Advanced Drilling Finest Practices

Introduction

To drill a well successfully in the modern day, drilling workers need to be proficient in every subject. This training course on Advanced Drilling Best Practices covers all the essentials needed to drill a well, regardless of its depth or complexity and high pressure.

Engineers and field staff engaged in drilling programme planning and execution are also intended for this Oil & Gas Technology training course. This covers every facet of drilling technology, with a focus on both theory and real-world implementation.

Many components of the contemporary well are designed using computer programmes, and this training course will provide participants an understanding of both the theory and the practical use of most programmes.

The concepts and techniques of drilling and well planning, drilling fluid, drill string design, hydraulic optimization, and drilling hole difficulties are solidly covered in this Course N Carry Advanced Drilling Best techniques training course. The components of drilling string, their best uses, how to assess the work-out-of-body (WOB), and how to choose the appropriate drill collar size will all be covered for participants. Additionally, participants will be able to put the workaday solution to use in evaluating the effectiveness of drill string design for both direction and vertical holes.

Objectives

Following this training session, participants will be capable of:

- Efficiently drill a well while optimising the rate of penetration. Assess issues with stopped pipes and prevent future issues by making the most of hole cleaning and ROP.
- Create, drill string, BOP, and wellheads; create and carry out bit and hydraulic programmes.
- BHA design for appropriate deviation, management of horizontal and directional drilling, and Use the concepts and methods of mud logging to efficiently identify and assess well control issues.

Training Methodology

A range of tried-and-true adult learning strategies will be used in this Advanced Drilling Best Practices training session to guarantee that the material is understood, comprehended, and retained to the greatest extent possible. There will be a lot of interaction and participation in the daily sessions.

Organizational impacts

By sending staff members to this specific training session, the company will benefit from the following:

- Lowering the well's cost and removing the danger
- Extending and managing the healthy life
- Maintaining the integrity of the well

Personal Imapct

- Acquire integrating knowledge to lessen and eventually eradicate the drilling issues
- Develop the skills and self-assurance necessary to carry out the necessary control. They should also learn how to recognize and evaluate all warning indications in order to rule out a variety of issues.

Who should attend?

A broad variety of professions may benefit from this Course N Carry training course, but the following are particularly noteworthy:

- Engineers for Drilling
- Supervisors of Well Sites
- Contractors for drilling
- Supervisors of Drilling
- Drillers in Training
- Engineers for Rigs

Course Outline

Day 1

Issues with Drilling Holes and Workable Solutions

- Issues with the Hole (lost circulation, clogged pipe)
- Effect of Hole Cleaning on Issues with Holes
- Types of Stuck Pipes
- Formation and Associated Issues
- Good Drilling Practice Recommendations and Preventive Measures
- The Effect of Fishing Tools on Stuck Pipe
- Circulation Loss and Types
- Resources Used to Address the Issues
- Procedures and Suggestions
- Losses in the Reservoir and outside of it
- A Novel Plug-Setting Method for Restoring Serious Loss
- How Can the Issue Be Solved?

Day 2

Avoiding Twist-off and Washout

- How can Washouts be avoided?
- How do you assess a washout's actual pressure loss?
- Bit selection and hydraulic application, which includes choosing a nozzle
- Bit Categories
- Rolling Cutter Bits
- Diamond Bits with Polycrystalline Structure
- Typical Bit Classification
- Getting the Bit Ready to Run in the Hole
- Drilling a hole and inserting plugs and cement
- Splitting the Pieces
- Essential Parameters Talk
- Enhancing Drilling Efficiency
- Drill-off Examination
- Drill String Vibrating / Dynamic
- Factors that affect the termination of bit runs
- Hydraulic Bit
- **Design of BHA and Drill Strings, Casing Seat Selection, and BOP Equipment**
- Bits
- Drill Pipe, Drill Collars, and BHA Selection Functions
- Drill pipe grades and strength characteristics
- Tool-joints and Thread Types
- Weight and Neutral Point of Drill Collar
- Basic Design Calculations that are depending on how in-depth to be Drilled
- Functions of Stabilizers and Roller Reamers

Day 3

Planning and Control of Drilling Fluids: Regular and Unusual Issues

- Drilling fluid lifting capacity, circulating system pressure losses, and ECD
- Drilling fluid functions and the effect of hydraulics on drilling optimization
- Factors influencing the penetrations of drilling
- The characteristics and uses of drilling fluid
- Mud Properties and Issues Associated with Them
- Control of Seepage Losses

Day 4

Control of the Well and Hydrodynamic Pressure

- Excellent Management
- Three Stages of Control for Wells
- Hydrodynamic pressure
- Circulating Density Equivalent
- Mud Weight Retention
- Line of Defence II
- Kick That Was Induced
- The Kick Detection Team
- Reasons for Kicks During Drilling
- Signs of Induced Kicking
- Guidelines for Diverters During Drilling
- Optimal Kill Process for Kick Type
- Team Kick Control
- Gas Trapped below the BOP is removed.
- Reasons for Kicks During Trips
- Guidelines for Diverters When Hiking
- Assessing the Condition of the Off Bottom Kick
- Guidelines for Stripping and Bleeding
- Volumetric Recommendations
- Guidelines for Bleeding and Dynamic Lubricants
- Defense's Third Line (Underground Blowout)
- Signs of an Underground Explosion
- Identifying Kicks in Oil Base Mud
- Activities that may conceal a Kick
- Kill Sheet for Well Control
- Exercise

Day 5

Organising Including the Needs for Mud Logging

- Overview
- Contemporary Mud Logging Device
- Services for Petroleum Engineering
- Gas Examination
- Slicing Analysis
- Bulk Density of Shale
- Factor Shale
- Temperature of the Flow Line
- Models for Drilling
- Petro Measurements of Physical Properties
- Porosity Drilling
- Choosing a Mud Logging Provider
- Workshop talking about the issues with drilling and how to fix them