ELECTRIC AND SLICK LINE AND COILED TUBING WELL INTERVENTION FUNDAMENTALS

General:

Discipline: Completion, Production
Level: Basic/Intermediate
Duration: 5 days
Instructor: Jairo Balcacer

Purpose:

This course will present the basic components of an electric line, slick-line and coiled tubing well intervention and outlines the steps involved in planning phase, job execution and post-job activities from an operations/field engineering point of view. Discussions about the required surface and subsurface tools used in specific electric line, slickline and coiled tubing interventions provided by the service companies as well as general operating procedures to carry out well interventions having the HSE component as the major driver of the operations.

Designed for:

This course is addressed to well intervention, completion and production engineers as well as rig supervisors who deal with interventions on a daily basis.

You Will Learn:

- Summarize the process of HSE risk assessment, analysis and risk mitigation
- The steps involved in the pre-job planning phase
- Field engineering and operation post-job activities
- Surface and subsurface equipment and differentiate conventional slickline from advanced slickline applications
- State the typical well intervention operations performed with wireline
- Surface and subsurface equipment and recognize areas of application for coiled tubing operations

Course Content:

Overview of Electric line Well Intervention

- Description of electric line operations
- HSE and electric line operations

Required Electric Line Equipment

- Equipment overview
- Electric Wireline
- Wireline units for Electric line operators
- Pressure control equipment

Electric line Downhole Tools

- Electric line-tool string connection

- Depth control in Electric line operations
- Toll string conveyance
- Production logging tools
- Through-tubing formation evaluation
- Cement bond evaluation
- Perforating
- Tubing and casing inspection tools

Electric Line Operations

- Job preparation and rig-up
- Electric logging operations
- Electric line well servicing operations
- Risk and mitigations in electric line operations
- Post-job considerations

Overview of Slickline Well Intervention

- Description of slickline operations
- HSE and slickline operations

Required Slickline Equipment

- Equipment overview
- Wireline
- Slickline units
- Data acquisition systems
- Pressure control equipment
- Hoisting system
- Basic slickline tool strings
- Running and pulling tools

Slickline Service Tools

- Tubing conditioning and services tools
- Fishing tools
- Bailers
- Specialty tools

Subsurface Flow Controls

- Slickline operations and subsurface flow controls
- Lock mandrels
- Plugs
- Subsurface safety valves
- Subsurface chokes
- Gas lift equipment
- Tubing pack-offs
- Sliding sleeves

Advanced Slickline Operations

- Depth control for advanced slickline operations

- Tool activation
- memory production logging
- Real-time slickline

Slickline Operations

- Job preparation and rig-up
- Tubing conditioning, testing and repair
- Pressure surveys, memory production logging and perforating
- Subsurface safety valves
- Plugs and flow controls
- Wireline fishing
- Post-job activities and rig-down

Overview of Coiled Tubing Well Intervention

- Equipment overview
- Coiled tubing and reel system
- Coiled tubing injector assembly
- Coiled tubing pressure control equipment

Coiled Tubing Downhole Tools

- Basic coiled tubing bottom hole assembly
- Wellbore cleanout tools
- Fishing and pipe recovery
- Specialty and support tools

Coiled Tubing Operations

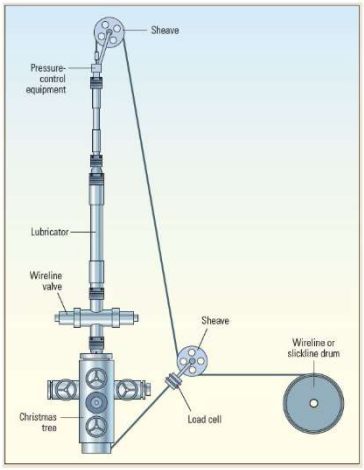
- Job preparation and rig-up
- Well cleanout and unloading operations
- Coiled tubing fishing and milling
- Tubing conditioning and services tools
- Pumping operations
- Coiled tubing-wireline
- Coiled tubing and artificial lift
- Coiled tubing drilling

Software applications:

- MS Excel spreadsheets

Text and Consulting books:

- "Wireline Operations and Procedures", Book 5, American Petroleum Institute (API), March 2007
- "Coiled Tubing Handbook", World Oil, Fourth Edition, Gulf Publishing Company, 2005


Sheave
Pressure-control equipment
Lubricator
Wireline valve
Sheave
Wireline or slickline drum
Christmas tree
Load cell