ID #127

Oil and Gas Wells Work-Overs and Repairs

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jh

This may also be of interest

- Well Test Analysis - Principles
- Well Reservoir Facility Management
- Well Productivity Optimization

Specialist Trainer

Douglas Chirinos

Petroleum Engineer from Louisiana Tech University, Louisiana USA.

Extensive international experience in Mexico, Trinidad, Tobago, Colombia, Argentina, and Venezuela, working for Pemex, CBM, Halliburton, Petrotrin Trinidad, Vetra, Petrobell, BRC, IGT Consultants, Galo Pacific, and PDVSA E&P.

Specialist in wells, workovers, reservoirs, and production facilities in heavy, medium, light oils and gas, clastic and fractured carbonate reservoirs, well optimization, artificial lift, gathering and production facilities, cost estimations onshore and offshore, water injection operations, separations and clarification technologies for disposal and secondary recovery, economics & risk analysis.

Douglas lectures in association with MineaOil Ltd.

Description

This course is designed to provide the fundamentals and concepts to design well interventions and repairs in oil and gas producer and injector wells, including disposal and enhancing oil recovery dedicated wells. The course describes methodologies to identify opportunities to carry out Workovers, understand the artificial lift systems, when and how to change producing zones, and how to prepare a work over proposal. Formation damage mechanisms, Skin factor concepts and types and removal methods are described.

Chemical Stimulations, Matrixial and Conventional in sandstones, carbonates, and shaly sands to increase the oil and gas rates, hydraulic fractures, perforation, re-perforations, and or changing productive zones. Diagnostic methods to monitor the injectivity in injector wells, and methods to increase the injectivity; the factors affecting oil and gas well productivity are also reviewed with the aim to understand the factors that drive the productivity and understand when and how to apply technologies to optimize oil and gas production rates and final recovery..

Objectives

- Study and discuss the concepts and fundamentals of intervention to wells (Work-Overs)
- Analysis the deterioration of the productivity in producing well.
- Analysis and study of deterioration of injectivity in injector wells
- Review of reservoir input capacity and transport capacity of production pipeline
- Concepts of total optimization of the system well-reservoir-facilities
- Review of applications of production logging techniques.
- Review and practice of water production effects and control methods
- Understand the formation damage during drilling operations.
- Study of the impact on matrix productivity stimulation with acids.
- Review hydraulic fracturing technology.
- How to select candidate wells for stimulation.
- Understand the principles of artificial lifting, gas lifting, electric submersible pumps (ESP) methods. Progressive cavity pump, pumping of sucking rod and other systems.
- Understand sand production problems, control methods and productivity effects.
- Learn basics of Paraffins and Asphalt deposits and Control Methods and fundamentals to understand and control scale deposits and emulsions.

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Audience (cont.)

- Well Drilling and Rehabilitation Engineers
- Field Engineers
- Production Engineers
- Chemical Engineers,
- Mechanical Engineers,
- Geologists,
- Field operators and technical staff.

Content

Day 1
Introduction to Workovers and Opportunity Identification

- Introduction to Workovers (Oil and Gas Well Interventions and Repairs)
- Poor artificial lifting.
- Improved production
- Change of producer horizons.
- Work-Over proposals.
- Formation Damage Introduction and Definitions
- Formational damage mechanisms
- Types of damage (emulsions, sludge filtering, scales, damage, mechanical, asphalt and waxes)
- Detection and characterization of formation damage.
- Formation damage removal techniques
- Field Examples

Day 2
Chemical stimulations

- Not reactivate stimulations
- Reactivate stimulations
- Matrix acidifications
- Type of acid stimulation.
- Application. (Sandstones, Carbonates, Clays)
- Additives.
- Systems.
- Fractures
- Acid fracture.
- Type of Acid Fracture.
- Applications
- Fracture systems
- Examples

Day 3
Hydraulic Fracturing

- Introduction to hydraulic fracturing
- Purpose and description of the hydraulic fracturing process.
- Evaluating a stimulation
- Field Examples
- Exercises

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Content (cont.)

Day 4
Well Perforations and Re-perforating Techniques

- Basics and Fundamentals
- Perforating techniques
- Types of guns
- Materials and features
- Gun components
- Safety with the detonation string
- Hollow or Molded Loads
- Field Examples

Day 5
Well Completions

- Introduction and Generalities on well completions
- Types of Wells and Well Completions
- Well Completion techniques
- Sand Production Control
- Well Completions Activities with and without Drilling Rig.
- Field Examples
- Summary and Conclusions

End of Training.