Stuck Pipe, Fishing Operations & Hole Cleaning

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Introduction:

This course provides a treatment of the causes of stuck pipe concentrating on poor hole cleaning as a primary cause. Also, it covers and the techniques employed to avoid such problems. This course covers drillstring design, wellbore stability and lost circulation. Detailed discussion on the key elements of stuck pipe together with drilling fluids, hole cleaning and cuttings behavior. Investigation techniques are discussed covering the operation, selection and use of fishing tools including decision making methods.

Wellbore recovery and techniques to side track the well are covered in the course. This course is designed to educate the candidates how to prevent fishing jobs and if they occur, what options and techniques are available to recover the fish or sidetrack the well.

Objectives:

By the end of this course delegates will be able to:

- Understand the key elements of stuck pipe
- Learn about the operations of drilling fluids, hole cleaning and cuttings
- Learn how to prevent fishing jobs
- Identify the occurrence of fishing jobs
- Understand the options and techniques available to recover the well fish or sidetrack
- Learn about drillstring design, wellbore stability and lost circulation

Who should attend?

Drilling Engineers, Senior Drilling Engineers, Drilling Supervisors, Workover Engineers, Petroleum Engineers, Completion Engineers, Tool Pushers, Reservoir and Senior Reservoir Engineers, Geologists, Production Engineers, Wellsite Engineers, Foremen, Industry Personnel

Course Outline:

- Introduction
- Overview of drilling
- Hole designs and types
- Causes of stuck pipe
- Proper casing setting depth
- Forces acting on submerged objects
- Axial loads in submerged tubular
- Steel mechanics drill string design
- Causes of drill string failure
- Preventing drill string failure
- Well bore stability

- Stuck pipe: solids
- Stuck pipe: solids causes
- Lost circulation
- Fishing: causes and prevention
- Fishing: tool types and operation
- Economics of hole recovery
- Drilling fluids
- Fishing tool selection
- Fishing economics
- Overview of directional drilling
- Overview of plug back methods, open hole and cased hole

- Lost circulation
- Stuck pipe: mechanisms and consequences
- Stuck pipe: wellbore geometry
- Stuck pipe: geometry causes
- Hole cleaning
- Stuck pipe: differential sticking

- Drilling fluids selection and rheology
- Solids control and hole cleaning
- Drilling fluids management
- Cuttings behaviour transport methods
- Special well profile problems

- Hole cleaning monitoring and management techniques review
- Sidetracking: reasons, considerations, effect on future operations
- Sidetracking openhole
- Sidetracking cased hole