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jh

This may also be of interest

Production & Flow Assurance Engineering

Well Test Analysis - Principles

Fundamentals of Drilling Engineering for Land and Offshore Operations

Description

This course is designed to review the fundamentals that govern the oil and gas wells production performance, with the objective to develop skills to understand productivity problems and to identify solutions applying optimization technologies leading to increase the oil and gas production rates and the final recovery.

The technologies and methodologies to be reviewed are: Well Inflow and Outflow Performance, Well Productivity Diagnostic, Nodal Analysis, Artificial Lift methods, Acid Stimulation, Hydraulic Fracturing, Sand Control, Flow Assurance, methodologies to design well Interventions to optimize production, sand production diagnostics and control methods, perforating technologies, water production, water shut-off methods and effects on the productivity.

The flow assurance fundamentals to be presented include diagnostics, controls, and prevention of productivity problems caused by Paraffins, Asphaltene, Scales , Emulsion and Corrosion.

Objectives

- Study and discuss the different reservoir types, typical performance, productivity and recoveries.
- Analyze the causes and solutions of Well Productivity Impairments.
- Study Well Inflow and Outflow Performance as a Total Well Optimization System.
- Review Production Logging applications & Techniques.
- Discussion and practice of water managements in the oil industry
- Understand of formation damage caused by drilling mud during drilling operations.
- Study productivity impact of Matrix Stimulation Acidizing.
- Review the Hydraulic Fracturing Technology.
- How to select candidate wells for stimulation.
- Review productivity enhancement with Through-Tubing Techniques
- Understand sand production problems, control methods and effects on productivity.
- Study Flow Assurance basics, Paraffins and Asphaltene control methods. Understand fundamentals of Scale deposition, Emulsion problems and Corrosion.
- Review principles of artificial lift, Gas Lift, Electrical Submersible Pumps (ESP). Progressive Cavity Pump, Sucker Rod Pumping and Other Systems.

Audience

- Petroleum Engineers
- Drilling and workover engineers
- Reservoir and Production Engineers
- Geologists
- Chemical and Mechanical Engineers
- Field operators and Technical personnel.
- Commercial Analysts
- Managers and supervisors

This training can n be done in house based on workshop sessions for groups of delegates with interested in learn methodologies to optimize the well productivity

Content

Day 1

Total Optimization & Well Productivity Enhancement

- Well Performance & Productivity
- Reservoir types and typical performance



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Field Development
Planning

Water Alternate Gas
EOR

Enhanced Oil Recovery
Fundamentals and
Practices

Content (cont.)

Day 1 (cont.)

- Perforating Technology and effect on Well Productivity
- Perforating Design and effect on Well Production Enhancement
- Well productivity impairment
- Analysis of well inflow & outflow performance
- Problems' diagnosis and solving performance issues
- Total Well (Nodal) System analysis
- Exercises, problems, and solutions

Day 2

Water Production & Control Methods. Perforations Fundamentals & Formation Damage

- Production Logging applications & Techniques,
- Sources and causes of Productivity Impairment.
- Formation damage during drilling,
- Completion and Production phases,
- Introduction to Water production/Injection control Shut-off
- Methods and Conformance Technologies & productivity effects. Examples, Problems and Solutions

Day 3

Well Intervention for Productivity Optimization based on Matrix Stimulation and Hydraulic Fracturing

- Well Intervention for Productivity Enhancement
- Productivity and effect of Matrix Stimulation (Acidizing)
- Productivity and the effect Hydraulic Fracturing Technology=
- Candidate Selection & Stimulation
- Candidate Selection Exercise

Day 4

Workovers, Sand control and Flow Assurance

- Well Intervention for Productivity Enhancement
- Productivity enhancement with Workovers
- Productivity enhancement with Through-Tubing techniques
- Sand Production Control Design and Productivity effects.
- Flow Assurance: Paraffins and Asphaltene: Diagrams, theory, Problems and Solutions
- Scale deposition: Diagnostic Diagrams, Control,
- Emulsion and Corrosion problems and solutions.. Field case examples and exercises.

Day 5

Artificial Lift Methods to Optimize the Wells Productivity

- Productivity Enhancement through Artificial Lift
- Gas Lift, Sucker Rod Pumping Artificial Lift Systems,
- Progressive Cavity Pump Artificial Lift, ESP and Other Systems
- Advanced Artificial Lift Methods Electro Submersible Pump (ESP) Introduction.
- Exercises, Problems and Solutions
- Wrap Up and Conclusions

End of the training.