

**Training Title**

**DEEPWATER DRILLING DESIGN AND OPERATIONS**

**Training Duration**

5 days

**Training Venue and Dates**

ID005	Deepwater Drilling Design and Operations	5	12-16 December, 2021	\$4,500	Dubai, UAE
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In any 5 star hotel. The exact venue will be intimated once finalized.

**Training Fees**

4,500 US\$ per participant for Public Training. Fees Includes Course Materials/Handouts, Tea/Coffee, refreshments, International Buffet Lunch.

**Training Certificate**

Define Management Consultancy & Training Certificate of course completion will be issued to all attendees.

**TRAINING DESCRIPTION**

This five-day course develops capability, at a skill level, in the design and drilling operations in deepwater wells. It is designed to give drilling engineering professionals an understanding of the technology, processes, and equipment used to drill deepwater oil and gas wells.

The course will follow a typical deepwater drilling program and drilling process from geology setting, through metocean environment, station-keeping, rig selection, conductor driving, surface casing setting, to drilling the remainder of the well. Wellhead systems, BOP, and marine riser systems for typical deepwater MODUs will be covered.

Once the drilling process and equipment has been reviewed the class will then look at some operational aspects such as well control and shallow hazards; then it will continue with emerging technologies such as multi-axis rigs, Dynamic Pressure Drilling, and surface BOP's.

**TRAINING OBJECTIVE**

Participants will gain awareness of key issues with testing, completing, and interventions, as well as overall operations management od deepwater well projects.

This course will be a mix of video presentations, power points, and discussions, along with group exercises to discuss the challenges encountered in a deepwater program. At the end of the course, the participants will understand the complexities and issues which must be addressed when drilling deepwater wells.

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**TRAINING METHODOLOGY:**

This training program is lecture-based and customized to the needs of the audience, providing meaningful experience for personnel that work in petroleum plants.

Daily sessions include formal presentation, prepared in the Power Point, interspersed with directed discussions and case study.

In addition to formal lectures and discussions, the delegates will learn by active participation through the use of problem solving exercises, group discussions, analysis of real-life case studies etc. All attendees receive a course manual as a reference.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Group Work & Practical Exercises
- 20% Videos & General Discussions

**WHO SHOULD ATTEND?**

- Drilling professionals with well design and operations experience onshore and/or in shallow water desiring an understanding of challenges and solutions in the deepwater drilling environment.
- Drilling Engineers
- Wellsite leaders
- Well Engineering Team Leaders
- Well Operations Superintendents
- Managers associated with deepwater well projects

**COURSE OUTLINE**

**Day 1**

**Deepwater Drilling Challenges and History**

- Deepwater drilling operations
- Deepwater history
- Deepwater locations and geology
- Overburden and compaction
- Pore and fracture pressures

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On the first day participants will be given an introduction to deepwater operations and an overview of the offshore drilling history. The class will then look at the more detailed aspects of the deepwater geology and the various deepwater locations in the world. This portion will cover how deepwater reservoirs are formed and why some of the geological challenges associated with deepwater can be explained by the geological settings. Next participants will look at the overburden and compaction issues associated with deepwater

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locations as it explains the critical differences for pore and fracture pressures between deepwater and shallow water operations.

### Day 2

#### Planning Operations

- Metocean and currents
- Rig selection
- Station keeping
- Open water operations (ROV's)
- Conductors

The second day will continue with the discussion on deepwater aspects that have to be taken into account when planning operations, the issues associated with weather and currents, and the impact these have on a deepwater operation. This will lead into station-keeping requirements and methods, and then how rigs are selected: what selection criteria may be required, and how to select which rig type and contractor.

The day will continue with a discussion over the ROV systems required for deepwater operations and the shallow hazards faced.

### Day 3

#### Conductors, Surface Casing and Well Design

- Conductors
- Subsea wellheads and casing strings
- Cementing
- BOP systems

On day three, participants will continue to learn about the installation of conductors, subsea wellhead systems, surface casing and subsequent casing strings. They will also learn how deepwater well design is impacted by wellhead systems.

Cementing challenges associated with deepwater surface casings and deeper hole sections will be covered. Participants will also focus on BOP systems for deepwater.

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### Day 4

#### Deepwater Rig Surface Equipment and Well Operations

- Drilling Riser Systems
- Drilling equipment for deepwater
- Deepwater well control
- Fluids
- Salt

During the fourth day participants will look at drilling risers systems and then take closer look at the surface equipment and system automation employed on deepwater rigs. This will include drilling systems, as well as mud handling and riser handling systems. Deepwater well control will focus on the issues associated with deepwater well control, including a discussion on the BP Macondo well, and some of the common well control issues associated with deepwater operations, including shallow water, gas flows, hydrates, and riser gas issues. Finally concerns associated with drilling fluids will be addressed, and key issues in dealing with salt will be discussed.

**Day 5**

**Drilling Fluids, Subsalt Issues, and New Technologies**

- Multi-axis rigs
- Dynamic pressure drilling
- Testing, completions and interventions
- Operations management

The final day will be spent discussing new technology implementation, deepwater testing, completions and interventions. and then the issues and solutions in managing well operations in deepwater, the advanced rig systems employed, and the complex deepwater drilling operations.

**NOTE:**

**Pre & Post Tests will be conducted**

**Case Studies, Group Exercises, Group Discussions, Last Day Review & Assessments will be carried out.**

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