight gas sandstones
- 04 Coal bed methane
- 05 Petrophysics of ultra low permeability rock
- 06 Geomechanics and brittleness
- 07 Sweet spots and landing zones
- 08 Development concepts and well performance
- 09 Water, environment and the African outlook

Upcoming dates



Dates	Venue	Format	Fee per delegate
9 to 13 November 2026	Maseru, Lesotho	Classroom	R19,950
16 to 20 November 2026	Durban, South Africa	Classroom	R19,950
30 November to 4 December 2026	Cape Town, South Africa	Classroom	R19,950
11 to 15 January 2027	Lusaka, Zambia	Classroom	USD 1,325

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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