



**MAESTRO**  
**CONSULTANTS**

***Advanced Drilling & Mud Optimization HPHT***

**COURSE OUTLINE 2024**

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**TRAINING TITLE**

**Advanced Drilling & Mud Optimization HPHT**

**VENUE**

**London UK**

**DURATION**

**5 Days**

**DATES**

**04-08 March 2024**

**PRICE**

**\$6,750 per attendee including training material/handouts, morning/afternoon coffee breaks and Lunch buffet daily.**

**TRAINING INTRODUCTION**

**This course has been designed to help drilling engineering professionals understand the technologies, terminology, challenges, concepts, processes, and equipment used to drill High Pressure and High Temperature oil and gas wells. The course follows a typical HPHT operation and provides an understanding of the geological settings through well planning, drilling operations and well control challenges to the completion challenges in HPHT wells. Critical HPHT challenges are addressed in detail during the course. Some of the solutions such as managed pressure drilling are addressed with a focus on the issues that are being solved. This course will be a mix of video presentations, power points, and discussions, along with group exercises to discuss the challenges encountered in an HPHT program.**

**TRAINING OBJECTIVES**

- At the end of the course, the participants should understand the complexities associated with HPHT operations and will gain an understanding of issues that must be addressed when drilling HPHT wells. Variable nature of well interventions in HPHT wells**
- Describe the inherent risks and need for careful diagnostics, planning and supervision**
- Emphasize the economic implications of a work-over in terms of the need to protect the well production or injection capacity**

- List and describe the equipment and operational concepts involved in wireline and coiled tubing operations
- Know the well control barrier principles for these types of wells
- Identify three barriers methodology during well intervention and applicability in HPHT wells
- Know well control barrier classification for a different type of intervention
- Fully understand the procedures for slick line and or wire-line operation and what are the equipment and downhole tools
- Describe well-pressure control and safety issues originated from HPHT wells and associated to slickline /wire-line
- State the limitations on successful wire-line operation imposed by depth, hole angle and dog leg severity the high pressure and temperature

### **TRAINING AUDIENCE**

**Drilling Engineers and Drilling professionals with well design and operations experience**

### **COURSE OUTLINE**

#### **Day 1**

#### **HPHT History and Challenges and the Geological Settings**

- Defining the HPHT Environment
- HPHT Challenges and associated Standards and Practices
- Geology in the HPHT Environment
- HPHT Reservoirs

#### **Day 2**

#### **Well Design**

- Casing Design and Tubular Selection
- Shoe Placement
- Annular Pressure build up and Thermal De-rating
- Casing Wear, H<sub>2</sub>S and CO<sub>2</sub> Effects
- Cementing Challenges and Practices

#### **Day 3**

#### **Fluids and Well Control**

- Drilling Fluid Aspects

- **Gas Solubility**
- **Elastomers**
- **Well Control, Ballooning, Wellbore Breathing**
- **Gas Expansion**
- **Well Control Procedures**

#### **Day 4**

##### **Rig Surface Equipment and Drilling Operations**

- **Surface Equipment for HPHT**
- **Downhole Equipment Challenges**
- **Managed Pressure Drilling**
- **Finger Printing and Drilling Practices**
- **Contingency Planning**
- **Well Control Emergencies**

#### **Day 5**

##### **Completions and Well Testing**

- **HPHT Completions**
- **Design Considerations**
- **Component Selection and Specifications**
- **Tubing Leak Contingencies**
- **HPHT Well testing**
- **Operational Testing Considerations**
- **Well testing Safety**

#### **TRAINING CERTIFICATE**

**MAESTRO CONSULTANTS Certificate of Completion for delegates who attend and complete the training course**

#### **METHODOLOGY**

**Our courses are highly interactive, typically taking a case study approach that we have found to be an effective method of fostering discussions and transferring knowledge. Participants will learn by active participation during the program through the use of individual exercises, questionnaires, team exercises, training videos and discussions of “real life” issues in their organizations. The material has been designed to enable delegates to apply all of the material with immediate effect back in the workplace.**