

ONSHORE UNCONVENTIONAL GAS FUNDAMENTALS

Training Course: A complete guide to the technical fundamentals and unique issues associated with onshore unconventional gas - including an objective science-based perspective on fracking for unconventional reservoirs.

LIVE ONLINE TRAINING

October

FACE TO FACE TRAINING

**19-20 November 2020
Darwin**

**4 Part
Series**

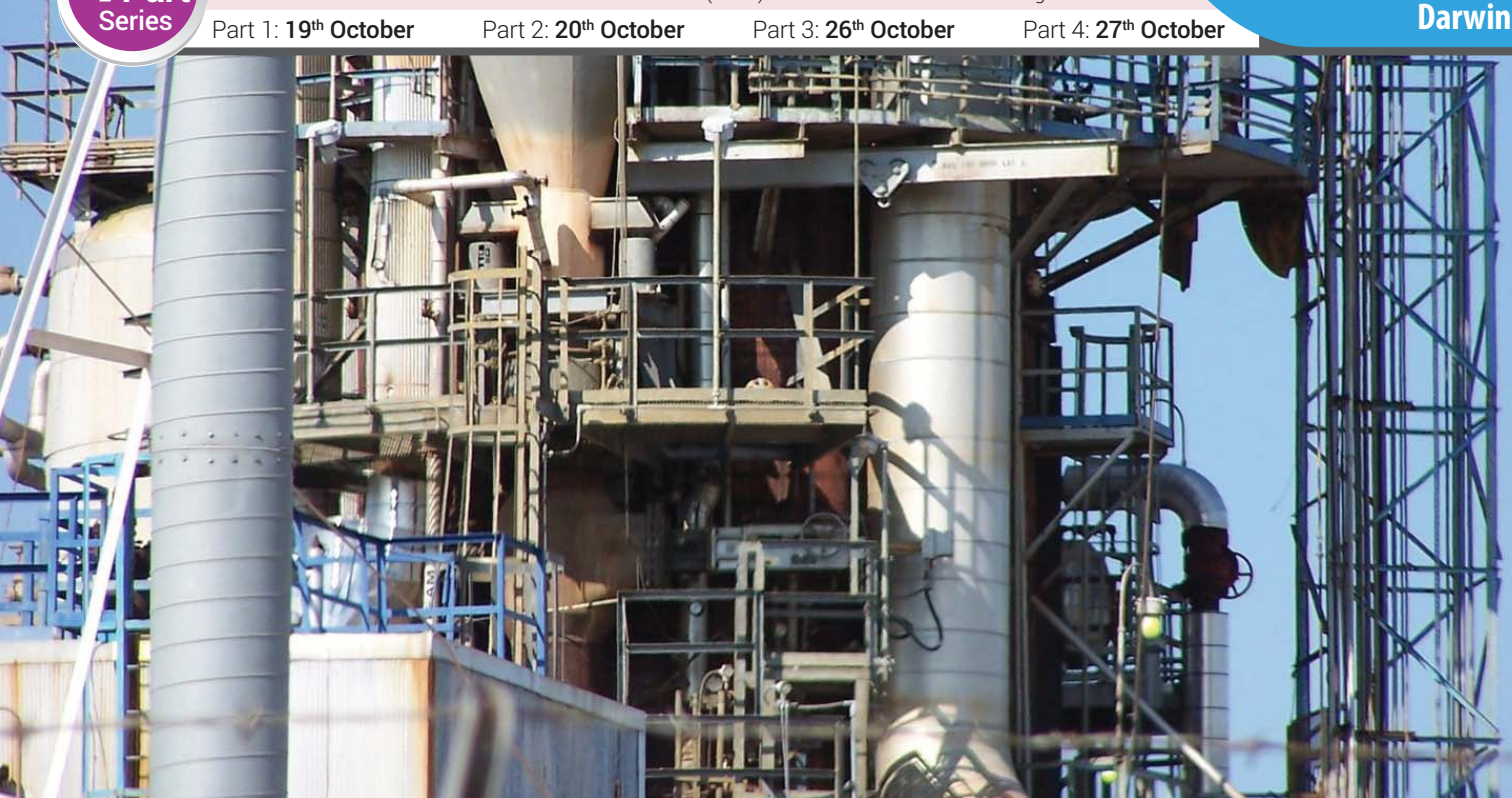
Course Parts will commence at **10:00** and end at **13:00** (AEST). There will be short breaks during each course Part.

Part 1: **19th October**

Part 2: **20th October**

Part 3: **26th October**

Part 4: **27th October**



**Our Expert
Course
Instructor**



Scott Thomson

Scott has held leadership roles in industry and has worked as a consultant to the Coal Seam Gas (CSG) and coal mining industry for the past 40 years.

Key Learning Objectives

- ▶ What is Unconventional Gas and where is it located?
- ▶ Onshore Gas, how does it differ from its more Conventional cousin?
- ▶ Why is there so much variability in natural gas prices and valuations?
- ▶ Will natural gas consumption increase or decrease relative to other energy sources?
- ▶ What methods are applied to identify unconventional gas targets?
- ▶ Why are exploration methods so much different from conventional gas exploration?
- ▶ How is unconventional gas extracted and how do the methods vary from conventional gas?
- ▶ What are the key data needed in evaluations?
- ▶ How much certainty can be applied to evaluation results, and where are the pitfalls?
- ▶ How is the technology evolving?
- ▶ How are markets developing?
- ▶ Environmental Issues and how this may be addressed?
- ▶ Impact upon stakeholders?

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ABOUT THE COURSE

The course is designed to be universally accessible. Receive an executive overview of the technical fundamentals and unique issues associated with onshore unconventional gas. This includes an objective science-based perspective on hydraulic fracturing ("fracking") for unconventional reservoirs: what it is, key terminology, how it's designed, what it does, what are its benefits, costs, impacts & risks. The presentation material will rely on practical applications and on published studies to present a broad, fundamentals-based analysis of onshore gas and unconventional reservoirs.

WHO SHOULD ATTEND

The course is generally applicable to anyone who would like to understand more about onshore unconventional gas, including all stakeholders, native title specialists, government representatives, reservoir engineers, geologists, administrators, executives, potential investors in projects, and financial analysts.

WHAT OUR CLIENTS SAY

"Extremely knowledgeable, able to explain complex things clearly and kept participants engaged."

HSE Advisor, **Arrow Energy**

"Expert knowledge, open nature and willingness to answer any questions asked. Great course which was thoroughly informative and the presenter was excellent."

Policy Officer, **Department of Industry**

"Friendly, relaxed, knowledgeable, experienced and straight forward. An excellent course with great content. Presented in a relaxed and informal manner. Good use of videos."

CFO, **AMCI**

EXPERT COURSE INSTRUCTOR



Scott Thomson is a geologist with over 40 years experience in the coal mining and energy industries. He has held leadership roles in industry and has worked as a consultant to the Unconventional Gas, Coal Seam Gas (CSG) and coal mining industry for the past 20 years. He has been a managing director of a leading directional drilling service and technology supply company, and a Research Leader in coal seam gas associated with a major Australian CRC.

Scott is Managing Director of CoalBed Energy Consultants (www.coalbed.com.au), which provides project management, technical services, business development, due diligence and consulting services in unconventional gas, coal mining, CBM (CSG), Coal Mine Methane (CMM), drilling, fugitive emissions and related areas. CoalBed counts in its client list all of the major mining companies in Australia, and many CSG players. Scott and his son Duncan have developed popular training courses in Unconventional Gas, Coal Mining Fundamentals, CBM Fundamentals, CBM production and completion, and drilling which have been delivered to a range of clients in Australia and overseas.

CoalBed have developed unique skills in the evaluation of fugitive emissions from shallow open cut mining operations and act as Estimators for companies reporting to the National Greenhouse Officer for Carbon Tax compliance. The company also manages surface to in-seam directional drilling programs for geological exploration and degasification, and have developed expertise in the use of directional drilling data for improved geological modelling.

Scott has worked in most of the major unconventional gas basins throughout the world, and assisted with technology transfer of advanced directional drilling technology into emerging markets such as China, India, South Africa, Central-Asia and Eastern Europe. Recent related experience includes developing projects in Indonesia, Mongolia, Kazakhstan, South America and Southern Africa.

Scott is the author of a number of papers that have been published in a range of journals and proceedings, and was also a co-recipient of the prestigious Stefanko Award for best paper at the 2007 SME Conference in Denver, CO, USA for a paper titled "A Petroleum Industry Approach to Coal Mine Drainage".

He holds a BSc in Geology from the University of Newcastle, an MSc in Geology from the University of New England and an MBA from Deakin University. He is a member of the Geological Society of Australia and the Society of Petroleum Engineers.

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Course Outline

Introduction: the background to Onshore Unconventional Gas

- Introduction; what exactly is Unconventional Gas?
- Is Onshore Gas by definition 'Unconventional'?
- Unconventional Gas and Geopolitics
- The actual and probable impacts of unconventional gas development
- The role of Unconventional Gas as a transformation fuel; Fact and Fiction
- How energy markets work
- The experience of Onshore Unconventional Gas overseas, the good, the bad and the ugly

Background to Onshore Unconventional Gas in the Northern Territory

- Economic and labour market drivers
- Where is the gas?
- Recent Australian energy market developments and their impact upon the NT
- Specific aspects of the NT's emerging gas industry and energy markets
- Shale Gas in the Northern Territory: likely development path

Onshore Unconventional Gas Fundamentals: the "essential science"

- The geology of Unconventional Gas
- Shale & Tight Gas fundamentals: are all prospects equal?
- Geochemistry
- Petrophysics
- Electric Log and Core analysis
- Shale & Tight Gas resources and reserves
- CBM and Hydrates are unconventional too

Operational issues associated with Onshore Gas

- Shale & Tight Gas production processes and characteristics
- Shale & Tight Gas completions
- Key differences to Conventional Gas
- The drilling fundamentals of Unconventional Gas.

- Hydraulic fracturing: key terminology, how it's designed, what it does, what are its benefits, costs, impacts & risks.
- Production forecasting: new and improved
- Financial aspects of Onshore Unconventional Gas Projects
- Shale & Tight Gas wrap-up and discussion

Environmental and stakeholder issues

- Addressing environmental issues and perspectives associated with Onshore Unconventional Gas.
- What have been the actual impacts of Unconventional Gas?
- Methane emissions and the Greenhouse argument.
- The role of LNG
- Hurdles to technology transfer
- Emerging technologies
- What opportunities will emerge as gas prices increase?

Case studies and Exercises

A number of short exercises and case studies will be used throughout the course to reinforce key topics and terms, and to provide real life examples.



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Onshore Unconventional Gas Fundamentals - Live Online Training

Course Code	Location	Course Parts	Month	Standard Price	4+ Dels Discount
P20GR07DW03V	Live Online Training	All 4 Parts	October 20	\$2,076 + \$207.60 GST	\$2,283.60 Great Savings: When you book 4 or more participants! Call us today on +61 (2) 9080 4395 or email training@informa.com.au to take advantage of the discount offer.

Onshore Unconventional Gas Fundamentals - Face To Face Training

Course Code	Location	Course Dates	Super Early Bird price valid until 9 Oct 20	Early Bird price valid until 6 Nov 20	Standard price valid after 6 Nov 20	4+ Dels Discount
P20GR07DW02	Darwin	19-20 Nov 20	\$2,095 + \$209.50 GST \$2,304.50	\$2,395 + \$239.50 GST \$2,634.50	\$2,495 + \$249.50 GST \$2,744.00	\$1,916 + \$191.60 GST \$2,107.60

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Informa Corporate Learning – On-site & Customised Training

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If you have 8+ interested people, an on-site course can be the ideal solution – giving you the opportunity to customise our course content to your specific training needs, as well as attracting significant savings compared to public course costs.

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