Training Title

HPHT PLANNING & OPERATIONS-PORE PRESSURE, FRACTURE GRADIENT, MUD, CASING, CEMENT, WELL HYDRAULICS, DRILL STRING DESIGN, HPHT WELL CONTROL

Training Duration

5 days

Training Venue and Dates

REF DE010	**HPHT Planning & Operations- Pore pressure, Fracture Gradient, Mud, Casing, Cement, Well hydraulics, drill string design, HPHT well control**	**5**	**26 – 30 May, 2025**	**$6,250**	**Kuala Lumpur, Malaysia**

Training will be held at any of the 4 or 5-star hotels. Exact venue will be informed later.

Training Fees

- **$6,250 per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Lunch**

Training Certificate

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

TRAINING DESCRIPTION

High Pressure (HP) (>10,000 psi) and High Temperature (HT) (>300°F) conditions are becoming more routine drilling targets worldwide in the pursuit of deep gas reserves. This course delivers a comprehensive review of HPHT well design, engineering and drilling requirements.

This introductory course provides an understanding of High-Pressure and High-Temperature (HPHT) drilling and completion operations. The course is specifically designed to provide an understanding of the challenges associated with the design and construction of HPHT wells. The course covers not only theory, technicalities and practicalities of drilling and completing HPHT wells but it also covers real examples and exercises.

The content emphasis in this course/workshop is placed on current regulatory and standard operating principles of HPHT – right from a well's concept phase, through pre-planning, rig and equipment selection, the basis of well design, detailed design, engineering, offset study, and final drilling of the critical HPHT transition and reservoir zones. The challenges of geological risks and uncertainty with drilling fluids, cement design, equipment assurance and

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drilling problem prevention, solving and decision making, all require special attention. The course draws on several HPHT case studies from different drilling environments in conjunction with instructor-led facilitation, use of multi-media files and most importantly individual and group-led engagement sessions. The course equips a multi-disciplinary team to manage and control the drilling hazards and risks that exist in HPHT wells. This course also delivers a participative, practical program where individual and teamwork skills are developed to meet the HPHT drilling challenges presented.

TRAINING OBJECTIVES

Upon the successful completion of the course, participants will be able to:-

- Areas of interface (structural design, process safety)
- HPHT development well engineering considerations
- Subsurface scenarios (reservoir depletion, seal failure, compaction)
- Casing design (conductor analysis, wellhead growth, annulus pressure buildup, big bore well design, material and connection selection)
- Fluids and cementing design
- Wellhead design (unitized wellhead, dual metal to metal seal)
- Rig and operational aspects
- Well delivery process
- Sourcing
- QAQC
- Introduction to HPHT completions
- Difference between regular completions and HPHT completions
- Reservoir issues
- Tubing stress analysis
- HPHT completion equipment
- Completion fluids
- Well testing and production

TRAINING METHODOLOGY

A highly interactive combination of lecture and discussion sessions will be managed to maximize the amount and quality of information, knowledge and experience transfer. The sessions will start by raising the most relevant questions, and motivate everybody finding the right answers. The attendants will also be encouraged to raise more of their own questions and to share developing the right answers using their own analysis and experience.
All attendees receive a course manual as a reference.

This interactive training workshop includes the following training methodologies

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

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- 20% Videos& General Discussions

WHO SHOULD ATTEND

This course is intended for individuals involved in:

- Drilling & Workover
- Completion
- Operations
- Petrophysics
- Production
- Well integrity

COURSE OUTLINE

Day - 1

- Introduction to (O&G).
- Introduction to HPHT.
- Difference between normal & HPHT Wells.
- Pore Pressures.
- Related Geological Aspects.
- Risk & Safety Standards.
- Well Control Issues.

Day - 2

- CSG Design.
- CSG Specifications.
- CRS Tools & Operations.
- CSG Operations Problems.
- CMT Chemicals.
- CMT Tools & Equip.
- CMT Design & Lab Test.

Day - 3

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- CMT Operations.
- CMT Jobs aspects.
- CMT Problems.
- CSG Accessories.
- Mud chemicals.
- Mud Program Design.
- Mud Preparation & Mixing.
- Mud Handling.
- OBM & WBM.
- Mud Lab & onsite tests.

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- Completion Fluids.
- Mud Problems.

Day - 4

- HPHT Drilling Engineering.
- HPHT Drilling Operations.
- HPHT Drilling Services.
- HPHT Work Over OPR's.
- HPHT Drilling Operations Hydraulics.
- HPHT onshore vs offshore.
- HPHT Bits & DD Design & Operations.

Day - 5

- Previous 4 Days Recap.
- Drilling String Design.
- Drilling Tools & Accessories.
- HPHT Detailed Well Control.
- HPHT Milling & Fishing OPR's.
- HPHT Wells Integrity.
- HPHT Wells Interventions.
- Course Recap.
- Post Test.
- Certification.

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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