Advanced Drilling Technology

Table of Contents:

BTS Training & Consultancy

1st floor, Incubator Building, Masdar City, Abu Dhabi, UAE

00971-2-6452630

00971-50-6652671

info@btsconsultant.com

www.btsconsultant.com

Introduction:

This course offers a foundation in the principles and practices of advanced drilling engineering. It provides participants with an introduction to advanced drilling topics such as High Pressure High Temperature (HPHT) drilling, modern drilling technologies (i.e. casing drilling, unconventional drilling methods), special well design, drilling problems and their solutions.

The candidates will be guided through planning and evaluating drill string design and learn how to perform simple calculations associated with well tubular design. Advanced drilling techniques such as casing drilling or coiled tubing drilling are also covered in the course. The candidates will become familiar with the tools and techniques used in casing or tubing drilling such as surface equipment, bottom hole assemblies (BHA), etc. Finally, the participants will be able to decide which technology is more appropriate for their business using decision matrix.

Objectives:

By the end of this BTS training course, participants will be able to:

- Introduction to class, review of important topics of drilling engineering
- Drill string mechanics: loads, cause of failure, design concepts
- Mechanized drilling operations: makeup of tubular, mechanized drilling rigs
- Drilling problems: stuck pipe situations, fishing operations
- Advanced drilling technologies - casing drilling, HPHT, coiled tubing drilling

- Proper selection of drilling technology for shale gas, geothermal drilling, etc.
- Non-conventional drilling methods and equipment including environmental aspects of drilling activities
- Drilling through gas hydrates

Who should attend?

Drilling Engineers, Senior Drilling Engineers, Drilling Supervisors, Petroleum Engineers, Completion Engineers, Tool Pushers, Reservoir and Senior Reservoir Engineers, Geologists, Production and Completion Engineers, Foremen, Industry Personnel time to devote to the subject.

Course Outline:

- Short review of drilling engineering
- Drilling methods and drilling technologies
- Preparation for drilling operations
- Drilling operations
- Drilling calculations
- Drilling hydraulics
- Drill string design
- Casing string design

- Drilling HPHT wells
- Drilling fluids for HPHT environment
- Wellbore hydraulics
- Non-conventional drilling methods
- High performance drilling concepts
- Drilling through gas hydrates
- Drill bit optimization and selection
- Bit separation and evaluation
- Well evacuation (coring, logging and testing)
- Abnormal pressure prediction and detection
- Cementing
- Directional well planning
- Wellheads
- BOP's and operating systems
- Stuck pipe and finishing
- Special well control situations
- Drilling optimization

- Drill string mechanics
- Mechanized drilling operations
- Drilling problems and their solutions in modern drilling operations
- Coiled tubing drilling technology
- Casing drilling technology and casing fatigue
- Expandable tubular and their applications

- Drilling problems
- Aspects wellbore construction and wellbore integrity
- Proper selection of drilling technologies and methods for your business
- Final review