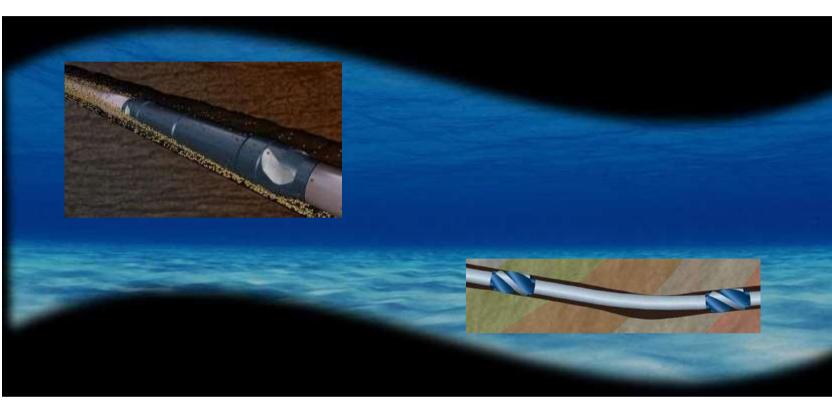


STUCK PIPE PREVENTION AND FISHING TOOLS



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Course overview

This Training Program is special plan consists of 3 Days Training Class for Employees who Works in Drilling Operation or generally involved in oil and gas field to enhance their reputation, increase drilling qualifications and to help them to perform their job description in a safe manner.

Course duration: 3 days

Who should attend?

Drilling Engineers have at least 1 year Experience. Drilling operators have at least 2 years' Experience. After the completion of the training program, the attendees should be aware of the entire course content which as the below.

Course content DAY 1

1. What is a "Stuck-Pipe"?

2. Mechanisms.

- 2.1. Differential sticking.
- 2.2. Inadequate hole cleaning.
- 2.3. Chemically active formation.
- 2.4. Mechanical Stability.
- 2.5. Overpressured Formations.
- 2.6. High Dip Sloughing.
- 2.7. Unconsolidated Formations.
- 2.8. Mobile formations.
- 2.9. Under gauge hole.
- 2.10. Key Seating.
- 2.11. Practical Simulator training

3. GENERAL STUCK PIPE PREVENTION

- 3.1 Stuck Pipe is Not Inevitable
- 3.2 Bottom Hole Assemblies
- 3.3 Drilling
- 3.4 Tripping
- 3.5 Casing and Cementing
- 3.6 Practical Simulator training



DAY 2 4. STUCK PIPE WARNING SIGNS

- 4.1 Erratic torque
- 4.2 the smooth torque increase sign of
- 4.3 the maximum pull can be exert on string
- 4.4 The Definition of pipe is sticking
- 4.5 The definition of hole pack off
- 4.6 Monitor hole condition from analyzing cuttings
- 4.7 Drilling out shoe and cleaning up
- 4.8 avoid junk in the hole
- 4.9 How do we find out that the hole is under gauge ?
- 4.10 Practical Simulator training

5. WELLBORE STABILITY / HOLE PACK OFF

- 5.1 Unconsolidated Formation
- 5.2 Mobile Formations
- 5.3 Fractured/faulted Formations
- 5.4 Geopressured Formations
- 5.5 Reactive Formations
- 2.6 Practical Simulator training

6. DIFFERENTIAL STICKING

- 6.1 Good Practices to Avoid Diff. Sticking
- 6.2 Mud Properties and Treatments

7. OTHER CAUSES OF STUCK PIPE

- 7.1 Key seating
- 7.2 Undergauge Hole
- 7.3 Wellbore Geometry
- 7.4 Junk
- 7.5 Green Cement
- 7.6 Cement Blocks
- 7.7 Collapsed Casing



DAY 3

8. FREEING STUCK PIPE

- 8.1 Freeing Stuck Pipe Flowchart
- 8.2 Stuck Pipe Freeing Table
- 8.3 Optimum Fishing Time
- 8.4 Mechanical Freeing
- 8.5 Overpull Calculations
- 8.6 Jarring Calculations
- 8.7 Packed Off Hole
- 8.8 Differential Sticking Decision Tree
- 8.9 U-tubing
- 8.10 Spotting Fluids
- 8.11 Freshwater Pills
- 8.12 Inhibited HCI Pills
- 8.13 Back-off Shots
- 8.14 Practical Simulator training