



# OIL & GAS EXPLORATION & PRODUCTION FUNDAMENTALS

## TRAINING COURSE:

### The Essential Techno-Commercial Introduction To Oil & Gas

Build your confidence & understanding of the petroleum business lifecycle & its technical jargon by examining the geological, physical, engineering & commercial components of exploration, drilling, production & facilities management.

#### FACE TO FACE TRAINING

24 - 25 October 2023 • Perth



## Our Expert Course Instructor



### Professor Peter Moore

Professor Moore has over 35 years of expertise as a very successful oil & gas explorer & business leader, being involved in numerous, significant discoveries throughout Australia & overseas.

## KEY LEARNING OBJECTIVES

- ▶ Review the global make-up of the oil, gas and LNG-export industries, their jargon and challenges
- ▶ Discover petroleum exploration, drilling and evaluation/testing techniques and methods
- ▶ Appreciate reservoir engineering and the uncertainty surrounding resource/reserve estimation
- ▶ Understand field development planning techniques, economic assessments and reservoir management
- ▶ Gain awareness of basic petroleum geoscience, petrophysics and field appraisal
- ▶ Determine the basic components of production engineering, managing field decline, processing and refining
- ▶ Understand petroleum economics and appreciate the balance between commercial and technical risk, uncertainty and opportunity in a project lifecycle
- ▶ Review the design, construction, commissioning and decommissioning of facilities

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## ABOUT THE COURSE

This intensive 2-day course will provide participants with a solid all round grounding in the technologies, concepts, methods and language used in upstream oil and gas projects.

The technical and commercial building blocks of oil and gas projects will be examined, and how a venture progresses; from the point of acquiring a license, through exploration, appraisal, concept selection and the development phase, into production, late field life and finally decommissioning.

The link to downstream is bridged with a discussion on refining and the LNG business.

Participants will learn to appreciate the impact of geological and reservoir uncertainty on concept selection and production management, and how the right combination of technology, business processes and decision making can improve project value.

Towards the end of the program, the critical roles of the many different disciplines and stakeholders involved in upstream projects will be discussed.

The commercial aspects of how oil and gas fields are evaluated and which profitability indicators are used to screen and rank projects will be analysed.

## WHO WILL BENEFIT

This course is not a basic level introductory course. It has a specific techno-commercial focus for technical and business oriented professionals who are either new to the upstream oil and gas industry or experienced in one part but could benefit from a wider perspective.

- Technical (exploration and production, geoscience and engineering).
- Non-technical (commercial, finance, marketing and legal) backgrounds.
- Those who have recently joined an petroleum market development/project.

## Would You Like To Run This Course On-Site?

### Informa Corporate Learning: On-site & Customised Training

If you have **8+** interested people, an onsite course can be an ideal solution. Speak with **Sushil Kunwar** on **+61 (2) 9080 4395** to discuss your customised learning solution, or email [training@informa.com.au](mailto:training@informa.com.au).

## EXPERT COURSE INSTRUCTOR



### Professor Peter Moore

Professor Peter Moore is a senior oil and gas executive and has over 35 years of industry experience in large operating companies, including ExxonMobil and Woodside Petroleum Ltd.

He is a successful explorer, being involved in numerous hydrocarbon discoveries throughout Australia and overseas, with the most famous being the giant Pluto gas discovery that resulted in a \$15B LNG development.

Professor Moore was the Executive Vice-President for Exploration from 2009 to 2013 for Woodside Energy Ltd (Australia's largest dedicated oil and gas company) where he led the company's worldwide exploration efforts with an annual budget of roughly \$0.5B. Prior to Woodside, he was head of Global Studies for ExxonMobil in Houston, involved in technology development, management of Exxon's global opportunity seriatum, and managing teams involved in the global search for major new opportunities, including in areas such as the Black Sea, the Arctic (Alaska, Russia, N Canada), N. Asia, Australasia and South America (Brazil, Venezuela/Suriname/Guyana) for example.

From 2014-2018, Professor Moore worked in Curtin University's Faculty of Business and Law as the Executive Director of Strategic Engagement, guiding their strategic plans, industry and government engagements, and helping establish the university's Oil & Gas Innovation Centre. During this time he was also a Non-Executive Director of Central Petroleum Ltd. Currently, he is an Adjunct Professor and Chair of the Advisory Council for Science and Engineering at Curtin University and a Non-Executive Director of Beach Energy Ltd and of Carnarvon Petroleum Ltd". With this diverse technical, managerial, commercial and strategic background, Professor Moore is a popular and highly respected executive educator and coach.

## WHAT OUR CLIENTS SAY

*"Industry knowledge, ability to translate difficult concepts into layman terms and relevant experience (Australia Woodside) so able to give recent examples. Overall, really enjoyed the course and will apply daily in my role. Peter Moore exceptional choice of instructor."* Associate, **CT Partners**

*"Great overview with enough detail to explain the concepts even if you have no technical background."* Information Officer, **NOPSA**

*"Very knowledgeable, good 'on the ground' experience, kept the presentation moving along, very approachable."* Divisional Manager, **AON Risk Services Limited**

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## Course Outline

### Global energy context: oil and gas supply and demand

- Global energy and the transition to cleaner fuels
- Main producing regions – globally and locally
- Global supply vs demand – can we deliver?
- The exploration, development and production value chain – an overview of the asset management cycle

### LNG

- The role of LNG
- LNG development, production and liquefaction, including case examples and videos
- LNG construction, contracting, shipping, marketing, business models, economics

### The petroleum system

- Basins, basin formation and plate tectonics
- Components of oil and gas accumulations – source, seal, reservoir and trap
- Petroleum provinces of the world – geological framework
- Gaining entry: exploration license types and agreements
  - Production sharing contracts vs. tax and royalty systems

### Exploration methods

- Gravity and magnetics
- Seismic – 2D and 3D onshore and offshore
- Oil and gas volumetrics, reserves and risking
- Valuing a prospect – risking, NPV and expected monetary value

*Practical activity - Country entry problem*

### Drilling systems and techniques

- Types of drilling rigs – onshore and offshore
- The rotary system – conventional, top drive and rotary steerable
- Drilling fluids, types and functions
- Well planning considerations
- Drilling a well including well control
- Casing and cementing
- Things that can go wrong – stuck pipe, overpressures, lost circulation and kicks
- Mud logging

### Reservoir description

- Reservoir rock types
- Depositional environments – the use of outcrop, analogues, well and seismic data
- Structures – faults, folds and fractures
- Diagenesis and reservoir property modifications
- Reservoir fluids and composition
- Drive mechanisms – how does a well flow
- Volumetric estimates and reserves classification
- Well testing and reservoir surveillance – data gathering activities
- Reservoir modelling and simulation

### Field appraisal

- Role of appraisal and uncertainty
- More data vs. a more flexible concept
- Appraisal planning
- The value of information

*Practical activity - Designing an appraisal strategy*

### Concept selection and field development planning

- Defining requirements and specifications
- HSE requirements in field development
- From reservoir to surface – well completions and artificial lift
- Basic processing equipment
- The process flow scheme – from well head to refinery
- Facilities options and concepts – onshore/offshore
- Evacuation options

### Petroleum economics

- Elements of a project cash flow and commercial indicators
- Discounting
- Production profiles into revenue
- Commercial risks, uncertainties and opportunities
- Oil vs. gas
- Profitability indicators used for oil and gas projects
- Project screening and ranking
- Economics vs strategies – publicly traded companies vs. national oil and gas companies

### Managing production

- Managing the subsurface
- Managing surface facilities and maintenance
- De-bottlenecking
- Managing the external factors

### Managing field decline

- Infill drilling
- Workover activities
- Facilities and process integrity issues
- Enhanced oil recovery techniques
- Incremental projects and near field opportunities

### Oil Refining

- Review how crude oil is refined via a short movie
- Understand the physical separation of crude via fractionation into the main fractions required for market ie. gases, gasoline, diesel, kerosene and residue/heavy fractions

### Decommissioning

- Legislation
- Economic vs. technical lifetime
- Decommissioning funding
- Decommissioning methods

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## Easy Ways to Register

-  **Web**  
[www.informa.com.au/oilandgasproduction](http://www.informa.com.au/oilandgasproduction)
-  **Telephone**  
+61 (2) 9080 4383
-  **Email**  
[training@informa.com.au](mailto:training@informa.com.au)

## Oil & Gas Exploration & Production Fundamentals

Course Codes	Location	Course Dates	Early Bird price valid until PE - 6 Oct 23		Standard price valid after PE - 6 Oct 23 23		4+ Dels Discount	
P23GR26PE02	Perth	2 - 25 October 2023	\$2,695 + \$269.50 GST	<b>\$2,964.50</b>	\$2,995 + \$299.50 GST	<b>\$3,294.50</b>	\$2,396 + \$239.60 GST	<b>\$2,635.60</b>

### Privacy Policy & Updating your Details:

Please visit us online at [www.informa.com.au/privacy](http://www.informa.com.au/privacy) for a full privacy policy. Database amendments can be sent to [database@informa.com.au](mailto:database@informa.com.au) or phone **+61 (0) 2 9080 4017. ABN: 66 086 268 313**

### Informa Corporate Learning – On-site & Customised Training

Informa Corporate Learning has a long-standing track record of delivering very successful customised learning solutions achieving real and measurable value for our clients through our senior training consultants.

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.

### Why Choose On-site With Informa Corporate Learning?

- Custom design** – Together, we will identify the best blended learning solution for your culture, your people and your training objectives.
- Quality Assured** – We design market-leading training programs, concepts and methodologies, with a 400+ course portfolio. Our rigorously selected 900+ instructor faculty are recognised experts in their field. Quality of their content and delivery methods is assured through continuous monitoring and evolution.
- On-site training** is a cost effective way to train your people and achieve your defined outcomes.

### Our Long Standing Clients Include:

Rio Tinto, Siemens, Yarra Trams, Oz Minerals, Southern Program Alliance, SBS, Sarawak Government, Petronas, Boehringer Ingelheim, Glencore, Bluescope Steel, Baker Hughes, ActewAGL, Ambulance Victoria, ANU, Arrow Energy, Australian Super, Barrick, BHP, Chevron Australia, ConocoPhillips, CSIRO, Dalrymple Bay Coal Terminal, Department of Education, Department of Planning, Electricity Generating Authority of Thailand (EGAT), ENI Australia, EY, Fortescue Metals Group, Health Purchasing Victoria, IBM, IP Australia, Jemena, Metro Trains, Origin Energy, Public Transport Authority – WA, QGC – BG Group, Queensland Rail, Rio Tinto, Romgaz, South Australia Health, Woodside and more...

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