

Stuck Pipe, Fishing & Side-Tracking Drilling & Workover Operations



⬡ Duration/Dates of Course

3 days (Classroom format)

⬡ Overview

A participative program to enable drilling and workover personnel with the knowledge to prevent stuck pipe and further develop the skills to practically fish and side-track wells. This course explores best practices through design, planning and job execution to primarily prevent situational stuck pipe and associated conditional problems resulting within drilling and workover well operations.

⬡ Target participants

Persons associated in drilling or workover projects in well design, engineering, operational or organizational support functions. *Drilling, Geology, Geo-Science, Completions, Contractor and 3rd party support roles or functions including team leaders, supervisors or management functions.*

⬡ Purpose

- Prevent stuck pipe and enable a skills set for safe, effective and efficient fishing and side-tracking of wells within drilling and workover operations.

⬡ Goals and Objectives

- Prevent stuck pipe in drilling and workover through best practise design, planning and execution.
- Apply the technical skills to safely fish and side-track wells when well problems arise.
- Develop a multidisciplinary team-work to deliver trouble free drilling and workover operations.
- Construct an awareness of sidetracking methods in different formation types, e.g., whip stocks, cementing, kick-off plugs, milling, and orientation.
- Further outline plug back cementing, open and cased hole side-tracking, and how to apply the tools, equipment methods and practices required.

⬡ Course Take Away

At the end of this course individuals and groups will be able to:

- Plan, design and engineer compliant drilling operations to prevent stuck pipe events.
- Demonstrate the hazard identification knowledge to reduce drilling and workover risks and assure that correct management of change shall prevent stuck pipe.
- During drilling/workover operations, enable the operations team to recognize and analyze the warning signs and symptoms of stuck pipe within drilling and workover operations.
- Develop skills to prevent and mitigate both wellbore and formation aspects of stuck pipe.
- Know how to apply best practice fishing and sidetracking tools, methods and techniques during drilling or workover operations, including plug back cementing, whip stock orientation, milling and directional drilling.

Course Summary;

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Session	Day 1	Day 2	Day 3
08:30 to 10:15	Introduction, Goals Stuck pipe Objectives 'GOTCHA'	Predicting stuck pipe Case studies	Drilling and Workover Fishing theory, tools, equipment and practices
15 mins		Break	
10:30 to 12:00	Causes of stuck pipe Case studies	Preventing stuck pipe Case studies	Milling theory, tools, equipment and practices
12:00 to 13:00		Lunch Break	
13:00 to 14:30	Causes of stuck pipe: Combined methods Case studies	Freeing stuck pipe Case studies	Sidetracking wells. Plug back cementing Kick off methods
15 mins		Break	
14:45 to 16:30	Preventative Team work	Stuck pipe Case studies	Drilling and Workover Side track Case studies. Course feedback & debrief

Continuous class assessment is applied through a variety of formats, techniques & methods:

Simple Tests and Questions - Individual and group assessments techniques are used to realize and analyze strengths and weaknesses of individuals and groups, allowing the instructor to facilitate course content and learning techniques to provide value added practical and technical support.

Group exercises - Group discussion and exercises are included where and when applicable.

Worked Examples - Real and practical base case studies and worked examples complement learning sessions for participants to demonstrate their understanding and reinforce learning of the subjects covered.

Case Studies - Stuck pipe, fishing and sidetracking issues from several operating regions and work environments to assure relevance course structure and learning content.



Course Details

Stuck Pipe, Fishing & Side-Tracking



Day 1

The Stuck Pipe Problem

- Goals and Objectives
- 'GOTCHA!'
- Soft skills importance

Debrief: The stuck pipe problem

Stuck Pipe Causation

- Mechanisms of stuck pipe
 - Differential sticking
 - Mechanical Stuck Pipe
 - Formation related stuck pipe
- Combined hole problems

Debrief: Mechanisms of stuck pipe

The Team impact to Prevent Stuck Pipe

- The rig-site team

Debrief: Teamwork and communication

Day 2 | 3

Predicting Stuck Pipe

Completion Activities

- Tight hole mechanisms
- Tight hole causation
- Case studies

Debrief: Stuck pipe prediction

Preventing Stuck Pipe

- Managing Stuck pipe
- Top Drive Systems
- Best Practice
- Recognizing Problem Situations
- Case Histories

Debrief: Stuck pipe prevention

Freeing Stuck Pipe

- Pre-recorded data
- Freeing stuck pipe
- Jar Theory and procedures
- Best practice freeing methods

Debrief: Freeing Stuck Pipe

Day 3 - Fishing & Milling Essentials

- Fishing theory
- Fishing tools
- Fishing application
- Milling tools
- Milling application

Debrief: Fishing and Milling

Sidetracking

- Well abandonment
- Plug back cementing
- Kick off methods
- Directional drilling
- Best operating practices

Debrief: Sidetracking wells

Course Feedback & Debrief

